3-1-2005

Justification for Class III Permit Modification March 2005, SWMU 2, Operable Unit 1303 Classified Waste Landfill at Technical Area II

Sandia National Laboratories/NM

Sandia National Laboratories

SWMU 2
Classified Waste Landfill

This work supported by the United States Department of Energy under contract DE-AC04-94AL85000.

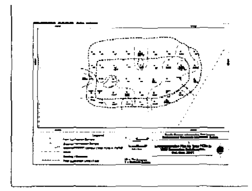
Environmental Restoration Project

Site History

- SWMU 2, the Classified Waste Landfill, is located in the eastern portion of TA II. The site covers approximately 1.5 acres.
- During 1947 to 1987, disposal activities included burial of weapons-related material in unlined earthen trenches and pits to a maximum depth of 18 ft. The material consisted of weapon components, bomb cases, and various classified shapes. The trenches ranged in width from 8 to 12 ft, and were 100 to 300 ft long. The pits were much smaller with diameters of approximately 6 ft. After being filled with material, each trench and pit was covered with soil.

Investigations

- During 1991 to 1997, several investigations were conducted including geophysical surveys, surface radiological surveys, personnel interviews, archival research, and a review of historical aerial photographs. The investigations confirmed the location of the disposal trenches and identified the types of buried material.
- In 1993, a soil-vapor survey was conducted along the northern portion of the landfill; two areas of elevated VOCs were identified. In March 1994, boreholes were drilled and sampled at these two locations. One borehole was 100.5 ft deep and the other 55 ft. Low concentrations of two VOCs, one SVOC, and tritium were detected. One sample also had an elevated chromium concentration.
- During March 1998 to February 2000, a VCM was conducted to excavate and remove the landfill contents. All of the trenches and pits were excavated. For safety reasons, the pits were excavated in 1998 separately from the trenches because the pits were adjacent to haul roads. The resulting VCM trench excavation was 250 ft wide and 500 ft long. The maximum excavation depth was 18 ft. The excavated soil was segregated based upon field screening results for radionuclides, VOCs, and HE compounds. Approximately 30,000 cu yds of excavated soil were sampled and stockpiled for later use. Approximately 1.5 million pounds of weapon components were disassembled and sanitized, if required. These items were shipped off-site for recycling or disposal.
- At the conclusion of the VCM, verification geophysical surveys were conducted across the floor and sidewalls of the VCM excavation. No significant metallic anomalies were detected.
- In March and April 1998, confirmatory sampling was conducted of the pit floors. Elevated levels of several metals and tritium were detected.
- In August 2000, confirmatory soil sampling was conducted across the VCM excavation floor at the completion of the excavation. The maximum sample depth was 18 ft bgs. Elevated levels of several metals and radionuclides (mainly tritium) were detected.
- In June 2001, soil samples were collected from the piles of soil excavated as part of the VCM. PCB concentrations above the EPA regulatory limit of 1 mg/kg were detected. In accordance with TSCA regulations, the EPA was subsequently notified about the PCB analytical results. Elevated levels of metals and radionuclides (mainly tritium) also were detected.
- From October to November 2001, additional samples were collected from the VCM soil piles and the VCM excavation for PCB analysis. The maximum PCB concentration in the soil piles was 5.58 mg/kg, which was less than the EPA cleanup goal of 25 mg/kg. The maximum PCB concentration in the VCM excavation was less than 0.1 mg/kg.
- From July to September 2003, the VCM excavation was backfilled with the excavated soil piles. The deepest lifts (5 to 18 ft bgs) contained elevated concentrations of radionuclides, metals, and PCBs. The uppermost lifts (0 to 5 ft bgs) consisted of clean fill (non-contaminated) soil. The final restored ground surface conformed to the original (pre-VCM) ground elevation.
- In October and November 2003, verification soil samples were collected from the ground surface where the VCM soil had been stockpiled. Two samples had PCB concentrations greater than 1 mg/kg, with a maximum concentration of 2.1 mg/kg. Elevated metals were detected.
- In February 2004, soil from the areas containing total PCBs in excess of 1 mg/kg was removed. Additional verification samples were collected and analyzed for PCBs. The final set of soil samples confirmed that no PCBs remained above 1 mg/kg.
- In January and February 2004, a comprehensive radiation survey was conducted across the restored ground surface and the nearby area. No significant radioactive anomalies were detected.



Depth to Groundwater

- The regional aquifer is approximately 520 ft bgs, and a perched aquifer (not a source of drinking water) is approximately 320 ft bgs.

Constituents of Concern

- VOCs
- SVOCs
- PCBs
- HE compounds
- Metals
- Radionuclides

Summary of Data Used for NFA Justification

- A total of 1,914 verification/confirmatory soil analyses were used in the risk assessments.
- Soil samples were collected from the following areas:
  - the VCM excavation floor prior to backfilling,
  - soil piles generated while excavating the landfill contents, and
  - the restored ground surface.

Recommended Future Land Use

- Industrial land use was established for this site.

Results of Risk Analysis

- Risk assessment results for the residential scenario are calculated per NMED risk assessment guidance as presented in "Supplemental Risk Document Supporting Class 3 Permit Modification Process" (SNL October 2003).
- Because COCs were present in concentrations greater than background-screening levels or because constituents were present that did not have background-screening numbers, it was necessary to perform a risk assessment for the site. The risk assessment analysis evaluated the potential for adverse health effects for the industrial and residential land-use scenarios.
- The maximum concentration value for lead was 620 mg/kg. The NMED guidance for lead screening concentrations for construction and industrial land use scenarios are 750 and 1500 mg/kg, respectively. The EPA screening guidance value for a residential land use scenario is 400 mg/kg. The maximum lead concentration at this site was less than the NMED industrial screening value. Using the maximum lead concentration, the residential screening level was exceeded. However, because the site has been adequately characterized, average concentrations are more representative of actual site conditions. The UCL of the average lead concentration was 52.6 mg/kg, which is below the residential land-use screening level. Thus, lead was eliminated from further consideration in the human health risk assessment.
- PCBs were eliminated from further consideration in the human health risk assessment according to the TSCA screening procedure. The requirements of 40 CFR §761 state that high occupancy areas where bulk PCB remediation waste remains at greater than 1 mg/kg and less than or equal to 10 mg/kg shall be covered with a cap meeting certain specifications. The maximum concentration of total PCBs contained in soils placed from 5 ft bgs to depth was 5.58 mg/kg. The EPA approval for risk-based disposal of the PCB-contaminated soil at the SWMU 2 stipulated that the final 5 ft of backfill, which serves as an overlying cap, be clean fill soil. The maximum concentration of total PCBs from 0 to 5 ft bgs was less that 1 mg/kg; the maximum concentration in this interval was 0.91 mg/kg. Thus, the EPA requirements for the cap were met.
- The total human health HI was 3.17 for the industrial land-use scenario, which is greater than the NMED guideline of 1. The total estimated excess cancer risk was 6E-6 for the industrial land-use scenario, which is below the NMED guideline of 1E-5. When the UCLs of the average concentrations for the main risk drivers (arsenic, barium, cadmium, mercury, and selenium) were used in place of the maximum concentrations, the total HI was reduced to 0.22.
- The total human health HI was 40.1 for the residential land-use scenario, which is greater than the NMED guideline of 1. The total estimated excess cancer risk was 2E-5 for the residential land-use scenario, which is above the NMED guideline of 1E-5. Using the UCLs of the average concentrations for the main contributors to risk (arsenic, barium, cadmium, mercury, and selenium), the total HI was reduced to 2.56, and the total estimated excess cancer risk was reduced to 2E-6. The total HI is above the NMED guideline. The total estimated excess cancer risk is within the NMED guideline.
- The human health industrial land-use scenario TEDE was 1.2E-2 mrem/yr for the radiological COCs, which is below the EPA guidance of 15 mrem/yr. The residential incremental TEDE was 1.1E+0 mrem/yr, which is below the EPA numerical guideline of 75 mrem/yr. Therefore, SWMU 2 is eligible for unrestricted radiological release.
- Using the SNL predictive ecological risk assessment methodology, the ecological risk for SWMU 2 is acceptable.
- In conclusion, human health and ecological risks are acceptable per NMED guidance under an industrial land-use scenario. Thus, SWMU 2 is proposed for CAC with institutional controls.

Risk Assessment Values for SWMU 2 Nonradiological COC

COC Name	Maximum Concentration UCL (mg/kg)	Industrial Land-Use Scenario: Hazard Index	Industrial Land-Use Scenario: Cancer Risk	Residential Land-Use Scenario: Hazard Index	Residential Land-Use Scenario: Cancer Risk
Inorganics					
Arsenic	8.3 / 3.26	0.03 / Below Background	5E-6 / Below Background	0.36 / Below Background	2E-5 / Below Background
Barium	16,000 / 643	0.25 / 0.01	–	3.06 / 0.12	
Beryllium	4.2	0.00	2E-9	0.02	4E-9
Cadmium	740 / 46.5	1.46 / 0.09	2E-7 / 2E-8	19.0 / 1.19	5E-7 / 3E-8
Chromium, total	2,100	0.00		0.02	–
Mercury	370 / 11.6	1.29 / 0.04	–	16.2 / 0.51	
Nickel	400	0.02		0.26	–
Selenium	250 / 6.59	0.05 / 0.00		0.66 / 0.01	
Silver	210	0.02		0.29	
Uranium	[illegible]	0.00		0.07	
Organics					
Acetone	0.019	0.00		0.00	
Anthracene	0.085	0.00		0.00	
Benzo(b)fluoranthene	0.161	0.00	[illegible]	0.00	[illegible]
Benzo(k)fluoranthene	0.085	0.00	4E-9	0.00	1E-8
Benzo(a)pyrene	0.085	0.00	[illegible]	0.00	1E-6
Bis(2-ethylhexyl) phthalate	0.32	0.00	[illegible]	0.00	7E-9
Butylbenzylphthalate	[illegible]	0.00		0.00	
2-Chlorophenol	[illegible]	0.00		0.00	
Di-n-butylphthalate	[illegible]	0.00		0.00	
Diphenylamine	[illegible]	0.00		0.00	
Ethylbenzene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fluoranthene	0.085	0.00		0.00	
2-Hexanone	[illegible]	[illegible]		[illegible]	
Methylene chloride	[illegible]	[illegible]	[illegible]	0.00	[illegible]
Pentachlorophenol	[illegible]	0.00	[illegible]	[illegible]	[illegible]
Phenanthrene	0.085	[illegible]		[illegible]	
Phenol	0.085	0.00		0.00	
Pyrene	0.085	0.00		0.00	
Toluene	[illegible]	0.00		[illegible]	
Trichloroethene	0.0027	0.00	[illegible]	0.00	[illegible]
o-Xylene	0.014	0.00		[illegible]	
p-,m-Xylenes	0.021	0.00		[illegible]	
Total		3.17 / 0.22	[illegible]	[illegible] / 2.56	[illegible]

– Information not available.

For More Information Contact

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Sandia National Laboratories

Justification for Class III Permit Modification March 2005

SWMU 2
Operable Unit 1303
Classified Waste Landfill at Technical Area II

NFA Originally Submitted October 2001
Addendum to NFA January 2003
Addendum to NFA October 2004

Environmental
Restoration
Project

United States Department of Energy
Sandia Site Office

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

NFA

U.S. Department of Energy
Albuquerque Operations Office
Kirtland Area Office
P.O. Box 5400
Albuquerque, NM 87185-5400

OCT 0 9 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John E. Kieling, Manager
Permits Management Program
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Road
Building E
Santa Fe, NM 87505

Dear Mr. Kieling:

Enclosed is one of two NMED sets of the sixteenth submission of No Further Action (NFA) proposals for 4 Environmental Restoration (ER) sites at Sandia National Laboratories/New Mexico. The sites proposed for NFA are:

SWMU 30 – Reclamation Yard

SWMU 94B – Debris/Soil Mound Area, Lurance Canyon Burn Site

SWMU 94F –LAARC Discharge Pit, Lurance Canyon Burn Site

SWMU 2 – Classified Waste Landfill

By prior arrangement, the NFA proposal for SWMU 2 is being submitted without a necessary addendum related to polychlorinated biphenyl (PCB) analytical results. This addendum will be submitted as soon as the results are available, at which time the New Mexico Environment Department (NMED) will review the complete package.

OCT 09 2001

J. Kieling (2)

If you have any questions, please contact John Gould at (505) 845-6089.

Sincerely,

Michael J. Zamorski
Area Manager

Enclosure

cc w/enclosure:

M. Gardipe, AL, ERD
W. Moats, NMED-HWB (via Certified Mail)
J. Parker, NMED-OB, Santa Fe
R. Kennett, NMED-OB
D. Neleigh, EPA Region VI (2 copies via Certified Mail)

cc w/o enclosure:

F. Nimick, SNL, MS 1089
D. Miller, SNL, MS 1088
P. Freshour, SNL, MS 1087
D. Stockham, SNL, MS 1087
M. Davis, SNL, MS 1087
J. Bearzi, NMED-HWB

OCT 10 2001

Sandia National Laboratories/New Mexico

PROPOSALS FOR NO FURTHER ACTION ENVIRONMENTAL RESTORATION PROJECT SWMUs 2, 30, 94B, and 94F

Volume 3 of 3
(SWMU 2)

September 2001

Environmental
Restoration
Project

United States Department of Energy
Albuquerque Operations Office

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CHAPTER 5.0
ACRONYMS AND ABBREVIATIONS

ACF	American Car & Foundry
AOP	Administrative Operating Procedure
bgs	below ground surface
CEARP	Comprehensive Environmental Assessment and Response Program
COC	constituent of concern
CWLF	Classified Waste Landfill
DOE	U.S. Department of Energy
DTR	Delivery to Reclamation
EM	electromagnetic
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
g	gram(s)
GEL	General Engineering Laboratories, Inc.
HE	high explosive
HI	hazard index
HRS	Hazard Ranking System
KAFB	Kirtland Air Force Base
kg	kilogram(s)
L	liter(s)
LAGS	Large Area Gamma Spectroscopy
LSC	liquid scintillation counting
MDA	minimum detectable activity
MDL	method detection limit
µg	microgram(s)
mg	milligram(s)
mrem	millirem(s)
MS	matrix spike
MSD	matrix spike duplicate
ND	nondetect
NFA	no further action
NMED	New Mexico Environment Department
NMMSS	Nuclear Materials Management and Safeguard System
PCB	polychlorinated biphenyl
pCi	picocurie(s)
PID	photoionization detector
PRG	preliminary remediation goal
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
RPO	Radiation Protection Operations
RPSD	Radiation Protection Sample Diagnostics
SAP	Sampling and Analysis Plan
SNL/NM	Sandia National Laboratories/New Mexico
SVOC	semivolatile organic compound
SVS	soil-vapor survey
SWMU	Solid Waste Management Unit

TA	Technical Area
TEDE	total effective dose equivalent
VCM	Voluntary Corrective Measure
VOC	volatile organic compound
W-Pit	Western Pit
XRF	X-ray fluorescence
yr	year(s)

5.0 SOLID WASTE MANAGEMENT UNIT 2, CLASSIFIED WASTE LANDFILL

5.1 Summary

Sandia National Laboratories/New Mexico (SNL/NM) is proposing a risk-based no further action (NFA) decision for Solid Waste Management Unit (SWMU) 2, the Classified Waste Landfill (CWLF), Operable Unit 1303. SWMU 2, the Technical Area (TA)-II CWLF, is an inactive site located on the eastern side of TA-II. Environmental concern for SWMU 2 was primarily based on the potential for the presence of hazardous and radioactive materials. Review and analysis of all relevant data for SWMU 2 indicate that concentrations of constituents of concern (COCs) at this site are less than applicable risk assessment action levels. Thus, SWMU 2 is proposed for an NFA decision based upon a Voluntary Corrective Measure (VCM) that excavated the entire landfill and removed the buried materials. The VCM was conducted from March 1998 to February 2000. Backfilling the excavation with the excavated soil is currently planned for July 2002. Subsequent confirmatory soil sampling data demonstrates that COCs that may have been released into the environment pose an acceptable level of risk. The risk is based upon the current and projected land use, as set forth by Criterion 5. Criterion 5 states, "The SWMU/AOC [area of concern] has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use" (NMED March 1998).

As this NFA proposal was being prepared, additional sampling of the excavated soil was conducted at the request of the New Mexico Environment Department (NMED) to further justify the intent to use this soil as backfill. In concurrence with NMED, a Sampling and Analysis Plan (SAP) (SNL/NM January 2001) was prepared in June 2001 to sample the excavated soil piles for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), tritium, and gross alpha/beta. During the excavation, screening, and movement processes, the soil lots were segregated and staged as nine "potentially uncontaminated" and 22 "potentially contaminated" soil piles.

PCBs, almost exclusively Aroclor 1254, were detected in all 22 of the potentially contaminated soil piles and at lower concentrations in five of the nine potentially uncontaminated soil piles that were sampled for PCBs. Seven samples from the potentially contaminated soil piles had PCB concentrations above 1 milligram (mg)/kilogram (kg). The maximum concentration measured was 5.56 mg/kg. PCB concentrations in the potentially uncontaminated soil pile samples ranged from 0.0024 mg/kg to 0.827 mg/kg, but these piles were not sufficiently sampled for PCBs to define the extent of contamination.

The NFA text and risk assessment were not updated to include these new findings. In September 2001, in consultation with the U.S. Environmental Protection Agency (EPA), a Notification of Self-Implementing Clean-Up and Disposal of Polychlorinated Biphenyls at SWMU 2 was initiated according to 40 Code of Federal Regulations 761.61(c). Following the required characterization, the additional data, a revised human health risk assessment, and any revisions the to soil pile disposition strategy will be submitted as an addendum to this NFA.

5.2 Site Description and Operational History

5.2.1 Site Description

TA-II, one of five TAs within SNL/NM (Figure 5.2.1-1), is a diamond-shaped area, approximately 45 acres in size (Figure 5.2.1-2). In 2001, TA-II was still surrounded by the 10-foot high chain link security fence, with the main access gate at the western corner of the diamond.

SWMU 2 is located in the eastern portion of TA-II (Figure 5.2.1-2). The landfill proper covers approximately 1.5 acres. The site is on land owned by Kirtland Air Force Base (KAFB) and permitted to the U.S. Department of Energy (DOE). SWMU 2 is situated immediately west of the rim of Tijeras Arroyo and the nearly flat floodplain below (Figure 5.2.1-3). Tijeras Arroyo is the most significant surface-water drainage feature on KAFB. The arroyo originates in the Tijeras Canyon, which is bounded by the Sandia Mountains to the north and the Manzano Mountains to the south. The arroyo trends southwest along the eastern edge of the site and eventually drains into the Rio Grande, approximately nine miles west of SWMU 2. The arroyo flows about a dozen times per year along the active channel that is located approximately 1,400 feet southeast of the site.

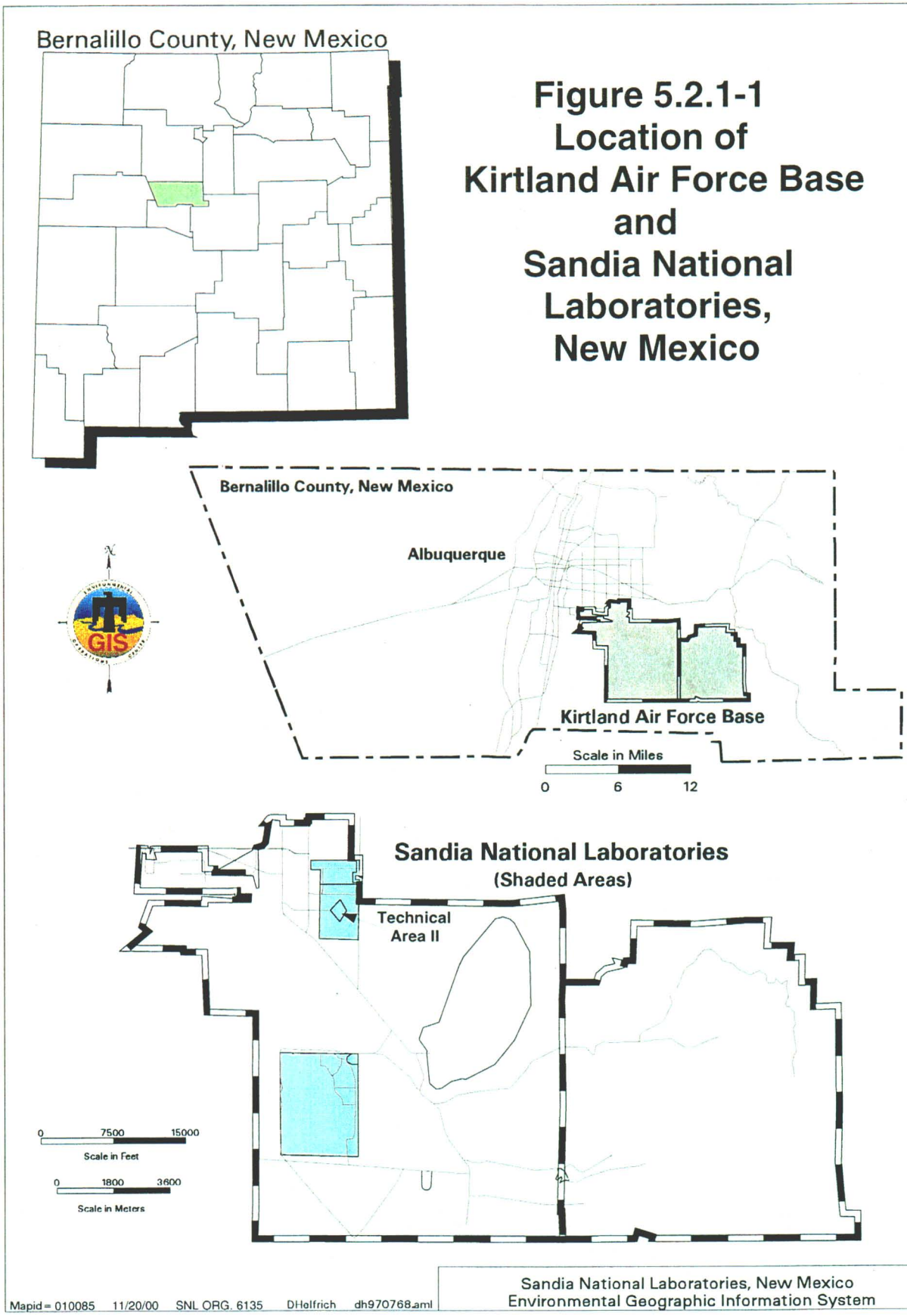
The annual precipitation for the area is 8.1 inches (NOAA 1990). No springs or perennial surface-water bodies are located within four miles of the site. During most rainfall events, rainfall quickly infiltrates the soil at SWMU 2. However, virtually all of the moisture undergoes evapotranspiration. Evapotranspiration estimates for the KAFB area range from 95 to 99 percent of the annual rainfall (Thompson and Smith 1985, SNL/NM February 1998a).

TA-II is outside the 100- and 500-year floodplains of the Tijeras Arroyo. In response to precipitation events, surface-water run-off occurs by natural flow paths. TA-II never had any storm drain system, either open channels or buried piping. Surface runoff eventually discharges into Tijeras Arroyo south of TA-II.

TA-II lies at the southeastern boundary of the East Mesa, on a broad pediment that gently slopes west toward the Rio Grande. Surface drainage across the East Mesa follows the pediment slope westward toward the Rio Grande. Surficial deposits are underlain by the upper unit of the Santa Fe Group. Hawley and Haase (1992) estimate that in this area, the piedmont-slope alluvium may be up to 100 feet thick, and the upper Santa Fe unit is approximately 1,200 feet thick. The topography at TA-II is nearly flat with elevations ranging from 5,420 feet at the northeastern boundary to about 5,410 feet at the southwestern boundary.

The regional aquifer in the vicinity of SWMU 2 is within the upper unit of the Santa Fe Group. The depth to regional groundwater in the monitor well nearest to SWMU 2 (TA2-NW1-595) is approximately 520 feet below ground surface (bgs). A shallow water-bearing zone also exists in the vicinity of SWMU 2. The depth to the shallow zone in the vicinity of SWMU 2 ranges from approximately 267 to 320 feet bgs. Nearby monitor wells TA2-SW1-320, TA2-NW1-325, TA2-W-19, TA1-W-03, TA1-W-06, TA1-W-07, and TA2-W-01 are screened in the shallow water-bearing zone. The regional wells are: TA2-NM1-595, TA2-W-24, TA2-W-25, TJA-3, TJA-6, TA1-W-04, and TA1-W-05.

Soil along the northern rim of Tijeras Arroyo is poorly developed, such as the Bluepoint-Kokan Soil Association (Hacker 1977). Areas underlain by this soil series, however, locally contain


Bernalillo County, New Mexico
Figure 5.2.1-1
Location of
Kirtland Air Force Base
and
Sandia National
Laboratories,
New Mexico
Bernalillo County, New Mexico
Albuquerque
Kirtland Air Force Base
Scale in Miles
0
6
12
Sandia National Laboratories
(Shaded Areas)
Technical
Area II
0
7500
15000
Scale in Feet
0
1800
3600
Scale in Meters
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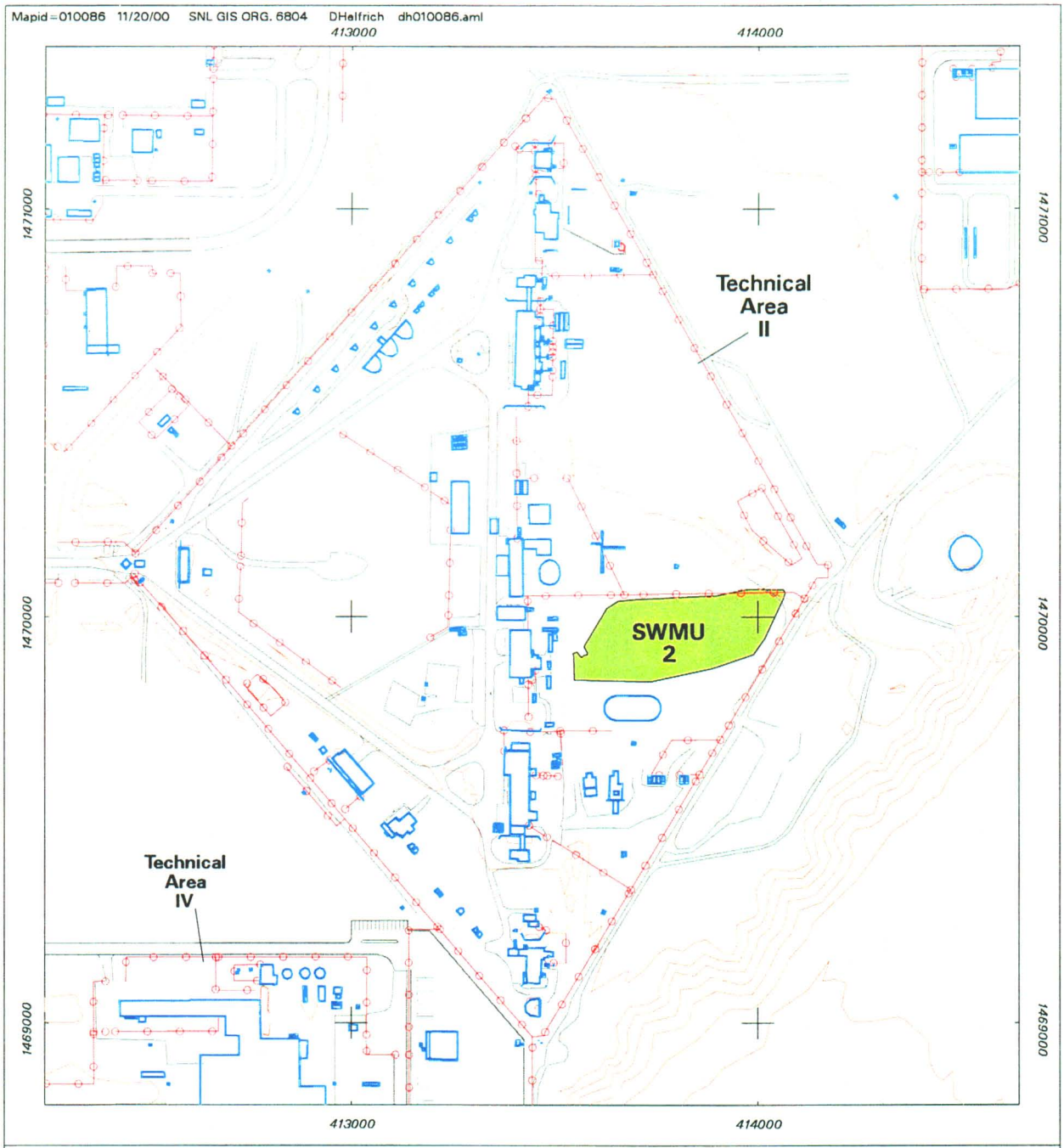
Sandia National Laboratories, New Mexico
Environmental Geographic Information System



Legend

- Road
- Fence
- 10 Foot Contour
- Building / Structure
- SWMU 2

Figure 5.2.1-2
Location of SWMU 2, Classified Waste Landfill within TA-II

0 200 400
Scale in Feet

0 48 96
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5.2.1-3
SWMU 2 and Tijeras Arroyo, looking north

well-developed calcic horizons, which are the remnants of the Tijeras, Wink, and Madurez soils originally developed on older surficial deposits. The Bluepoint-Kokan soil reflects erosion of older soil and, therefore, is characterized by discontinuous soil horizons. Soil along the northern rim of Tijeras Arroyo and TA-II has been defined as the North Supergroup (IT March 1996)

5.2.2 Operational History

TA-II was a high security area for many years, initially used for weapons assembly in the late 1940s and early 1950s, then dedicated to explosives research until the mid-1990s. The security and proximity to other SNL/NM facilities led to the area being selected for the disposal of classified material. Classified material was buried at SWMU 2 reportedly from the early 1950s through 1987, but disposals might have started as early as 1947. The last disposal at SWMU 2 occurred in October 1987. Between 1978 and 1987, all waste material was reportedly screened for radioactive and chemical contamination prior to disposal in SWMU 2 (SNL/NM August 1991).

Process knowledge for SWMU 2 was compiled from interview notes, Delivery to Reclamation (DTR) records (SNL/NM October 1987), a Burial Log Book (SNL/NM February 1991), and the Nuclear Materials Management and Safeguard System database (ORNL 1995). While the available records contained some specific details of the landfill contents, much of it was quite general and did not provide very accurate locations of the burials or information on hazards associated with the materials. The landfill contained classified material that, by shape or content, contained information important to national security. The majority of classified material disposed in SWMU 2 consisted of weapons-related components of metal, plastic, foam, and electronics that no longer had any practical use. The material was collected around SNL/NM and stockpiled in a vault until there was sufficient material to warrant a disposal. Until 1958, no records were maintained for material disposed in SWMU 2 (SNL/NM August 1991). An inventory of the classified material buried prior to June 1972 reportedly was destroyed during file purging conducted pursuant to a DOE paperwork reduction initiative in the 1980s. The surviving records are of limited use. For example, the burial logbook of the classified material disposed from June 1972 through October 1987 describes the contents of Row 3, Pit 10, and Rows A through E (SNL/NM February 1991). This inventory was of limited assistance in identifying specific COCs or hazards associated with buried materials, since it lists only general items (one rocket, one red hopper, one box lead, etc.) (CDM April 1992). Additional information was found in the DTR forms (SNL/NM October 1987), which correspond to the burial logbook and list individual items disposed of in the landfill during the 1970s and 1980s.

Two types of disposal methods were used at SWMU 2. In a few cases, discrete pits were dug for the disposal of classified material. Between May 1960 and April 1963, material from the South Albuquerque Works Plant (a former American Car & Foundry [ACF] weapons plant established in 1952) was reportedly buried at five locations north and southeast of the landfill. The ACF facility manufactured weapon handling equipment and casing components for weapons (Furman 1990). Sandia Plant Engineering drawing number 755565, dated August 1959 and revised through 1964, shows the approximate locations of four pits and one cut-and-cover trench in the eastern portion of TA-II. The ACF Pits were reportedly about 6 feet in diameter and 30 feet deep; the ACF trench was reportedly about 12 feet long by 6 feet wide by 10 feet deep. Excavation of the pits proved them to be much shallower than originally believed; the pits were only 15 to 18 feet deep. No evidence of the cut-and-cover trench, from trenching activities centering around anomalies identified through aerial photographs or geophysical surveys, was ever identified. The South Albuquerque Works Plant did not handle radioactive

materials and disposed of its chemical waste at Kirtland Landfill 2, so it was assumed that the material in the ACF Pits was neither radioactive nor hazardous, but was classified.

The primary disposal method at the SWMU 2 was in open trenches. The trenches were cut in an east-west orientation using bulldozers or similar equipment (Figure 5.2.2-1). The trenches were approximately 8 to 12 feet deep, and stopped at a layer of caliche (hardened calcium carbonate). The individual trenches were approximately 8 to 12 feet wide and varied in length from approximately 100 to 300 feet. None of the trenches was lined or contained any type of leachate barriers or monitoring devices.

Once sufficient material was collected to warrant a disposal, it was transported to SWMU 2. Material was dumped in the open trench then backfilled with the soil excavated from the trench, creating a series of discrete cells within each trench. Steel pipes with location references were placed at the end of each disposal cell after it was covered (Figure 5.2.2-2). It is apparent from observations made during the VCM excavation that burial methods varied greatly during the early years of landfill operation, since the amount of soil cover over the materials in each trench varied from 1 to 4 feet. Prior to the VCM excavation, some items were visible through thin soil cover in some areas of the landfill. Later burials, primarily in the trench along the northern edge of the landfill, consistently exhibited soil cover of at least 6 feet. SWMU 2 was not used for material disposal after 1987 when classified SNL/NM material was sent to the TA-III Classified Landfill.

Based upon the historical records and on geophysical surveys, eight disposal trenches existed at SWMU 2 (Rows 1, 2, 3, A, B, C, D, and E). Prior to 1972, the burials in SWMU 2 were designated as 1, 2, and 3. The last pit in Trench 3 (Pit 10) was filled in June 1972. From 1972 to 1987, the trenches were designated with letters (A through E) (SNL/NM February 1991, CDM April 1992). The final disposal of materials at the CWLF was placed in Pit 7 of Trench E (the northernmost trench) in October 1987 (SNL/NM February 1991). Figure 5.6.2-2 shows the trench and pit locations based upon records searches, surface markers, and geophysical surveys as discussed in Section 5.6.2.

Based upon historical records and personnel interviews, the potential COCs expected in SWMU 2 included:

- Radioisotopes: plutonium, uranium, strontium, tritium, thorium, and nickel;
- Metals, primarily lead and beryllium, and possibly barium, cadmium, chromium, and mercury;
- PCBs;
- High explosive (HE) compounds; and
- VOCs.

During excavation of the landfill, the presence of elevated metal concentrations and some radionuclides was confirmed. No VOCs, HE, or PCBs were indicated or suspected during the soil characterization phase of the project, nor were they found in loose form. COCs identified during the excavation are discussed in greater detail in Section 5.6.

Figure 5.2.2-1
Aerial View of Partially Backfilled Trench at SWMU 2,
Classified Waste Landfill

Figure 5.2.2-2
View to west across SWMU 2 prior to the VCM showing steel pipe steel markers for disposal cell and trench locations

As mentioned in Section 5.0, recent sampling of the excavated soil confirmed the presence of PCBs. Additional characterization is being conducted and the results will be presented in an addendum to this NFA proposal.

5.3 Land Use

5.3.1 Current

SWMU 2 is located on federally-owned land managed by the DOE within the boundaries of KAFB. The current land use is industrial (Figure 5.3.1-1).

5.3.2 Future

The projected land use for SWMU 2 is industrial (DOE and USAF March 1996). According to the SNL/NM 10-year Master Plan, no roads or buildings are planned for the vicinity of SWMU 2 (SNL/NM January 2001). The TA-II buildings and infrastructure are obsolete and are being demolished on a staggered schedule.

5.4 Investigatory Activities

5.4.1 Summary

SWMU 2 was identified during the investigation conducted under the DOE Comprehensive Environmental Assessment and Response Program (CEARP) (DOE September 1987). In 1991, the SNL/NM Environmental Restoration (ER) Project began preliminary investigations at TA-II that included: background information reviews, personnel interviews, surface-radiation surveys, soil-vapor surveys, borehole sampling, and geophysical surveys. These investigations are discussed below.

5.4.2 CEARP Investigation

5.4.2.1 CEARP Sample Data Collection

No soil sampling activities were performed at SWMU 2 as part of the CEARP.

5.4.2.2 CEARP Data Gaps

A lack of information regarding potential hazards in the landfill prevented calculating the Hazard Ranking System (HRS) and Modified HRS migration mode scores.

5.4.2.3 CEARP Results and Conclusions

The CEARP finding was "uncertain" for Federal Facility Site Discovery and identification findings, preliminary assessment, and preliminary site inspection (DOE September 1987).

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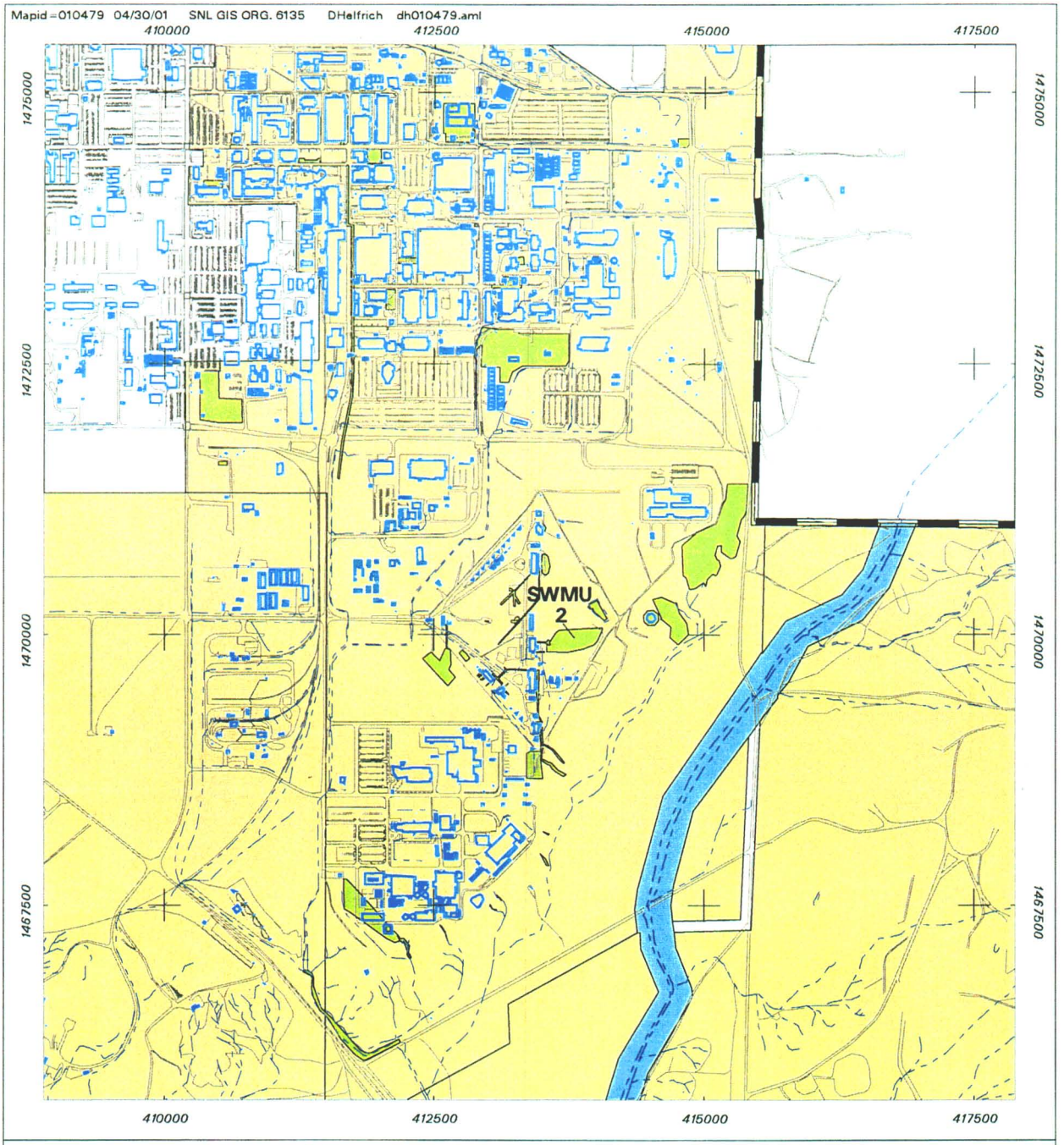

Legend

- Road
- KAFB Boundary
- Surface Drainage
- Building / Structure
- SWMU
- Industrial Land Use
- Recreational Land Use

Figure 5.3.1-1
SWMU 2: Classified Waste Landfill and Associated Land Uses within KAFB Boundary

0 750 1500
Scale in Feet

0 180 360
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

5.4.3 SNL/NM ER Project Preliminary Investigations

5.4.3.1 Background Review

Current and former SNL/NM employees were interviewed in 1991 and 1992 (SNL/NM August 1991; 1992) to obtain information on the disposal methods. The 1991 archive search results were previously presented in Section 5.2.2.

5.4.3.2 Aerial Photographs

Historic aerial photographs taken on 26 dates from 1951 through 1992, were examined for evidence of burials in the landfill (Ebert and Associates, Inc. June 1994). The numerous trenches and pits evident in the photographs generally correspond with disposal locations confirmed by identification posts and later geophysical surveys.

5.4.3.3 Radiological Surveys

In early 1988, the DOE Headquarters Environmental Survey (DOE January 1989) conducted a field reconnaissance at the SWMU 2. Radiation measurements were recorded at 10-foot intervals in an east-west direction. No gamma radiation was measured above background levels during this survey.

In July 1991, SNL/NM Radiation Protection Operations (RPO) conducted a beta-gamma radiation survey across part of SWMU 2. No radioactive anomalies were detected (Oldewage July 1991). A second beta-gamma survey in December 1991 determined that no significant external radiation dose rates to personnel were expected for nonintrusive field work (Oldewage December 1991).

5.4.3.4 Soil-Vapor Surveys

Two soil-vapor surveys (SVSs) were conducted at SWMU 2. In 1989, DOE collected six samples. The samples were collected from a depth of 4 feet at 20-foot intervals along one of the trenches. Although chlorinated solvents were detected at all six sample locations, VOCs also were detected in the method blanks, suggesting laboratory contamination (SNL/NM December 1997).

In 1993, a passive SVS investigation was conducted across the eastern part of TA-II. The passive SVS was conducted with several hundred Petrex™ tubes buried at a depth of 1 foot bgs. Although Petrex™ tubes provide only qualitative data, the investigation identified two small areas with VOCs in soil vapor along the northern edge of SWMU 2 (NERI June 1994, SNL/NM December 1997).

5.4.3.5 Borehole Sampling

During March 1994, boreholes were drilled at the two VOC anomaly locations identified during the 1993 passive SVS. The boreholes (TA2-BH-03 and TA2-BH-04) were drilled to depths of

100.5 and 55 feet, respectively, along the northern edge of SWMU 2. No landfill material was encountered in either borehole.

Soil samples were collected at approximately 5-foot intervals and analyzed for metals, HE compounds, VOCs, SVOCs, and radionuclides. Insignificant soil contamination was identified. One sample contained elevated chromium (50 mg/kg). In several samples, acetone, methylene chloride, bis(2-ethylhexyl) phthalate, and tritium were detected (SNL/NM December 1997).

5.4.3.6 Geophysical Surveys

Four geophysical investigations were conducted across the eastern half of TA-II prior to the start of the VCM. GEO-CENTERS, Inc. conducted towed-array surveys in December 1991 and February 1994 (GEO-CENTERS, Inc. January 1994) using the Surface Towed Ordnance Locator System (STOLS™) to identify buried ferrous objects. A separate electromagnetic (EM) survey was conducted between December 1993 and February 1994 (LAMB Associates May 1994). No anomalies were identified outside of the 1993 SWMU 2 boundary in these three surveys. The 1997 survey identified approximately 75 to 80 individual burials at the landfill (MDM/LAMB, Inc. November 1997). A cluster of four pits also was identified west of the suspect disposal area and were designated as 'W' for western pits (W-Pits).

The fourth survey in 1997 was conducted to delineate the actual burial area boundary for the VCM. In September 1997, an EM-61 survey was conducted on 5-foot grid spacing on both north-south and east-west traverses. The survey covered approximately 3.5 acres on the landfill proper and the surrounding area. A more sensitive east-west survey (on 2.5-foot grid spacing) was then conducted over the surface of the landfill. Since an EM-61 survey does not distinguish between ferrous and nonferrous items, a magnetometer survey was then conducted to specifically identify buried ferrous materials. The final EM-61 survey results are shown in Figure 5.4.3.6-1.

The geophysical surveys provided the most useful tool for determining where material was buried. These burial areas included the trench disposals, the ACF Pits, and the W-Pits. The final SWMU 2 boundary encompasses all the burial areas (Figure 5.4.3.6-2).

5.4.3.7 Cultural Resources Survey

A walk-over survey was conducted by an archaeologist in 1994. No cultural resources were identified in the vicinity of SWMU 2 (Hoagland September 1994).

5.4.3.8 Sensitive-Species Surveys

In 1995, two biological surveys were conducted in the vicinity of SWMU 2. The area around SWMU 2 was originally desert grassland habitat but has been highly disturbed by its past use as a landfill and other TA-II activities (IT February 1995). No federally-listed endangered or threatened species (plants or animals) or state-listed endangered wildlife species (Group 1 or Group 2) were found.

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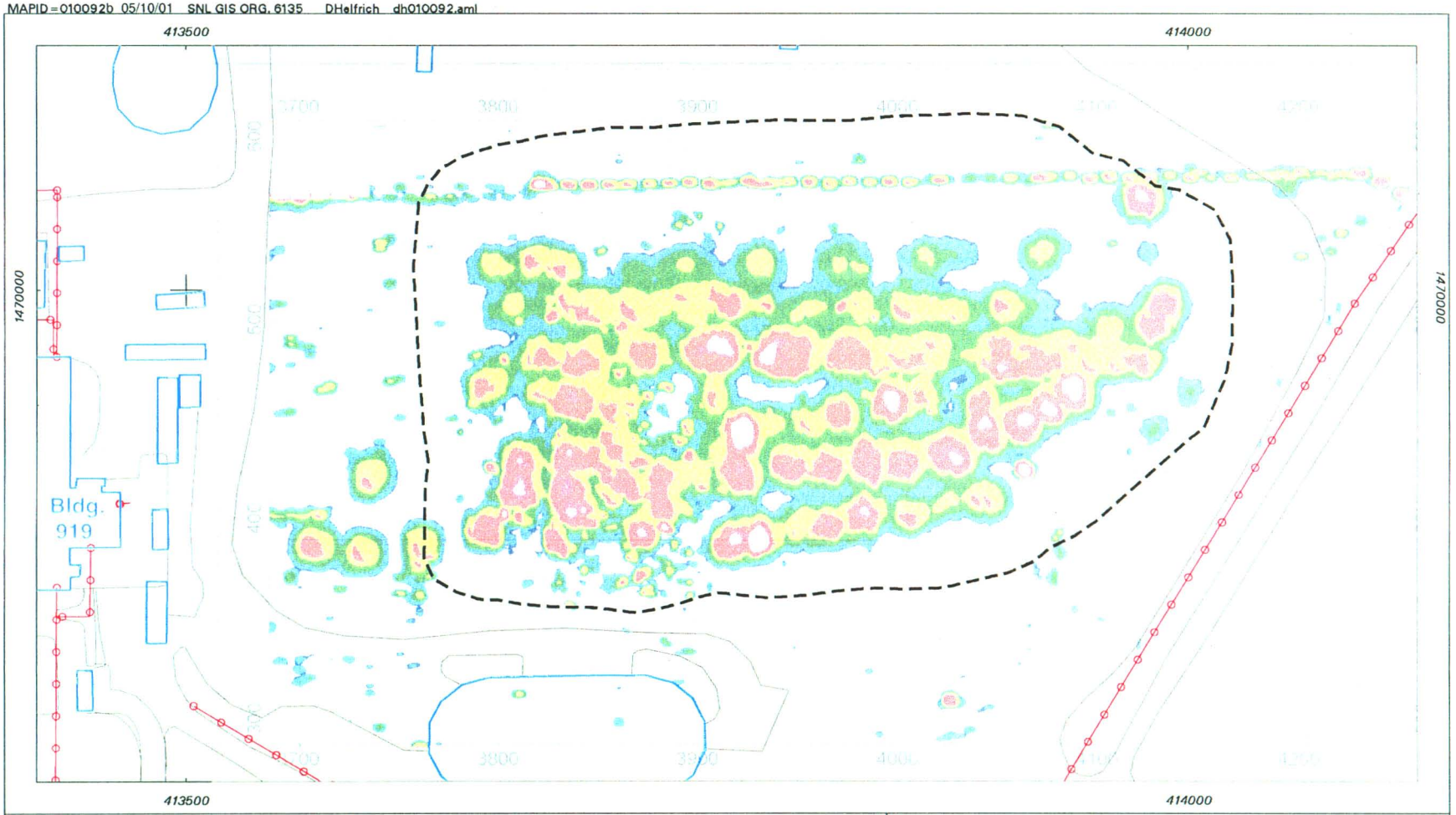

Legend

- Unpaved Road / Parking
- Fence
- Building / Structure
- Excavation Limit

0 40 80
Scale in Feet

0 9.6 19.2
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5.4.3.6-1
Pre-VCM Excavation
Electromagnetic (EM-61) Survey
of SWMU 2, September 1997

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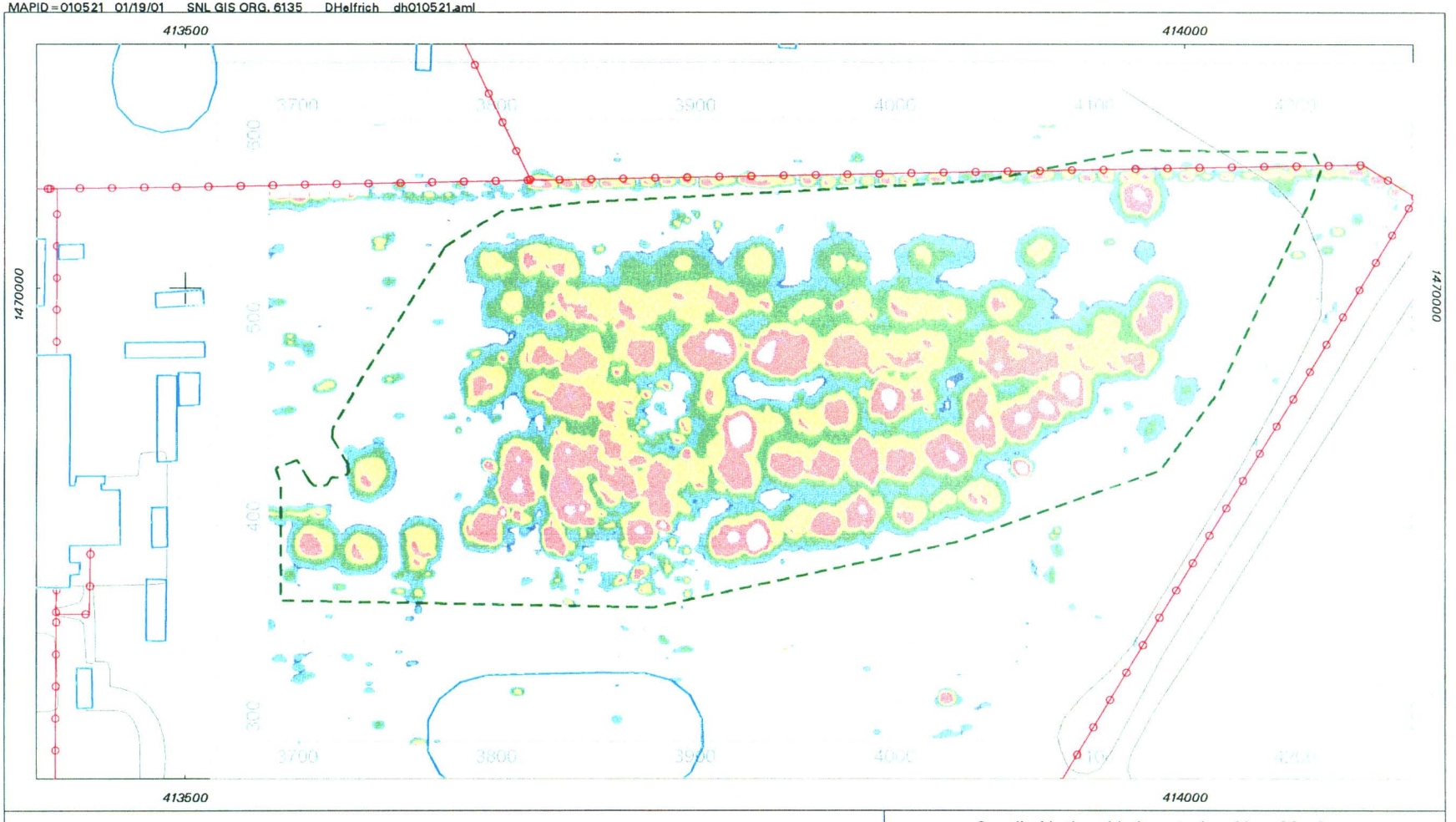

Legend

- Unpaved Road / Parking
- Fence
- Building / Structure
- SWMU 2 Boundary

0 40 80
Scale in Feet

0 9.6 19.2
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5.4.3.6-2
SWMU 2 Boundary Established Using the Burial Pits and Trenches Located with Geophysics

5.5 VCM Implementation

In the course of the SWMU 2 VCM, between March 1998 and February 2000, approximately 1.5 million pounds of material and 40,000 cubic yards of soil were excavated. The depth of the excavated pits and trenches ranged from 10 to 18 feet below grade, with an average depth of approximately 12 feet. The landfill was excavated by digging out one pit or trench disposal cell at a time, then separating the material, soil, and cobble fractions for further management. Further details describing the VCM methodology and procedures are provided in Annex 5-A.

Management and disposition of the large amounts of excavated material was a major part of the VCM. All the excavated material had to be considered classified from a national security standpoint until proven otherwise. The landfill contained classified material from nearly 40 years of weapons research and development at SNL/NM. Some material was excavated that was not classified, including lead bricks for shielding, sheet stock of steel, lead, cadmium, aluminum, stainless steel, and titanium, metal fragments from explosives testing, compressed gas cylinders, weapon casings, laboratory equipment, and discarded firearms. Weapon-related material included thermal batteries, firing sets, radar and fuzing units, electronic assemblies, partial and complete weapon trainers, and test assemblies from a variety of weapon systems. The material was collected from SNL/NM groups performing weapon component development and testing, stored in vaults until enough was accumulated for disposal, then placed in the landfill.

Disposition of the material involved surveying and identifying everything, separating hazardous and unclassified material, demilitarizing the classified material, sorting scrap metal for recycle, and waste characterization and packaging. Annex 5-B provides more details on the material management effort and the resulting recycling initiative and waste streams.

5.6 VCM Excavated Soil Characterization

Excavated-soil characterization, management, and verification sampling are described in the following sections.

5.6.1 Preliminary Remediation Goals and Excavated Soil Management

Before starting the VCM, preliminary human-health and ecological risk assessments were performed to establish a set of preliminary remediation goal (PRG) values for the metal and radiological COCs expected at SWMU 2. These risk-based PRG values were used to determine the in-process management and future disposition for excavated soil. The excavated soil was routinely field-screened and sampled for laboratory analysis (Sections 5.6.2.2 and 5.6.2.3) and staged in piles until analytical results were received and reviewed. For conservatism, action levels were set at 10 percent of the PRG. When the analytical results were received, soils with COC values above action level(s) or PRGs were stockpiled separately for further characterization. Soils with COC values below PRGs or action levels were combined and stockpiled for use as excavation backfill pending completion of the final SWMU 2 risk assessment.

Details on the methodology used to develop the PRGs are presented in the SWMU 2 VCM Plan (SNL/NM December 1997). The PRGs and NMED-approved background concentrations for the North Supergroup area are compared in Table 5.6.1-1. The soil sampling results and comparison with the PRGs are presented in Section 5.6.3.1.

5.6.2 Excavated Soil Characterization

As the pits and trenches were excavated during the VCM (Figure 5.6.2-1), the excavated soil was sampled to:

- Determine the nature and extent of any contamination;
- Monitor COC concentrations for health and safety and waste management decisions;
- Compare any COC concentrations with PRGs as an initial step in determining if soil could be used as backfill pending the final risk assessment;
- Provide data for the final human-health and ecological risk assessments.

Following the VCM excavation, confirmatory soil samples were collected from the excavation floor and sidewalls to determine whether any COCs were present at concentrations exceeding background limits or at levels sufficient to pose a risk to human health or the environment. Confirmatory sampling and results are described in Section 5.7.2.

Soil characterization included both field screening and on- and off-site laboratory analyses. Field-screening included metals analysis by X-ray fluorescence (XRF); soil headspace analysis for VOCs using a photoionization detector (PID); and radionuclide characterization by in-situ Large Area Gamma Spectroscopy (LAGS) and multiple portable detectors. Field-screening methods are discussed in Section 5.6.2.2. Laboratory analyses are discussed in Section 5.6.2.3.

Excavated soil was sampled and tracked as "soil lots" associated with individual pits or disposal cells. Soil lots were initially 10 cubic yards in volume, and increased to 50 cubic yards as the sampling frequency changed later in the project (Section 5.6.2.2). Excavated soil was kept segregated into soil piles until analytical results were received and reviewed. The results were used to segregate the soil for use as possible backfill for the VCM excavation.

5.6.2.1 Sample Naming Scheme

Samples were tracked using an identification scheme incorporating the sample location and sample details, such as: soil bin, soil lot, survey coordinates, sample depth, and sample type. For a typical sample like TA2-2-TRC8-001-SL04-S, "TA2-2" stands for Technical Area II, SWMU 2. The next set of characters, "TRC8," describe the location(s) sampled, in this case, Disposal Cell 8 in Trench (TR) C. The next set of characters, "001-SL04," further specify this as the first sample (001) from Soil Lot 4 (SL04). Excavation confirmatory samples include northing and easting coordinates based upon distance from a New Mexico State survey reference point

Table 5.6.1-1
Comparison of SWMU 2 Risk-Based PRGs and
NMED-Approved Background Values

COC Name	Proposed Risk-Based PRG	NMED-Approved Background[a]
Metals (mg/kg)		
Arsenic	1.9	4.4
Barium	509	200
Beryllium	6.7	0.80
Cadmium	209	0.9
Chromium[b]	1,590	12.8
Lead	2,000	11.2
Mercury	9.96	<0.1
Nickel	3,570	25.4
Selenium	5.86	<1
Silver	1,550	<1
Uranium	102	2.3
Radionuclides (pCi/g)		
Am-241	253	NE
Cs-137	22.1	0.084
H-3 (tritium)	2,980	0.021[c,d]
Pu-238	315	NE
Pu-239	285	NE
Ra-228	7.56	1.20
Sr-90	46.8	1.08
Th-228	7.06	1.54[e]
Th-230	2.47	NE
Th-232	4.45	1.54[e]
U-234	458	1.6
U-235	88.1	0.18
U-238	491	1.3

[a]Dinwiddie (September 1997) North Supergroup Background.
[b]Chromium assumed to be chromium VI (most conservative).
[c]SNL/NM tritium background value of 420 pCi/L from Tharp February 1999.
[d]Tritium background value calculated using 420 pCi/L, a soil density of 1 g/cubic centimeter, and moisture content of 5 percent.
[e]Th-228 and Th-232 assumed to be in equilibrium with each other.
COC = Constituent of concern.
g = Gram(s).
mg/kg = Milligram(s) per kilogram
NE = Not established.
NMED = New Mexico Environment Department.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
PRG = Preliminary remediation goal.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

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Figure 5.6.2-1
SWMU 2 During the VCM Excavation, View to the Southwest

and depth of the sample below grade. The final character set (S or SU, D or DU, EB, TB) specifies the type of sample (soil, duplicate, equipment blank, or trip blank, respectively). The acronyms and identifications used for samples are shown in Table 5.6.2-1. Trench and pit locations are shown on Figure 5.6.2-2.

5.6.2.2 Field-Screening Methods

When the VCM began in March 1998, field-screening soil samples were collected at a frequency of one sample for each 10 cubic yards of excavated soil. In December 1998, after more than 20,000 cubic yards had been processed and very little contamination had been found, the frequency was changed to one sample for each 50 cubic yards of excavated soil. The field-screening methods are discussed below.

VOC Headspace Analysis by PID

Soil samples were collected in plastic bags and allowed to sit at ambient temperature for 5 minutes before the headspace concentration was sampled with a PID. A total of 984 soil samples were analyzed for VOCs between March 1998 and February 2000. No readings above background were found.

Metals Analysis by XRF

Between March 1998 and February 2000, 846 soil samples were analyzed using XRF for barium, cadmium, chromium, lead, mercury, and nickel. After July 1999, arsenic, selenium, and silver were added to the analyte list and an additional 136 samples were analyzed. Because the XRF detector window glass contains beryllium, this metal was not detectable. The XRF results for the 982 samples are presented in Annex 5-C.

XRF results for each soil lot were reviewed and a determination was made whether to stockpile the soil or collect additional samples for analysis. For soil lots where XRF analysis indicated possible metal concentrations above background or a PRG, the original sample was rerun or a second sample was collected and analyzed. When the second XRF analysis indicated a probable contamination, another sample was sent for laboratory analysis. Additional samples of both "clean" and "potentially contaminated" samples were also periodically sent for laboratory analysis to confirm XRF accuracy.

Radionuclide Assessment by LAGS

Between March 1998 and December 1998, 590 10 cubic-yard soil lots were analyzed by the LAGS system. Each soil lot was given a 30-minute gamma spectroscopy count inside the temporary structure erected on the south end of the site. The LAGS data for the 590 soil lots are provided in Annex 5-D.

Soil samples also were submitted to the SNL/NM on-site Radiation Protection Sample Diagnostics (RPSD) Laboratory for gamma spectroscopy analysis at a rate of one for every five

Table 5.6.2-1
SWMU 2 Sample Naming Scheme

Explanation	Sample Location		Sample Details		Sample Type	
	Acronym	Explanation	Acronym	Explanation	Acronym	Explanation
TA2-2 = Technical Area 2, SWMU 2	ACF*4*	American Car Foundry Pit *4*	*C6*-BIN	Sample of soil scraped into a bin from artifacts found in disposal cell *C6*	D, DU, DUP	Duplicate sample
	BORROW	Soil sample from borrow area (used as backfill)	N, S, E, W	Sample locations on LAY-DOWN-BIN or PIT-BURM-MIX referenced to compass directions	EB*4*	Equipment blank *4*
	COBL-GRIZ	Sample of soil remaining after cobbles had been processed through screen plant	*001*-SL*04*	Sample *1* for Soil Lot *4*	S, SA, SU	Soil sample
	CWLF	Classified Waste Landfill				
	CYLI-NDER-BRM	Soil sample from berm around gas cylinder storage area	*500*N-*3800*E	NM State northing and easting coordinates for confirmatory samples collected from excavation floor or sidewall.	TB	Trip blank
	EAST-FNCE	Sample of overburden soil near the TA-2 east gate	*0.5, 12, 18*	Sample depth below grade. Only applicable to ACF, Western Pit and confirmatory samples.		
	FILL-DIRT	Sample collected between disposal cells 1 and 2 in Trench A.				
	FINAL-FLR	Confirmation sample from excavation floor				
	FINAL-SDW	Confirmation sample from excavation sidewall				
	*4*LAY-DOWN-BIN	Sample *4* from lay down pad or bin				
	OVER	Overburden soil sample				
	OVT*E*	Overburden soil from *Trench E*				

Table 5.6.2-1 (Concluded)
SWMU 2 Sample Naming Scheme

	Sample Location		Sample Details		Sample Type	
Explanation	Acronym	Explanation	Acronym	Explanation	Acronym	Explanation
TA2-2 (Cont.)	OVW*4*	Overburden soil from *Western Pit 4*				
	PIT-BURM-MIX	Composite soil sample made by scraping pit bottom and excavation berm				
	PW*3*	Western Pit *3*				
	PTW*4*	Western Pit *4*				
	P*456*	Composite soil sample from Pits *4, 5, and 6*				
	SLPE	Overburden soil from a graded slope excavated over Trench E				
	SORT-SEG	Sample of material scraped directly off artifact in the sorting and segregation area				
	TR*E*	Trench *E*				
	TR*E6*	Trench *E*, disposal cell *6*				
	TR*1*-P*6*	Trench *1*, Pit (disposal cell) *6*				
	TR*3*-P*2/3*	Composite soil sample from Trench *3*-Pits *2 and 3*				

Note: Italicized letters and numbers are for illustration purposes and may vary for actual samples.

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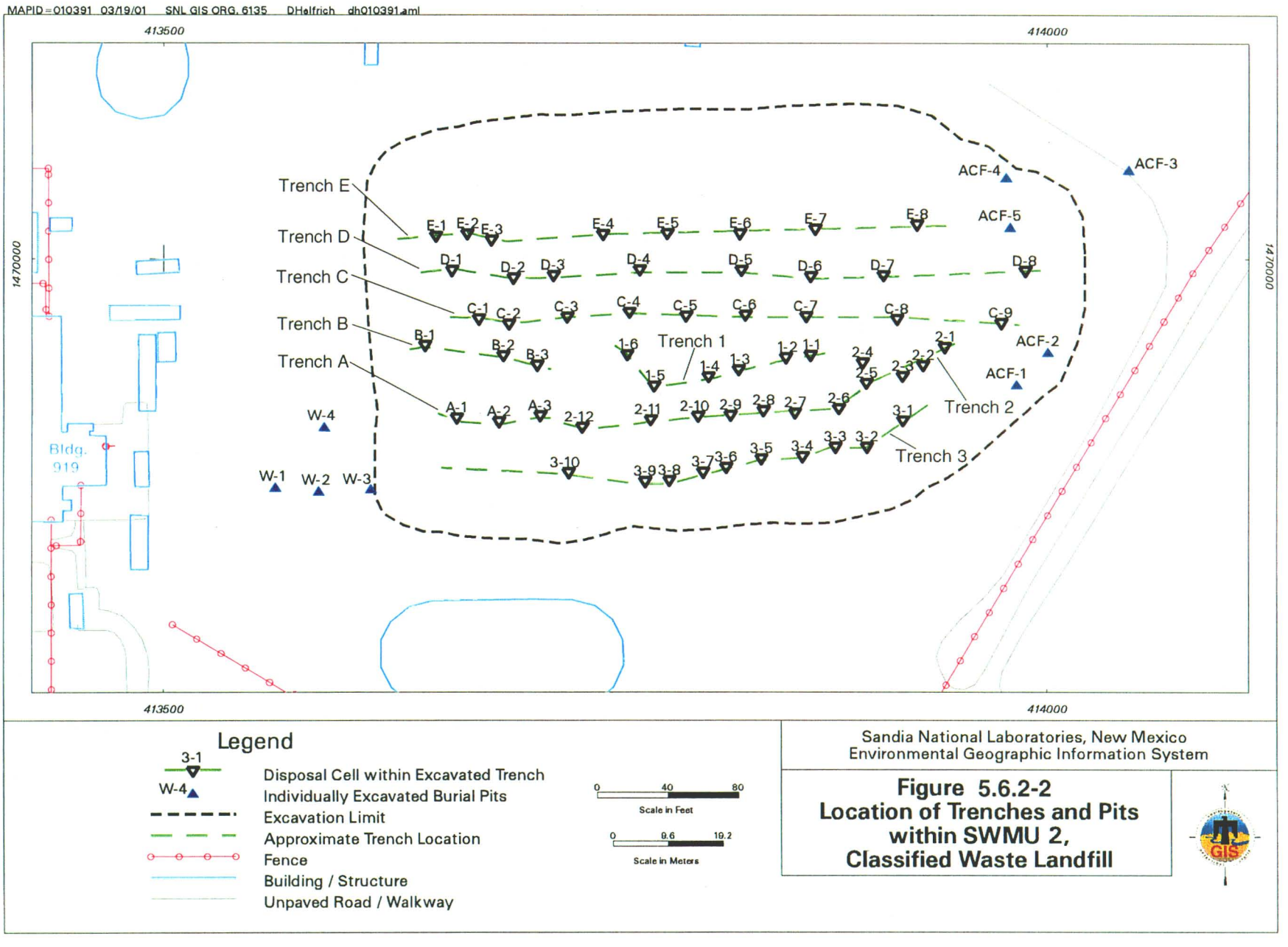
MAPID=010391 03/19/01 SNL GIS ORG. 6135 DHelfrich dh010391.aml
413500
414000
1470000
Trench E
Trench D
Trench C
Trench B
Trench A
Trench 1
Trench 2
Trench 3
ACF-1
ACF-2
ACF-3
ACF-4
ACF-5
W-1
W-2
W-3
W-4
Bldg. 919
Legend
3-1
W-4
Disposal Cell within Excavated Trench
Individually Excavated Burial Pits
Excavation Limit
Approximate Trench Location
Fence
Building / Structure
Unpaved Road / Walkway
0 40 80
Scale in Feet
0 9.6 19.2
Scale in Meters
Sandia National Laboratories, New Mexico
Environmental Geographic Information System
Figure 5.6.2-2
Location of Trenches and Pits
within SWMU 2,
Classified Waste Landfill

LAGS samples. The results for each soil lot were reviewed and a determination was made whether to stockpile the soil or collect additional samples for analysis. Since only minimal radioactive contamination was encountered, LAGS analysis was discontinued after December 1998 and the RPSD Laboratory samples were solely used for soil characterization. The sampling frequency was also decreased to one gamma spectroscopy sample for every 50 cubic yards of excavated soil.

The portable instruments used to used to field-screen for radioactive material during the VCM are described in Annex 5-A (Section 5A.3.2).

5.6.2.3 Laboratory Analyses

Soil samples were submitted for laboratory analysis at a ratio of one per 20 field-screening samples. These were split between the on-site SNL/NM ER Chemistry Laboratory and off-site General Engineering Laboratories, Inc. (GEL), in Charleston, South Carolina. Gamma spectroscopy and qualitative tritium screening analyses also were performed at the SNL/NM RPSD Laboratory. Gamma spectroscopy samples were submitted to the RPSD Laboratory at a ratio of one per five LAGS samples during the time the LAGS was in operation. Off-site radionuclide analyses were performed at GEL.

VOC analyses were by EPA Method 8260; SVOC analyses by EPA Method 8270, HE by EPA Method 8330 (EPA Method 8095 equivalent at the on-site Environmental Restoration Chemical Laboratory); Resource Conservation and Recovery Act (RCRA) metals plus beryllium, nickel, and uranium were by EPA Methods 6010/7000 and 6020; gamma spectroscopy by EPA Method 901.1 (or equivalent at the on-site RPSD Laboratory); and tritium by EPA Method 906.0. Qualitative tritium measurements were also performed at the RPSD Laboratory using liquid scintillation counting.

All of the confirmatory soil samples collected in the landfill excavation following the VCM were submitted to GEL for metals and tritium analysis. Gamma spectroscopy analyses were performed at the SNL/NM RPSD Laboratory. These results are discussed in Section 5.7.3.

5.6.2.4 Quality Assurance/Quality Control Samples

Quality assurance (QA)/quality control (QC) soil samples were collected at an approximate frequency of one per 20 field samples. These included duplicates, matrix spike (MS)/matrix spike duplicates (MSDs), equipment blanks, and trip blanks (the latter for VOC analysis only). QA/QC samples and data validation results for all samples collected are discussed in Section 5.7.4.

5.6.3 Excavated Soil Laboratory Analytical Results

As mentioned in Section 5.1, resampling of the excavated soil stockpiles confirmed the presence of PCBs in low concentrations. Additional characterization of the soil and excavation is currently being conducted and the results will be presented in an addendum to this NFA proposal. The COC analytical result discussions that follow do not include the analytical data from the latest sampling event in June 2001.

As mentioned in Section 5.6.2, as the landfill excavation progressed between March 1998 and February 2000, samples of the excavated soil were sent to analytical laboratories for confirmation of the field-screening results. These results are presented below.

VOCs

Table 5.6.3-1 presents the analytical results for the VOC analyses of the excavated soils. A total of seven VOC compounds were detected in the 116 soil samples collected between March 1998 and August 1999. Acetone (nondetect [ND] to 11 J micrograms (µg)/kg) was detected in four samples; ethylbenzene (ND to 4.3 J µg/kg) in one sample; 2-hexanone (ND to 14 J µg/kg) in two samples; methylene chloride (ND to 7.3 µg/kg) in four samples; and o-xylene (ND to 14 µg/kg) and m-, p-xylene (ND to 21 µg/kg) were detected in two samples. The low-level detections of these compounds probably indicate laboratory contamination rather than a release. The method detection limits (MDLs) for the analyses are provided in Table 5.6.3-2.

Laboratory analyses for VOCs in soil were discontinued in August 1999 because of the few detections, low concentrations of the VOCs that were detected, and continued lack of contamination indicated by visual observation and PID field-screening. The soil excavated was dry and unconsolidated, which indicated little potential for residual volatile contaminants. The materials in the landfill consisted primarily of prototype weapon components; no containers that may have contained liquids were found.

SVOCs

Nine soil samples were analyzed for SVOCs between March and December 1998, and only one SVOC compound was detected in one sample. Bis(2-ethylhexyl)phthalate (270 J µg/kg), a common constituent in plastics, was detected in the soil lot 9 sample from disposal cell E6. The results are presented in Table 5.6.3-3 and the MDLs for the SVOC analyses are presented in Table 5.6.3-4.

Eight of the nine SVOC samples were collected at the bottom of the four ACF and four W-Pits, and are also considered "confirmatory samples." However, because of the small number of analyses, the data is presented and discussed in this section. SVOC analyses were stopped in December 1998 because the material in the landfill was largely intact, despite oxidized metal surfaces. No stained soil was observed during the excavation and no containers that may have contained liquids were found.

HE

No HE compounds were detected in the 10 soil samples, including duplicates and splits, that were collected at SWMU 2. A summary of the MDLs used for the analyses is provided in Table 5.6.3-5. HE analyses were stopped when no HE compounds were detected in suspect materials (mock HE) or components that were analyzed. Sampling excavated soil for HE compounds was also discontinued early in the project when it became apparent that no bulk HE

Table 5.6.3-1
Summary of SWMU 2 Excavated Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600003	TA2-2-BORROW-1	3-05-98	ND (5.4)	ND (2.2 J)	ND (5.4 J)	ND (1.1)	ND (1.1)	ND (2.2 J)	ND (3.2)
600003	TA2-2-BORROW-2	3-05-98	ND (5.4)	ND (2.2 J)	ND (5.4 J)	ND (1.1)	ND (1.1)	ND (2.2 J)	ND (3.3)
600046	TA2-2-ACF1-0001-SL2-S	4-01-98	ND (5.5 J)	ND (2.1)	ND (5.3)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600048	TA2-2-ACF4-0001-SL5-S	4-02-98	ND (5.2)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600061	TA2-2-PW12-0001-SL7-S	4-07-98	**8.1 J (21)**	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600061	TA2-2-PW12-0001-SL8-S	4-07-98	**11 J (21)**	ND (2.1)	**14 J (21)**	ND (1)	ND (1)	**4 J (8.4)**	**6.5 J (12)**
600066	TA2-2-ACF2-0001-SL4-S	4-13-98	ND (5.2)	**4.3 J (8.4)**	ND (5.2)	ND (1)	ND (1)	**14**	**21**
600069	TA2-2-PTW3-0001-SL4-S	4-14-98	**5.7 J (21)**	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600071	TA2-2-OVER-0001-SL2-S	4-16-98	R	R	R	R	R	R	R
600076	TA2-2-PTW4-SL14-000-S	4-24-98	ND (5)	ND (2)	ND (5 J)	ND (1)	ND (1)	ND (2)	ND (3)
600081	TA2-2-OVW4-0001-SL5-S	4-29-98	ND (5)	ND (2)	ND (5 J)	ND (1)	ND (1)	ND (2)	ND (3)
600083	TA2-2-OVW4-0001-SL8-S	5-04-98	ND (5.3 J)	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600083	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600083	TA2-2-SLPE-0001-SL9-S	5-04-98	**7.6 J (21)**	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600083	TA2-2-SLPE-SL14-000-S	5-04-98	ND (5.3 J)	ND (2.1)	ND (5.3)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600085	TA2-2-TRE1-SL06-000-S	5-06-98	ND (5.2 J)	ND (2.1 J)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1 J)	ND (3.1 J)
600085	TA2-2-TRE1-SL13-000-S	5-06-98	ND (5.2 J)	ND (2.1 J)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1 J)	ND (3.1 J)
600087	TA2-2-TRE2-SL07-000-S	5-11-98	ND (5.2 J)	ND (2.1 J)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1 J)	ND (3.1 J)
600277	TA2-2-SLPE-SL16-000-S	5-18-98	ND (5.2 J)	ND (2.1)	**8.3 J (21)**	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL19-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL22-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL23-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL32-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL34-000-S	5-18-98	ND (5.1 J)	ND (2)	ND (5.1)	ND (1)	ND (1)	ND (2)	ND (3.1)
600279	TA2-2-TRE3-SL07-000-S	5-21-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600279	TA2-2-TRE4-SL10-000-S	5-21-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600281	TA2-2-OVTE-SL03-000-S	5-26-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600281	TA2-2-OVTE-SL08-000-S	5-26-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600285	TA2-2-OVTE-SL11-000-DUP	6-01-98	ND (5.3)	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600285	TA2-2-OVTE-SL11-000-S	6-01-98	ND (5.3)	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600285	TA2-2-TRE5-SL08-000-S	6-01-98	ND (5.2)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600285	TA2-2-TRE5-SL17-000-S	6-01-98	ND (5.2)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600290	TA2-2-TRE6-SL09-000-S	6-08-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory split)	6-08-98	ND (2.2)	ND (0.23)	ND (4.4)	**0.74 J (1)**	ND (0.22)	NA	NA
600290	TA2-2-TRE6-SL22-000-DUP	6-08-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)

Refer to footnotes at end of table.

Table 5.6.3-1 (Continued)
Summary of SWMU 2 Excavated Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600290	TA2-2-TRE6-SL22-000-S	6-08-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600292	TA2-2-OVA5-SL05-000-S	6-10-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600292	TA2-2-OVA5-SL11-000-S	6-10-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600292	TA2-2-OVA5-SL13-000-S	6-10-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600296	TA2-2-TRE7-SL08-000-S	6-17-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600296	TA2-2-TRE7-SL13-000-S	6-17-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600296	TA2-2-TRE7-SL25-000-S	6-17-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600299	TA2-2-TRE7-SL37-000-S	6-23-98	ND (26)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
600299	TA2-2-TRE7-SL49-000-S	6-23-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600299	TA2-2-TRE7-SL55-000-S	6-23-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600301	TA2-2-TRE8-SL01-000-S	6-25-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600301	TA2-2-TRE8-SL14-000-S	6-25-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600303	TA2-2-TRE8-SL07-000-S	6-29-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600303	TA2-2-TRE8-SL21-000-S	6-29-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600303	TA2-2-TRE8-SL29-000-S	6-29-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (15)
600461	TA2-2-ACF5-SL06-000-S	7-07-98	ND (26)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
600461	TA2-2-OVD1-SL01-000-S	7-07-98	ND (26)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
600461	TA2-2-OVD2-SL02-000-S	7-07-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600463	TA2-2-TRD1-SL02-000-S	7-07-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600463	TA2-2-TRD1-SL06-000-S	7-07-98	ND (27)	ND (11)	ND (54)	ND (5.4)	ND (5.4)	ND (11)	ND (16)
600463	TA2-2-TRD1-SL09-000-S	7-07-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600463	TA2-2-TRD1-SL12-000-S	7-07-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600465	TA2-2-OVD3-SL01-000-S	7-13-98	ND (26)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
600465	TA2-2-TRD2-SL01-000-S	7-13-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600465	TA2-2-TRD2-SL05-000-S	7-13-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600467	TA2-2-TRD3-SL03-000-S	7-20-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600467	TA2-2-TRD3-SL06-000-S	7-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600467	TA2-2-TRD3-SL12-000-S	7-20-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600470	TA2-2-TRD4-SL03-000-DUP	8-10-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600470	TA2-2-TRD4-SL03-000-S	8-10-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600470	TA2-2-TRD4-SL07-000-S	8-10-98	ND (27)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
600470	TA2-2-TRD4-SL14-000-S	8-10-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600470	TA2-2-TRD5-SL05-000-DUP	8-10-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600470	TA2-2-TRD5-SL05-000-S	8-10-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600474	TA2-2-OVD4-SL03-000-S	8-17-98	ND (27)	ND (11)	ND (54)	ND (5.4)	ND (5.4)	ND (11)	ND (16)
600474	TA2-2-TRD6-SL03-000-S	8-17-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600474	TA2-2-TRD6-SL08-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600474	TA2-2-TRD6-SL15-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)

Refer to footnotes at end of table.

Table 5.6.3-1 (Continued)
Summary of SWMU 2 Excavated Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600474	TA2-2-TRD6-SL19-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600474	TA2-2-TRD6-SL23-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-OVD7-SL02-000-S	9-14-98	ND (26)	ND (10)	ND (52)	ND (6.9 J)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-OVD8-SL02-000-S	9-14-98	ND (26)	ND (10)	ND (52)	ND (6.8 J)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL03-000-DUP	9-14-98	ND (26)	ND (10)	ND (53)	ND (7 J)	ND (5.3)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL03-000-S	9-14-98	ND (26)	ND (11)	ND (53)	ND (6.6 J)	ND (5.3)	ND (11)	ND (16)
600489	TA2-2-TRD7-SL11-000-S	9-14-98	ND (26)	ND (10)	ND (53)	ND (6.3 J)	ND (5.3)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL13-000-S	9-14-98	ND (26)	ND (10)	ND (52)	ND (6.7 J)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL23-000-S	9-14-98	ND (26)	ND (10)	ND (52)	ND (6.9 J)	ND (5.2)	ND (10)	ND (16)
600493	TA2-2-SLPE-SL39-000-S	9-21-98	ND (26)	ND (10)	ND (52)	ND (6.7 J)	ND (5.2)	ND (10)	ND (16)
600493	TA2-2-SLPE-SL41-000-S	9-21-98	ND (26)	ND (10)	ND (53)	ND (6.6 J)	ND (5.3)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL01-049-DUP	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (15)
600502	TA2-2-TRD8-SL01-049-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (15)
600502	TA2-2-TRD8-SL04-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL16-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL27-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL33-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL45-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600505	TA2-2-SLPE-SL44-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (15)
600505	TA2-2-TRC9-SL01-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600506	TA2-2-TRC9-SL01-000-SP (off-site laboratory split)	11-03-98	R	ND (0.23)	ND (4.4)	ND (0.25 J)	ND (0.22)	NA	NA
600505	TA2-2-TRC9-SL05-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600505	TA2-2-TRC9-SL19-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601134	TA2-2-TRC9-SL24-000-S	11-17-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
601134	TA2-2-TRC9-SL42-000-S	11-17-98	ND (27)	ND (11)	ND (54)	ND (5.4)	ND (5.4)	ND (11)	ND (16)
601134	TA2-2-TRC9-SL57-000-S	11-17-98	ND (27)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
601134	TA2-2-TRC9-SL71-000-S	11-17-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
601143	TA2-2-TRC7-SL01-000-S	1-14-99	ND (26)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
601143	TA2-2-TRC7-SL21-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601143	TA2-2-TRC8-SL04-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (15)
601143	TA2-2-TRC8-SL11-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601143	TA2-2-TRC8-SL17-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601143	TA2-2-TRC9-SL83-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601145	TA2-2-TRC6-SL07-000-S	1-21-99	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
601154	TA2-2-TRC5-SL07-000-S	2-01-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
602606	TA2-2-EAST-FNCE-001-DU	8-23-99	ND (25)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
602606	TA2-2-EAST-FNCE-001-S	8-23-99	ND (25)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)

Refer to footnotes at end of table.

Table 5.6.3-1 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
602606	TA2-2-TR2-P12-SL6-DU	8-23-99	ND (25)	ND (10)	ND (50)	ND (5)	ND (5)	ND (10)	ND (15)
602606	TA2-2-TR2-P12-SL6-S	8-23-99	ND (25)	ND (10)	ND (50)	ND (5)	ND (5)	ND (10)	ND (15)
602607	TA2-2-TR2-EAST-FNCE-002-DU (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	ND (1.4)	ND (0.9)	NA	NA
602607	TA2-2-TR2-EAST-FNCE-002-S (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	**2.9 J (5)**	ND (0.9)	NA	NA
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	**5.5**	ND (0.9)	NA	NA
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	**7.3**	ND (0.9)	NA	NA
Quality Assurance/Quality Control Samples (µg/L)									
600283	TA2-2-TRE5-001-EB	6-01-98	ND (2.2 J)	ND (0.23)	ND (4.4)	ND (4.6 J)	ND (0.22)	NA	NA
600283	TA2-2-TRE5-001-TB	6-01-98	R	R	R	R	R	NA	NA
600288	TA2-2-TRE6-SL09-000-TB	6-08-98	ND (2.2)	ND (0.23)	ND (4.4)	1	ND (0.22)	NA	NA
600459	TA2-2-TRD1-0006-EB	7-06-98	ND (2.2)	ND (0.23)	ND (4.4)	1.6	ND (0.22)	NA	NA
600459	TA2-2-TRD1-0006-TB	7-06-98	ND (2.2)	ND (0.23)	ND (4.4)	2.3	ND (0.22)	NA	NA
600472	TA2-2-TRD6-0015-EB	8-11-98	R	ND (0.23)	ND (4.4 J)	ND (1.1 J)	ND (0.22)	NA	NA
600472	TA2-2-TRD6-0015-TB	8-11-98	R	ND (0.23)	ND (4.4 J)	ND (1.5 J)	ND (0.22)	NA	NA
600494	TA2-2-TRD8-0025-EB	9-21-98	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
600494	TA2-2-TRD8-0025-TB	9-21-98	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
600506	TA2-2-TRC9-SL01-000-TB	11-03-98	R	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
601139	TA2-2-TRC7-0003-000-EB	11-30-98	ND (3.7)	ND (0.3)	ND (3.2)	1.5 J (5)	ND (0.5)	NA	NA
601139	TA2-2-TRC7-0003-000-TB	11-30-98	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
602607	TA2-2-TR2-EAST-TR2-P12-TB	8-23-99	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA

Note: Values in **bold** represent detected VOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Sample naming scheme is provided in Table 5.6.2-1.

[d]All quality assurance/quality control samples were analyzed by an off-site laboratory.

EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantitation limit, shown in parentheses.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
NA = Not analyzed.
ND = Not detected above the method detection limit, shown in parentheses.
R = Rejected value. See Data Validation report.
SWMU = Solid Waste Management Unit.
VOC = Volatile organic compound.

Table 5.6.3-2
Summary of VOC Analytical Method Detection Limits
Used for SWMU 2 Excavation Confirmatory Soil Sampling
March 1998–August 1999
(On- and Off-site Laboratories)

Analyte	Soil Sample MDL (EPA Method 8260[a]) (µg/kg)	Aqueous Sample MDL (EPA Method 8260[a]) (µg/L)
1,1,1-Trichloroethane	0.1–5.4	0.18–1
1,1,2,2-Tetrachloroethane	0.46–5.4	0.46–1
1,1,2-Trichloroethane	0.24–5.4	0.24–1
1,1-Dichloroethane	0.1–5.4	0.2–1
1,1-Dichloroethene	0.25–5.4	0.25–1
1,2-Dichloroethane	0.2–5.4	0.2–1
1,2-Dichloropropane	0.2–5.4	0.2–1
2-Butanone	2–27	2–5.9
2-Hexanone	2–54	2–4.4
4-methyl-, 2-Pentanone	2–27	1.6–2.9
Acetone	2–27	2–3.7
Benzene	0.25–5.4	0.25–1
Bromodichloromethane	0.1–5.4	0.24–1
Bromoform	0.27–5.4	0.27–1
Bromomethane	0.3–5.4	0.3–1
Carbon disulfide	0.3–5.4	1.8–2.2
Carbon tetrachloride	0.22–5.4	0.2–1
Chlorobenzene	0.25–5.4	0.25–1
Chloroethane	0.3–5.4	0.3–1
Chloroform	0.1–5.4	0.24–1
Chloromethane	0.2–5.4	0.2–1
Dibromochloromethane	0.2–5.4	0.21–1
Ethyl benzene	0.23–11	0.23–1
Methylene chloride	0.25–5.4	0.25–1.2
Styrene	0.22–5.4	0.2–1
Tetrachloroethene	0.23–11	0.23–1
Toluene	0.22–5.4	0.22–1
Trichloroethene	0.27–5.4	0.27–1
Vinyl acetate	1.8–2.1	1.8–2.0
Vinyl chloride	0.4–5.4	0.4–1
Xylene	0.62–2	0.62–3
cis-1,2-Dichloroethene	0.1–5.4	0.25–1
cis-1,3-Dichloropropene	0.2–2.7	0.25–1
o-Xylene	2–11	NA
p-Xylene, m-Xylene	3–16	NA
trans-1,2-Dichloroethene	0.1–5.4	0.19–1
trans-1,3-Dichloropropene	0.22–5.4	0.22–1

[a]EPA November 1986.
EPA = U.S. Environmental Protection Agency.
MDL = Method detection limit.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
NA = Not analyzed.
SWMU = Solid Waste Management Unit.
VOC = Volatile organic compound.

Table 5.6.3-3
Summary of SWMU 2 Excavated Soil and Confirmatory Soil Sampling
SVOC Analytical Results
March–November 1998
(Off-site Laboratory)

Sample Attributes			Analyte (EPA Method 8270[a]) (µg/kg)
Record Number[b]	ER Sample ID[c]	Sample Depth (ft)	bis(2-Ethylhexyl)phthalate
600004	TA2-2-ACF1-0001-18-S[d]	18	ND (167)
600007	TA2-2-ACF2-0001-15-S[d]	15	ND (167)
600010	TA2-2-ACF3-0001-12-S[d]	12	ND (167)
600041	TA2-2-ACF4-0001-12-S[d]	12	ND (167)
600047	TA2-2-PTW1-0001-10-S[d]	10	ND (167)
600062	TA2-2-PTW2-0001-12-S[d]	12	ND (167)
600067	TA2-2-PTW3-0001-12-S[d]	12	ND (170)
600072	TA2-2-PTW4-0001-15-S[d]	15	ND (170)
600288	TA2-2-TRE6-SL09-000-S	NA	**270 J (331)**
Quality Assurance/Quality Control Samples (µg/L)			
600059	TA2-2-PTW1-EB[d]	NA	ND (5)
600283	TA2-2-TRE5-001-EB	NA	ND (5)
600459	TA2-2-TRD1-0006-EB	NA	ND (5)
600472	TA2-2-TRD6-0015-EB	NA	ND (5)
600494	TA2-2-TRD8-0025-EB	NA	ND (3.7)
601139	TA2-2-TRC7-0003-000-EB	NA	ND (3.7)

Note: Values in **bold** represent detected SVOCs.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample naming scheme is provided in Table 5.6.2-1.
[d]Excavation confirmatory soil sample.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the MDL but is less than the reporting limit, shown in parentheses.
MDL = Method detection limit.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
NA = Not applicable.
ND = Not detected above the MDL, shown in parentheses.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.

Table 5.6.3-4
Summary of SVOC Analytical Method Detection Limits
Used for SWMU 2 Excavation Confirmatory Soil Sampling
March–November 1998
(Off-site Laboratory)

Analyte	Soil Sample MDL (EPA Method 8270[a]) (µg/kg)	Aqueous Sample MDL (EPA Method 8270[a]) (µg/L)
1,2,4-Trichlorobenzene	167–170	2.4–5
1,2-Dichlorobenzene	167–170	2.7–5
1,2-Diphenylhydrazine	167–170	2.3–5
1,3-Dichlorobenzene	167–170	2.5–5
1,4-Dichlorobenzene	167–170	2.3–5
2,4,5-Trichlorophenol	167–170	2.5–5
2,4,6-Trichlorophenol	167–170	0.96–5
2,4-Dichlorophenol	167–170	1.4–5
2,4-Dimethylphenol	167–170	5–6.1
2,4-Dinitrophenol	330–333	7.9–10
2,4-Dinitrotoluene	167–170	1.4–5
2,6-Dinitrotoluene	167–170	1.1–5
2-Chloronaphthalene	167–170	2.4–5
2-Chlorophenol	167–170	2.1–5
2-Methylnaphthalene	167–170	3.2–5
2-Nitroaniline	167–170	2.8–5
2-Nitrophenol	167–170	2.9–5
3,3'-Dichlorobenzidine	830–833	4.2–25
3-Nitroaniline	167–170	1.8–6
4-Bromophenyl phenyl ether	167–170	0.03–5
4-Chloro-3-methylphenol	167–170	3.1–5
4-Chlorobenzenamine	167–333	1.5–6
4-Chlorophenyl phenyl ether	167–170	2.8–5
4-Nitroaniline	167–170	1–5
4-Nitrophenol	167–333	3.5–10
Acenaphthene	167–170	2.2–5
Acenaphthylene	167–170	1.3–5
Anthracene	167–170	2.3–5
Benzo(a)anthracene	167–170	2.8–5
Benzo(a)pyrene	167–170	2–5
Benzo(b)fluoranthene	167–170	4.7–5
Benzo(ghi)perylene	167–170	2.5–5
Benzo(k)fluoranthene	167–170	2.6–5
Benzoic acid	330–333	9.3–10
Benzyl alcohol	167–170	2.5–5
Butylbenzyl phthalate	167–170	3.7–5
Chrysene	167–170	2.2–5
Di-n-butyl phthalate	167–170	2.9–5
Di-n-octyl phthalate	167–170	4.2–5
Dibenz[a,h]anthracene	167–170	2.2–5
Dibenzofuran	167–170	4.3–5

Refer to footnotes at end of table.

Table 5.6.3-4 (Concluded)
Summary of SVOC Analytical Method Detection Limits
Used for SWMU 2 Excavation Confirmatory Soil Sampling
March–November 1998
(Off-site Laboratory)

Analyte	Soil Sample MDL (EPA Method 8270[a]) (µg/kg)	Aqueous Sample MDL (EPA Method 8270[a]) (µg/L)
Diethylphthalate	167–170	2.1–5
Dimethylphthalate	167–170	2.1–5
Dinitro-o-cresol	167–170	0.67–5
Fluoranthene	167–170	3.1–5
Fluorene	167–170	2.1–5
Hexachlorobenzene	167–170	2.9–5
Hexachlorobutadiene	167–170	3.8–5
Hexachlorocyclopentadiene	167–170	4.4–5
Hexachloroethane	167–170	3.4–5
Indeno(1,2,3-c,d)pyrene	167–170	3.4–5
Isophorone	167–170	2.6–5
Naphthalene	167–170	2–5
Nitro-benzene	167–170	3.3–5
Pentachlorophenol	167–170	2.8–5
Phenanthrene	167–170	1.8–5
Phenol	167–170	0.8–5
Pyrene	167–170	2.5–5
bis(2-Chloroethoxy)methane	167–170	2.5–5
bis(2-Chloroethyl)ether	167–170	2–5
bis(2-Ethylhexyl)phthalate	167–170	3.7–5
bis-Chloroisopropyl ether	167–170	0.61–5
m,p-Cresol	167–170	1.8–5
n-Nitrosodiphenylamine	167–170	5
n-Nitrosodipropylamine	167–170	5
o-Cresol	167–170	2.1–5

[a]EPA November 1986.
EPA = U.S. Environmental Protection Agency.
MDL = Method detection limit.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.

Table 5.6.3-5
Summary of HE Analytical Method Detection Limits Used for
SWMU 2 Excavated Soil Sampling
August 1999
(On- and Off-site Laboratories)

Analyte	Soil Sample MDL (µg/kg)	
	On-site Laboratory (EPA Method 8095[a])	Off-site Laboratory (EPA Method 8330[b])
1,3-Dinitrobenzene	250	4.1
2-Amino-4,6-dinitrotoluene	250	NA
2,4-Dinitrotoluene	250	6.2
2,6-Dinitrotoluene	250	6.5
HMX	NA	5.3
Nitrobenzene	250	5.2
m-Nitrotoluene	250	7.8
o-Nitrotoluene	250	11
p-Nitrotoluene	250	11
Pentaerythritol tetranitrate	500	NA
RDX	250	9.7
Tetryl	NA	7.5
1,3,5-Trinitrobenzene	250	6.6
2,4,6-Trinitrotoluene	250	5.7

[a]EPA November 1998.
[b]EPA November 1986.
EPA = U.S. Environmental Protection Agency.
HE = High explosive(s).
HMX = 1,3,5,7-Tetranitro-1,3,5,7-tetrazacyclooctane.
MDL = Method detection limit.
µg/kg = Microgram(s) per kilogram.
NA = Not analyzed.
RDX = 1,3,5-Trinitro-1,3,5-triazacyclohexane.
SWMU = Solid Waste Management Unit.
Tetryl = 2,4,6-Trinitrophenylmethylnitramine.

or explosive components had been disposed in the landfill. References to HE in the site disposal history were based upon very small, sealed charges (less than one gram) used as highly reliable switching devices within weapons components. Because the components and sealed charges were excavated in intact condition, there was very little chance for an HE release to the soil.

RCRA Metals plus Beryllium, Nickel, and Uranium

Table 5.6.3-6 presents the analytical results for the RCRA metals plus beryllium, nickel, and uranium analyses of the excavated soils. Most metal concentrations were at or below NMED-approved background values. Many of the highest concentrations measured for barium, beryllium, cadmium, chromium, lead, mercury, and silver were present in adhering soil scraped directly off artifacts into bins (bin soil samples.)

The metals results are summarized below.

- Arsenic (ND to 8.3 mg/kg) was detected in only 5 of the 304 samples at concentrations above the NMED-approved background of 4.4 mg/kg.
- Barium (77 to 8,100 mg/kg) was detected in 126 of 310 samples at concentrations above the NMED-approved background of 200 mg/kg.
- Beryllium (ND to 4.2 mg/kg) was detected in 6 of 310 samples at concentrations above the NMED-approved background of 0.8 mg/kg.
- Cadmium (ND to 740 mg/kg) was detected in 199 of 310 samples at concentrations above the NMED-approved background of 0.9 mg/kg.
- Chromium (4.6 to 460 mg/kg) was detected in 118 of 310 samples at concentrations above the NMED-approved background of 12.8 mg/kg.
- Lead (3.4 to 620 J mg/kg) was detected in 100 of 310 samples at concentrations above the NMED-approved background of 11.2 mg/kg.
- Mercury (ND to 180 mg/kg) was detected in 224 of 310 samples at concentrations above the NMED-approved background of 0.1 mg/kg.
- Nickel (5 to 400 mg/kg) was detected in 35 of 310 samples at concentrations above the NMED-approved background of 25.4 mg/kg.
- Selenium (ND to 250 mg/kg) was detected in 30 of 303 samples at concentrations above the NMED-approved background of 1 mg/kg.
- Silver (ND to 110 mg/kg) was detected in 87 of 304 samples at concentrations above the NMED-approved background of 1 mg/kg.
- Uranium (0.51 to 4.5 mg/kg) was detected in 4 of 268 samples at concentrations above the NMED-approved background of 2.3 mg/kg.

Table 5.6.3-7 presents the relative percent difference (RPD) results for the metals analyses performed for the 42 duplicate samples of excavated soil. RPDs were only calculated for detections and were not calculated for results that were qualified "J" during data validation. As a consequence, only two RPDs could be calculated for selenium and nine for barium. RPDs ranged from 2.6 to 37.5 for arsenic, 1.0 to 29.2 for barium, 0.0 to 34.8 for beryllium, 1.04 to 179.7 for cadmium, 0.0 to 190.7 for chromium, 0.0 to 84.0 for lead, 0.0 to 134.6 for mercury, 0.0 to 110.5 for nickel, 0.0 to 170.8 for silver, and 0.0 to 131.4 for uranium. Soil or sample heterogeneity is probably responsible for most of the RPD variations.

Radionuclides

Table 5.6.3-8 presents the analytical results for the gamma spectroscopy analysis of the 391 excavated soil samples. The minimum detectable activities (MDAs) for the analyses are presented in Table 5.6.3-9.

The gamma spectroscopy results are summarized below.

- Cesium-137 (ND to 0.247 picocuries (pCi)/gram (g) was detected in only three samples at an activity above the 0.084 pCi/g NMED-approved background value.
- Thorium-232 (ND to 3.58 pCi/g) was detected in only one sample above the 1.54 pCi/g background value.
- Uranium-235 (ND to 3.28 pCi/g) was detected in 15 samples above the 0.18 pCi/g approved value.
- Uranium-238 (ND to 208 pCi/g) was detected in 10 samples above the 1.3 pCi/g approved value. Nine of the elevated activities were in the 1.33 to 3.16 pCi/g range, while only one was at 208 pCi/g.
- Neither plutonium or it's readily detectable daughter product (Americium-241) were detected in initial gamma spectroscopic analyses of the soil. Therefore, no isotopic plutonium analyses were performed.

Tritium

Table 5.6.3-10 presents the analytical results for tritium analysis of 160 excavated soil samples. Tritium at activities ranging from 20,300 to 1,718,000 pCi/liter (L) exceeded the 420 pCi/L SNL/NM-established background (Tharp February 1999) in 138 samples.

Tritium samples were analyzed at the RPSD Laboratory by liquid scintillation counting (LSC) and activity was measured in pCi/g. For comparison with the off-site laboratory values, these activities were converted to pCi/L using the assumptions of 5 percent soil moisture and soil density of 1 g/cubic centimeter. The poor correlation with sample splits analyzed off-site using the distillation method may be the result of the way tritium is present in this soil. If tritium is bound in the form of metal tritides or adsorbed onto the surface of metals and rubber, plastic, etc. (substituting for hydrogen molecules), it might not be readily extracted by distillation. If this is the case, the LSC values might be more representative of the tritium content in soil. For added conservatism, the higher converted LSC values were used in the risk assessment.

5.6.3.1 Comparison of Excavated Soil Analytical Results to Background and PRGs

As previously discussed in Section 5.6.1, soil excavated during the VCM was considered for reuse as excavation backfill if the soil did not contain COCs above the PRG values established at the start of the VCM and it passed a final risk assessment. Table 5.6.3.1-1 shows the number of samples where metal concentrations and radiological activities, the primary COCs at the site, exceeded the NMED-approved background values. The greatest number of metal detections above background were for mercury, cadmium, barium, chromium, and lead. Only a few of the samples exceed the NMED-approved background for radionuclides. No soil lot sampled exceeded the radiological PRGs, and, except for arsenic, barium, cadmium, mercury, and selenium, very few soil lots exceeded the PRGs for metals. The majority of soil samples

Table 5.6.3-6
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
Soil Excavated from Pits and Trenches								
600046	TA2-2-ACF1-0001-SL2-S	4-01-98	NA	130 J	0.54 J (0.57)	6	22	11
600066	TA2-2-ACF2-0001-SL4-S	4-13-98	3	190 J	0.43	1.1	10	8.6
600039	TA2-2-ACF3-0001-SLI-SU	3-23-98	NA	99	0.34	1.3	9.4	6.6
600039	TA2-2-ACF4-0001-SLI-SU	3-24-98	NA	180	0.44	12	37	17
600048	TA2-2-ACF4-0001-SL5-S	4-02-98	NA	160 J	0.64	27 J	34	17
600461	TA2-2-ACF5-SL06-000-S	7-07-98	3.3	200 J	0.31	0.49	6.1	5.6
600061	TA2-2-PW12-0001-SL7-S	4-07-98	NA	180 J	0.42	4.1 J	11	15
600061	TA2-2-PW12-0001-SL8-S	4-07-98	NA	120	0.38	4.3 J	12	6.6
600069	TA2-2-PTW3-0001-SL4-S	4-14-98	2.8	190 J	0.33	15 J	11	8.1
600076	TA2-2-PTW4-SL14-000-S	4-24-98	2.7	190 J	0.38	19 J	10	14
600085	TA2-2-TRE1-SL06-000-S	5-06-98	2.4	170 J	0.39	1.2	12	5.2
600085	TA2-2-TRE1-SL13-000-S	5-06-98	2.8 J	150 J	0.42 J	1.5 J	10 J	7.7 J
600087	TA2-2-TRE2-SL07-000-S	5-11-98	3 J	180 J	0.51 J	1.2 J	9.8 J	6.2 J
600279	TA2-2-TRE3-SL07-000-S	5-21-98	2.9	210 J	0.34	2.5	14	6.8
600279	TA2-2-TRE4-SL10-000-S	5-21-98	3.7	220 J	0.37	0.75	9.8	6
600285	TA2-2-TRE5-SL17-000-S	6-01-98	2.7	200 J	0.34	0.81	7.7	5.1
600285	TA2-2-TRE5-SL08-000-S	6-01-98	3	200 J	0.3	0.89	5.9	4.6
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory)	6-08-98	3.58	216	0.384 J (0.467)	0.996	8.02	5.67
600290	TA2-2-TRE6-SL09-000-S	6-08-98	3.1	230 J	0.41	1.3	11	6.5
600290	TA2-2-TRE6-SL22-000-S	6-08-98	2.6	200 J	0.41	0.88	9.6	5.3
600290	TA2-2-TRE6-SL22-000-DUP	6-08-98	3.4	150 J	0.38	0.95	9.8	5.7
600296	TA2-2-TRE7-SL08-000-S	6-17-98	3.1	170 J	0.4	0.82	6	4.7
600296	TA2-2-TRE7-SL13-000-S	6-17-98	4	250 J	0.37	1.9	7	5.7
600296	TA2-2-TRE7-SL25-000-S	6-17-98	3.4	210 J	0.35	0.86	6.8	5.7
600299	TA2-2-TRE7-SL37-000-S	6-23-98	2.9	170	0.35	0.46	7.7	7.3
600299	TA2-2-TRE7-SL49-000-S	6-23-98	2.4 J (2.6)	120	0.26	0.32	4.7	3.9

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600299	TA2-2-TRE7-SL55-000-S	6-23-98	2.9	160	0.36	0.64	5.7	4.8
600301	TA2-2-TRE8-SL01-000-S	6-25-98	3.4	**220**	0.37	0.43	7.5	5.6
600301	TA2-2-TRE8-SL14-000-S	6-25-98	3.2	180	0.31	0.24	6.1	4.7
600303	TA2-2-TRE8-SL07-000-S	6-29-98	3.8	**210**	0.41	0.43	9.5	5.8
600303	TA2-2-TRE8-SL21-000-S	6-29-98	3.5	**220**	0.42	0.38	8.8	5.9
600303	TA2-2-TRE8-SL29-000-S	6-29-98	3	190	0.36	0.38	8.2	4.8
600463	TA2-2-TRD1-SL02-000-S	7-07-98	2.6	160 J	0.35	0.7	6.8	4.4
600463	TA2-2-TRD1-SL06-000-S	7-07-98	2.4 J (2.5)	**230 J**	0.3	**1.6**	7.1	4.6
600463	TA2-2-TRD1-SL09-000-S	7-07-98	3.1	170 J	0.37	0.87	7.4	6.7
600463	TA2-2-TRD1-SL12-000-S	7-07-98	2.6	160 J	0.26	0.59	6.9	4.4
600465	TA2-2-TRD2-SL01-000-S	7-13-98	3.1	200 J	0.36	**1.2**	12	7.5
600465	TA2-2-TRD2-SL05-000-S	7-13-98	3	190 J	0.4	0.85	12	5.6
600467	TA2-2-TRD3-SL03-000-S	7-20-98	3.3	**220 J**	0.4	0.88	**13**	5.4
600467	TA2-2-TRD3-SL06-000-S	7-20-98	2.9	170 J	0.44	**12**	8.1	4.7
600467	TA2-2-TRD3-SL12-000-S	7-20-98	3.2	190 J	0.4	**3.6**	11	5.9
600470	TA2-2-TRD4-SL03-000-S	8-10-98	3.2	190 J	0.37	0.66	7.5	5.7
600470	TA2-2-TRD4-SL03-000-DUP	8-10-98	3.4	**220 J**	0.51	**1.1**	7.4	5.2
600470	TA2-2-TRD4-SL07-000-S	8-10-98	3.3	**230 J**	0.33	0.79	7.3	4.8
600470	TA2-2-TRD4-SL14-000-S	8-10-98	3	200 J	0.33	0.88	7.2	5.4
600470	TA2-2-TRD5-SL05-000-S	8-10-98	2.5	140 J	0.3	0.43	5.1	4.5
600470	TA2-2-TRD5-SL05-000-DUP	8-10-98	3.1	160 J	0.3	0.54	5.9	5.5
600474	TA2-2-TRD6-SL03-000-S	8-17-98	3.5	**240 J**	0.39	**1.9**	8.2	6.4
600474	TA2-2-TRD6-SL08-000-S	8-17-98	2.5 J (2.6)	**210 J**	0.3	**0.98**	7.2	5
600474	TA2-2-TRD6-SL15-000-S	8-17-98	2.6	**210 J**	0.36	0.6	5.9	5
600474	TA2-2-TRD6-SL19-000-S	8-17-98	2.4 J (2.6)	**230 J**	0.37	0.84	8.5	5.4
600474	TA2-2-TRD6-SL23-000-S	8-17-98	2.3 J (2.4)	190 J	0.27	0.69	5.3	4.4
600489	TA2-2-TRD7-SL03-000-S	9-14-98	3.6	**270 J**	0.32	**1.7 J**	7.5	9.3
600489	TA2-2-TRD7-SL03-000-DUP	9-14-98	3.3	**240**	0.34	**2.4**	8.9	7.1

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600489	TA2-2-TRD7-SL11-000-S	9-14-98	3.3	270 J	0.4	2 J	8.5	7.7
600489	TA2-2-TRD7-SL13-000-S	9-14-98	3.8	180 J	0.36	1.3 J	9	7.2
600489	TA2-2-TRD7-SL23-000-S	9-14-98	3.4	240 J	0.33	5.6 J	8.9	9.2
600502	TA2-2-TRD8-SL01-049-S	10-20-98	3.1	210 J	0.37	9.7	9.5 J	15
600502	TA2-2-TRD8-SL01-049-DUP	10-20-98	2.9	210 J	0.39	9.6	15 J	10
600502	TA2-2-TRD8-SL04-000-S	10-20-98	3.3	620 J	0.38	7.1	12 J	11
600502	TA2-2-TRD8-SL16-000-S	10-20-98	2.6	190 J	0.38	12	11 J	7.5
600502	TA2-2-TRD8-SL27-000-S	10-20-98	3	230 J	0.37	11	9.2 J	12
600502	TA2-2-TRD8-SL33-000-S	10-20-98	3.2	260 J	0.38	14	10 J	9
600502	TA2-2-TRD8-SL45-000-S	10-20-98	3.2	270 J	0.38	9.4	11 J	8.3
600505	TA2-2-TRC9-SL01-000-S	11-03-98	2.8	210 J	0.37	6.6	8.7	9.3
600505	TA2-2-TRC9-SL05-000-S	11-03-98	2.6	170 J	0.33	6.2	18	28
600505	TA2-2-TRC9-SL19-000-S	11-03-98	3.2	290 J	0.38	3.2	8.7	7.2
601134	TA2-2-TRC9-SL24-000-S	11-17-98	3.4	210 J	0.38	3.5	13	10
601134	TA2-2-TRC9-SL42-000-S	11-17-98	3.5	230 J	0.37	2	8.9	8.6
601134	TA2-2-TRC9-SL57-000-S	11-17-98	3.2	190 J	0.34	1.9	8.6	7.3
601134	TA2-2-TRC9-SL71-000-S	11-17-98	2.9	190 J	0.28	3.8	7.3	6.1
601143	TA2-2-TRC7-SL01-000-S	1-14-99	2.2 J (2.4)	180 J	0.32 J	4.1	8.2 J	6.5
601143	TA2-2-TRC7-SL21-000-S	1-14-99	3.3 J	200 J	0.39 J	1.8	11 J	7.1
601143	TA2-2-TRC8-SL04-000-S	1-14-99	2.9 J	170 J	0.34 J	7.8	9.6 J	11
601143	TA2-2-TRC8-SL11-000-S	1-14-99	3.4 J	280 J	0.39 J	8.6	12 J	15
601143	TA2-2-TRC8-SL17-000-S	1-14-99	3.7 J	180 J	0.37 J	10	10 J	9.9
601143	TA2-2-TRC9-SL83-000-S	1-14-99	1.7 J (2.5)	1500 J	0.34 J	6.4	140 J	39
601145	TA2-2-TRC6-SL07-000-S	1-21-99	4 J	240 J	0.46 J	2.3	15 J	8.2
601154	TA2-2-TRC5-SL07-000-S	2-01-99	4	210	0.4	2.1	12	7.7
601596	TA2-2-TRC3-SL04-000-S	3-11-99	2.8	250	0.39	1.4	6	5.5
601596	TA2-2-TRC4-SL08-000-S	3-10-99	2.2 J (2.3)	180	0.29	0.59	5.9	21
601601	TA2-2-TRC3-SL12-000-S	3-29-99	3.5	220 J	0.49	3.1	10	8.9 J

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
601603	TA2-2-TRC2-SL02-000-S	4-07-99	3.1	200 J	0.5	2 J	9.1 J	7.1 J
601605	TA2-2-TRC1-SL06-000-S	4-08-99	3.4	220 J	0.42	1.7 J	8.2 J	6.6 J
601607	TA2-2-TRB1-SL03-000-S	4-13-99	3.8	240 J	0.47	1.6 J	11 J	8 J
601728	TA2-2-TRB2-SL01-000-S	4-21-99	4.4	230 J	0.65	2.3	14	6 J
601731	TA2-2-TRB3-SL01-000-S	4-27-99	3.7	270 J	0.5	2.1	16	5.8 J
601743	TA2-2-TRB3-SL16-000-S	6-07-99	8.3	280 J	0.54	16 J	14	9.1
602082	TA2-2-TRA3-SL02-000-S	6-17-99	2.1 J (2.2)	150 J	0.39	3.9	12	5.6 J
602088	TA2-2-TRA3-SL07-000-S	6-28-99	2.6	220 J	0.47	11	16	7.6 J
602093	TA2-2-TRA2-SL06-000-S	7-07-99	2.6	210 J	ND (0.027 J)	5.9	9.9	7.1 J
602099	TA2-2-TRA1-SL01-000-S	7-28-99	1.4 J (2.5)	98 J	0.31	2.4	5	100
602597	TA2-2-TR3-P10-SL1-S	8-18-99	ND (0.32 J)	120 J	0.55	2	10 J	6
602606	TA2-2-TR2-P12-SL6-S	8-23-99	2.5	180 J	0.5	5.9	14	8.6
602606	TA2-2-TR2-P12-SL6-DU	8-23-99	2.9	190 J	0.5	5.3	13	7.3
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	2.95	177	0.352 J (0.463)	5.14 J	11.5	8.5 J
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	3.05	192	0.347 J (0.476)	4.87 J	9.06	10.3 J
602617	TA2-2-TR1-P6-SL10-S	9-07-99	2.9	200 J	0.58	5.6	11	6.6
602784	TA2-2-TR1-P4-SL1-S	10-04-99	3	180 J	0.4	5.6	7.8	6.1
602784	TA2-2-TR1-P4-SL2-S	10-04-99	2.7	170 J	0.4	5.5	7.8	6.2
602791	TA2-2-TR1-P3-SL2-S	10-18-99	3.1	210 J	0.49	19	20	12
602792	TA2-2-TR1-P2-SL3-S	10-20-99	3.3	310 J	0.57	7.5	16	9.5
602796	TA2-2-TRB3-SL16-002-S	10-20-99	2.9	250 J	0.45	4	11	6.8
602796	TA2-2-TRB3-SL16-003-S	10-20-99	2.8	120 J	0.45	0.9	13	6.5
602796	TA2-2-TRB3-SL16-003-D	10-20-99	2.4	120 J	0.38	0.59	6.3	6.9
602796	TA2-2-TRB3-SL16-004-S	10-20-99	2.9	230 J	0.48	3.8	12	7.2
602796	TA2-2-TRB3-SL16-005-S	10-20-99	3.1	210 J	0.46	2.9	8.3	8.1
602796	TA2-2-TRC9-SL83-002-S	10-20-99	3.1	200 J	0.44	4	12	8.7

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
602796	TA2-2-TRC9-SL83-003-S	10-20-99	3.2	**360 J**	0.45	**2.1**	12	6.9
602796	TA2-2-TRC9-SL83-004-S	10-20-99	3.3	190 J	0.48	**4.3**	**14**	7.8
602796	TA2-2-TRC9-SL83-004-D	10-20-99	3.5	**230 J**	0.48	**2.9**	**14**	7.8
602796	TA2-2-TRC9-SL83-005-S	10-20-99	3.1	**350 J**	0.61	**3**	**13**	10
602804	TA2-2-TR1-P1-SL1-S	11-9-99	2.4	**800 J**	0.39	**4.6**	9.6	9
602800	TA2-2-TR1-P2-SL7-S	10-27-99	2.1 J (2.3)	150 J	0.43	**7.4**	12	8.3
602940	TA2-2-TR2-P8-SL1-S	12-01-99	3.3	130 J	0.47	0.59	**70**	170
602921	TA2-2-TR2-P10-SL1-S	11-19-99	2.2 J (2.4)	140 J	ND (0.28 U)	**9.9**	5.2	7.2
602967	TA2-2-TR2-P9-SL1-S	1-03-00	3.2	190 J	0.42	**17 J**	**23 J**	**14**
602967	TA2-2-TR2-P9-SL1-DU	1-03-00	3	190 J	0.34	**6.4 J**	**14 J**	7.6
602968	TA2-2-TR2-P7-SL1-S	1-03-00	2.6	**380 J**	0.36	**2.5 J**	10	9.6
602968	TA2-2-TR2-P8-SL1-S	1-03-00	3.6	190 J	0.48	**3.8 J**	**21**	**14**
602968	TA2-2-TR2-P8-SL1-DU	1-03-00	3.9	170 J	0.48	**10 J**	**19**	9.7
602968	TA2-2-TR2-P9-SL2-S	1-03-00	3.1	160 J	0.37	**14 J**	**16**	8.3
602970	TA2-2-TR2-P6-SL4-S	1-10-00	2.8	**210**	0.38	**7.6 J**	**34 J**	11
602974	TA2-2-TR2-P543-SL1-S	1-24-00	2.9	**360 J**	0.39	**26**	**35**	**340 J**
602974	TA2-2-TR2-P543-SL1-DU	1-24-00	3.5	**250 J**	0.38	**15**	**18**	**240 J**
602978	TA2-2-TR2-P543-SL4-S	2-08-00	3.6	**320 J**	0.48	**7.4**	**27**	**83 J**
602978	TA2-2-TR2-P543-SL5-S	2-08-00	3	**640 J**	0.37	**8.6**	**21**	**61 J**
603057	TA2-2-TR2-P2/1-SL1-S	2-28-00	3.1	170 J	0.37	**7.1**	**14**	**26**
603057	TA2-2-TR2-P2/1-SL1-DU	2-28-00	3.5	170 J	0.49	**7.6**	**20**	**32**
603057	TA2-2-TR2-P2/1-SL4-S	2-28-00	3.9	270 J	0.45	**5.2**	**26**	**42**
603057	TA2-2-TR3-P2/3-SL2-S	2-28-00	3.1	200 J	0.36	**3.1**	9.5	9.3
603057	TA2-2-TR3-P2/3-SL3-S	2-28-00	3.9	190 J	0.33	**3.3**	**15**	**20**
603068	TA2-2-TR3-P456-SL1-S	3-02-00	3.9	190 J	0.44	**5.3**	**22**	8.3
603068	TA2-2-TR3-P456-SL4-S	3-02-00	3	180 J	0.33	**3.3**	8.8	6.5
603068	TA2-2-TR3-P456-SL5-S	3-02-00	4	**240 J**	0.43	**2.8**	12	11
603068	TA2-2-TR3-P456-SL5-DU	3-02-00	3.6	**210 J**	0.42	**6**	**13**	7.3

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603070	TA2-2-TR3-P456-SL1-S (off-site laboratory)	3-07-00	3.07	**322**	0.368 J (0.51)	**4.65**	10.1	6.26 J
603070	TA2-2-TR3-P456-SL1-DU (off-site laboratory)	3-07-00	2.99	**240**	0.379 J (0.502)	**10.6**	9.22	6.37 J
603070	TA2-2-TR3-P456-SL4-S (off-site laboratory)	3-07-00	2.78	**227**	0.36 J (0.517)	**4.22**	10.1	**11.6 J**
603070	TA2-2-TR3-P456-SL4-DU (off-site laboratory)	3-07-00	3.35	**219**	0.353 J (0.497)	**16.1**	9.94	6.14 J
603070	TA2-2-TR3-P789-SL2-S (off-site laboratory)	3-07-00	3.02	**262**	0.377 J (0.494)	**68.6**	**13**	**77.5 J**
603070	TA2-2-TR3-P789-SL2-DU (off-site laboratory)	3-07-00	2.8	**207**	0.375 J (0.511)	**7.84**	**14.1**	**14.1 J**
603070	TA2-2-TR3-P789-SL3-S (off-site laboratory)	3-07-00	2.89	184	0.345 J (0.506)	**138**	**33.5**	10.3 J
603070	TA2-2-TR3-P789-SL3-DU (off-site laboratory)	3-07-00	2.52	175	0.331 J (0.476)	**6.87**	11.1	10.1 J
603072	TA2-2-TR3-P789-SL2-S	3-14-00	2.5	170 J	0.38	**7**	12	9 J
603072	TA2-2-TR3-P789-SL3-S	3-14-00	3	**220 J**	0.43	**11**	**16**	**15 J**
Overburden Soils								
600071	TA2-2-OVER-0001-SL2-S	4-16-98	2.9	110 J	0.41	0.44	9.7	6.6
600081	TA2-2-OVW4-0001-SL5-S	4-29-98	2.8	190 J	0.4	**2.2**	11	8.3
600083	TA2-2-OVW4-0001-SL8-S	5-04-98	3.4	160 J	0.45	0.56	11	6.6
600083	TA2-2-SLPE-0001-SL3-S	5-04-98	2.6	200 J	0.36	0.15 J (0.16)	7.5	5
600083	TA2-2-SLPE-0001-SL9-S	5-04-98	2.8	140 J	0.38	0.13 J (0.17)	8.6	6.2
600083	TA2-2-SLPE-SL14-000-S	5-04-98	2.7	140 J	0.35	0.68	8.4	5.4
600277	TA2-2-SLPE-SL16-000-S	5-18-98	2 J (2.5)	77 J	0.31	0.12 J (0.17)	5.5	3.4
600277	TA2-2-SLPE-SL19-000-S	5-18-98	2.8	160 J	0.39	0.14 J (0.15)	10	7
600277	TA2-2-SLPE-SL22-000-S	5-18-98	2.7	120 J	0.35	0.12 J (0.16)	9.2	4.8

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600277	TA2-2-SLPE-SL23-000-S	5-18-98	2.6	160 J	0.28	0.1 J (0.15)	7.8	4
600277	TA2-2-SLPE-SL32-000-S	5-18-98	1.7 J (2.4)	86 J	0.31	0.087 J (0.16)	5.5	3.8
600277	TA2-2-SLPE-SL34-000-S	5-18-98	2.1 J (2.5)	88 J	0.26	0.095 J (0.17)	8.5	4.1
600281	TA2-2-OVTE-SL03-000-S	5-26-98	1.8 J (2.5)	120 J	0.29	0.086 J (0.17)	5.9	3.8
600281	TA2-2-OVTE-SL08-000-S	5-26-98	2.5	120 J	0.42	0.64	6.7	5
600285	TA2-2-OVTE-SL11-000-S	6-01-98	3.8	140 J	0.39	0.14 J (0.17)	7.6	5.4
600285	TA2-2-OVTE-SL11-000-DUP	6-01-98	2.6	140 J	0.32	0.11 J (0.16)	5.3	4.3
600292	TA2-2-OVA5-SL05-000-S	6-10-98	2.6	160 J	0.41	0.14 J (0.15)	9.1	4.8
600292	TA2-2-OVA5-SL11-000-S	6-10-98	3.2	160 J	0.38	0.12 J (0.16)	8.8	4.8
600292	TA2-2-OVA5-SL13-000-S	6-10-98	2.7	170 J	0.33	0.094 J (0.16)	9.2	4.4
600461	TA2-2-OVD1-SL01-000-S	7-07-98	1.5 J (2.4)	110 J	0.25	0.074 J (0.16)	4.6	3.6
600461	TA2-2-OVD1-SL02-000-S	7-07-98	2.5	100 J	0.34	2	7.1	5.9
600465	TA2-2-OVD3-SL01-000-S	7-13-98	2 J (2.4)	110 J	0.39	0.13 J (0.16)	11	5.2
600474	TA2-2-OVD4-SL03-000-S	8-17-98	2.5	160 J	0.38	0.16 J (0.17)	10	6.2
600489	TA2-2-OVD7-SL02-000-S	9-14-98	3.2	190 J	0.35	0.28 J	8.1	7
600489	TA2-2-OVD8-SL02-000-S	9-14-98	3	220 J	0.29	0.14 J (0.15)	6.6	4.8
600493	TA2-2-SLPE-SL39-000-S	9-21-98	3.4	170 J	0.35	0.16 J	7.6	5.3
600493	TA2-2-SLPE-SL41-000-S	9-21-98	3.1	180 J	0.31	0.18 J	7	4.9
600505	TA2-2-SLPE-SL44-000-S	11-03-98	3.4	180 J	0.38	0.43	7.8	5.8
601726	TA2-2-OVB1-SL01-000-S	4-14-99	3	140 J	0.48	0.27	12	7.1 J
602093	TA2-2-OVA2-SL01-000-S	7-07-99	2.6	190	ND (0.38 U)	0.59	6.8	4.8 J
602093	TA2-2-OVA3-SL01-000-S	7-07-99	2.8	160 J	ND (0.4 U)	0.34	7.2	4.8 J
602099	TA2-2-FILL-DIRT-1/2-S	7-28-99	2.4	160 J	0.43	1.5	7.7	5.9
602099	TA2-2-FILL-DIRT-2/2-S	7-28-99	3.1	160 J	0.44	2	8.6	6.5
602591	TA2-2-OVA1-SL06-000-S	8-03-99	ND (2.2 U)	180 J	0.43	0.39	7.8 J	8.3
602591	TA2-2-OVT2-P12-SL1-S	8-03-99	ND (2.5 U)	190 J	0.49	0.56	7.5 J	3.7
602591	TA2-2-OVT3-P10-SL1-S	8-03-99	ND (2.2 U)	130 J	0.51	0.46	16 J	5.1
602617	TA2-2-OVT1-P6-SL1-S	9-07-99	3.2	150 J	0.44	0.26	8.4	5.8

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
602784	TA2-2-OVT1-P4-SL1-S	10-04-99	2.4	110	0.3	0.28	4.7	4.3
602791	TA2-2-OVT1-P2-SL1-S	10-18-99	3.4	140 J	0.43	0.25	12	6.7
602791	TA2-2-OVT1-P3-SL1-S	10-18-99	3.3	180 J	0.5	0.57	13	5.6
602800	TA2-2-OVT1-P1-SL1-S	10-27-99	2.0 J (2.3)	290 J	0.42	0.59	6.8	3.7
602921	TA2-2-OVT2-P10-SL1-S	11-19-99	2.6	160 J	0.6	0.52	7.2	4.6
602922	TA2-2-OVT2-P9-SL1-S	11-15-99	2.3 J (2.4)	110 J	0.52	0.19	8.8	4.6
602940	TA2-2-OVT2-P8-SL1-S	12-01-99	2.7	240 J	0.58	0.94	11	5.8
602967	TA2-2-OVT2-P6-SL1-S	1-03-00	3.6	170 J	0.48	0.22 J	12 J	6.4
602967	TA2-2-OVT2-P7-SL1-S	1-03-00	2.4	180 J	0.3	0.43 J	7.8 J	4.2
602968	TA2-2-OVT2-P5/1-SL1-S	1-03-00	3.6	170 J	0.43	0.5 J	10	6.7
603057	TA2-2-OVT3-P2/3-SL1-S	2-28-00	3.3	130 J	0.48	0.51	11	5.9
603057	TA2-2-OVT3-P2/3-SL1-DU	2-28-00	4.1	220 J	0.54	1	9.3	6.6
603057	TA2-2-OVT3-P456-SL1-S	2-28-00	3.5	230 J	0.52	0.48	9.5	6.7
603068	TA2-2-OVT3-P789-SL1-S	3-02-00	3.7	200 J	0.55	1	14	7.3
603068	TA2-2-OVT3-P789-SL2-S	3-02-00	3.2	160 J	0.41	0.39	8.4	5.7
603068	TA2-2-OVT3-P789-SL2-DU	3-02-00	3.5	310 J	0.46	7.1	15	12
602606	TA2-2-EAST-FNCE-001-S	8-23-99	3	290 J	0.56	1.8	13	6.4
602606	TA2-2-EAST-FNCE-001-DU	8-23-99	3.2	210 J	0.51	2.1	12	7.3
602607	TA2-2-TR2-EAST-FNCE-002-S	8-23-99	3.89	242	0.528	1.38 J	8.21	9.54 J
602607	TA2-2-TR2-EAST-FNCE-002-DU	8-23-99	3.45	226	0.389 J (0.459)	1.85 J	6.71	8.02 J
Soil Removed Directly from Artifacts (Bin Soils)								
601594	TA2-2-TRC7-C6-BIN-S	3-10-99	2.6	430	0.7	280	110	230
601594	TA2-2-TRC8-C/F-BIN-S	3-10-99	2.7	300	4.2	710	99	280
601594	TA2-2-TRC9-C/F-BIN-S	3-10-99	3	2500	0.75	740	89	380
601594	TA2-2-TRD8-C/F-BIN-S	3-10-99	3.9	590	0.9	510	68	360
602974	TA2-2-P225-2C/F-BIN-S	1-24-00	3.4	1100 J	0.47	320	58	620 J
602974	TA2-2-P225-3C/F-BIN-S	1-24-00	2.8	270 J	0.58	250	57	450 J
602796	TA2-2-COBL-GRIZ-002-S	10-20-99	2.1 J (2.7)	190 J	0.42	5.9	8	7.4

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
602796	TA2-2-COBL-GRIZ-003-S	10-20-99	2.4 J (2.5)	170 J	0.39	4.4	9.2	14
602796	TA2-2-COBL-GRIZ-004-S	10-20-99	2.5	2700 J	0.39	6.8	9.5	24
602796	TA2-2-COBL-GRIZ-004-D	10-20-99	2.4 J (2.5)	890 J	0.37	5.4	9.1	9.8
602796	TA2-2-COBL-GRIZ-005-S	10-20-99	2.8	200 J	0.43	9.8	8.8	8.5
602600	TA2-2-COBL-GRIZ-TRA-S	8-18-99	ND (0.62 J)	190 J	0.54	5.7	10 J	5.9
602600	TA2-2-COBL-GRIZ-TRA-DUP	8-18-99	ND (0.62 J)	110 J	0.38	4.1	6.7 J	6.2
603073	TA2-2-1LAY-DOWN-BIN-S	3-09-00	2.2 J (2.5)	140 J	0.41	4	13	8.6
603073	TA2-2-2LAY-DOWN-BIN-S	3-09-00	4.6	220 J	0.66	15	19	19
603073	TA2-2-3LAY-DOWN-BIN-S	3-09-00	3.4	240 J	0.6	9.8	17	16
603073	TA2-2-4LAY-DOWN-BIN-S	3-09-00	3.1	250	0.45	8.8	12	10
603073	TA2-2-4LAY-DOWN-BIN-DU	3-09-00	3.2	190 J	0.47	8.7	21	19
603073	TA2-2-5LAY-DOWN-BIN-S	3-09-00	3.3	160 J	0.64	13	13	15
603073	TA2-2-6LAY-DOWN-BIN-S	3-09-00	3.5	270 J	0.59	4.3	17	34
603073	TA2-2-7LAY-DOWN-BIN-S	3-09-00	3.3	150 J	0.6	11	16	27
603073	TA2-2-7LAY-DOWN-BIN-DU	3-09-00	3.4	260 J	0.62	10	15	19
603073	TA2-2-8LAY-DOWN-BIN-S	3-09-00	2.8	180 J	1	11	36	14
603073	TA2-2-9LAY-DOWN-BIN-S	3-09-00	3.2	180 J	0.6	21	19	39
603077	TA2-2-2LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	2.86	187	0.38 J (0.5)	8.92 J	11.3 J	14.6 J
603077	TA2-2-6LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	2.9	176	0.372 J (0.5)	5.34 J	10.5 J	27.1 J
603186	TA2-2-1LAY-DOWN-BIN-E	6-14-00	3.2	160 J	0.45	8.9 J	12 J	16
603186	TA2-2-1LAY-DOWN-BIN-N	6-14-00	ND (3.1 U)	160 J	0.46	12 J	14 J	29
603186	TA2-2-1LAY-DOWN-BIN-S	6-14-00	3.3	170 J	0.47	7.8 J	12 J	25
603186	TA2-2-1LAY-DOWN-BIN-W	6-14-00	3.2	170 J	0.44	13 J	17 J	12
603186	TA2-2-1LAY-DOWN-BIN-WDU		ND (2.8 U)	170 J	0.4	8 J	15 J	16
603186	TA2-2-2LAY-DOWN-BIN-E	6-14-00	3.9	300 J	0.73	13 J	18 J	17
603186	TA2-2-2LAY-DOWN-BIN-N	6-14-00	3.3	160 J	0.51	22 J	31 J	22

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603186	TA2-2-2LAY-DOWN-BIN-NDU	6-14-00	3.5	**210 J**	0.66	**13 J**	**23 J**	19
603186	TA2-2-2LAY-DOWN-BIN-S	6-14-00	3.6	**210 J**	0.68	**11 J**	**27 J**	380
603186	TA2-2-2LAY-DOWN-BIN-W	6-14-00	ND (3.1 U)	180 J	0.64	**13 J**	**19 J**	19
603186	TA2-2-3LAY-DOWN-BIN-E	6-14-00	3.8	200 J	0.62	**19 J**	**22 J**	61
603186	TA2-2-3LAY-DOWN-BIN-EDU	6-14-00	ND (3.1 U)	170 J	0.46	**9.8 J**	**14 J**	28
603186	TA2-2-3LAY-DOWN-BIN-N	6-14-00	**4.6**	**230 J**	0.65	**15 J**	**22 J**	30
603186	TA2-2-3LAY-DOWN-BIN-S	6-14-00	ND (3.7 U)	**210 J**	**0.9**	**22 J**	15	16
603186	TA2-2-3LAY-DOWN-BIN-W	6-14-00	ND (4.1 U)	**230 J**	**0.93**	**15 J**	34	22
603186	TA2-2-4LAY-DOWN-BIN-E	6-14-00	ND (3.5 U)	200 J	0.44	**6.6 J**	14	9
603186	TA2-2-4LAY-DOWN-BIN-N	6-14-00	2.7	140	0.42	**8.4**	13	12
603186	TA2-2-4LAY-DOWN-BIN-S	6-14-00	ND (2.9 U)	140 J	0.43	**5.4 J**	11	12
603186	TA2-2-4LAY-DOWN-BIN-SDU	6-14-00	ND (3.1 U)	**8100 J**	0.44	**66 J**	460	22
603186	TA2-2-4LAY-DOWN-BIN-W	6-14-00	ND (2.6 U)	160 J	0.34	**6.2 J**	11	7.9
603186	TA2-2-5LAY-DOWN-BIN-E	6-14-00	ND (3.2 U)	160 J	0.47	**6.1 J**	13	16
603186	TA2-2-5LAY-DOWN-BIN-N	6-14-00	ND (2.8 U)	150 J	0.48	**16 J**	15	15
603186	TA2-2-5LAY-DOWN-BIN-NDU	6-14-00	ND (3.5 U)	150 J	0.48	**8.4 J**	15	19
603186	TA2-2-5LAY-DOWN-BIN-S	6-14-00	ND (2.5 U)	160 J	0.7	**36 J**	15	36
603186	TA2-2-5LAY-DOWN-BIN-W	6-14-00	ND (3.3 U)	200 J	0.59	**14 J**	18	17
603186	TA2-2-6LAY-DOWN-BIN-E	6-14-00	3.2	200 J	0.59	**9.1 J**	12 J	16
603186	TA2-2-6LAY-DOWN-BIN-EDU	6-14-00	2 J (2.4)	**240 J**	0.57	**7.2 J**	**16 J**	21
603186	TA2-2-6LAY-DOWN-BIN-N	6-14-00	ND (3 U)	130 J	0.37	**3.4 J**	11	6.6
603186	TA2-2-6LAY-DOWN-BIN-S	6-14-00	2.6	**210 J**	0.54	**5.7 J**	**16 J**	27
603186	TA2-2-6LAY-DOWN-BIN-W	6-14-00	2.8	180 J	0.65	**5 J**	**15 J**	46
603186	TA2-2-7LAY-DOWN-BIN-E	6-14-00	3.1	**240 J**	0.69	**13 J**	**21 J**	27
603186	TA2-2-7LAY-DOWN-BIN-N	6-14-00	2.2	190 J	0.67	**9.9 J**	**16 J**	20
603186	TA2-2-7LAY-DOWN-BIN-S	6-14-00	3.5	**1700 J**	0.56	**22 J**	**170 J**	24
603186	TA2-2-7LAY-DOWN-BIN-SDU	6-14-00	2.9	200 J	0.54	**24 J**	**21 J**	19
603186	TA2-2-7LAY-DOWN-BIN-W	6-14-00	2.9	200 J	0.65	**20 J**	**20 J**	21

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603186	TA2-2-8LAY-DOWN-BIN-E	6-14-00	2.7	**240 J**	0.76	**23 J**	**18 J**	**22**
603186	TA2-2-8LAY-DOWN-BIN-N	6-14-00	2.4	140 J	0.5	**7.3 J**	**15 J**	**15**
603186	TA2-2-8LAY-DOWN-BIN-S	6-14-00	2 J (2.4)	160 J	0.51	**10 J**	**18 J**	**16**
603186	TA2-2-8LAY-DOWN-BIN-W	6-14-00	3.1	190 J	0.65	**9.4 J**	**16 J**	**27**
603186	TA2-2-8LAY-DOWN-BIN-WDU	6-14-00	3.6	**620 J**	**0.82**	**11**	**62 J**	**32 J**
603186	TA2-2-9LAY-DOWN-BIN-E	6-14-00	3.8	**210 J**	**0.83**	**13**	**19 J**	**27 J**
603186	TA2-2-9LAY-DOWN-BIN-N	6-14-00	3.5	**230 J**	0.51	**23**	**26 J**	**86 J**
603186	TA2-2-9LAY-DOWN-BIN-NDU	6-14-00	2.3 J (2.4)	**220 J**	0.66	**13**	**14 J**	**19 J**
603186	TA2-2-9LAY-DOWN-BIN-S	6-14-00	2.6	180 J	0.5	**10**	**16 J**	**29 J**
603186	TA2-2-9LAY-DOWN-BIN-W	6-14-00	3	**210 J**	0.59	**8.4**	**16 J**	**15 J**
603192	TA2-2-PIT-BURM-MIX-E-S	6-21-00	2.4	**220 J**	0.54	**1.1**	11 J	6.7 J
603193	TA2-2-PIT-BURM-MIX-E-S (off-site laboratory split)	6-21-00	3.38	**254**	0.349 J (0.485)	**1.36 J**	6.74	6.05
603192	TA2-2-PIT-BURM-MIX-N-S	6-21-00	2.7	180 J	0.53	**1.1**	9.5 J	6.8 J
603193	TA2-2-PIT-BURM-MIX-N-S (off-site laboratory split)	6-21-00	3.3	**270**	0.38 J (0.49)	**2.45 J**	6.67	6.95
603193	TA2-2-PIT-BURM-MIX-N-DU (off-site laboratory split)	6-21-00	3.05	**232**	0.326 J (0.5)	**1.79 J**	6.16	5.94
603192	TA2-2-PIT-BURM-MIX-S-S	6-21-00	1.2 J (2.4)	110 J	0.31	0.28	6.1 J	3.9 J
603193	TA2-2-PIT-BURM-MIX-S-S (off-site laboratory split)	6-21-00	3	**223**	0.331 J (0.5)	**1.2 J**	5.95	5.52
603192	TA2-2-PIT-BURM-MIX-W-S	6-21-00	2.5	190 J	0.47	**1.1**	10 J	5.7 J
603192	TA2-2-PIT-BURM-MIX-W-DU	6-21-00	1.8 J (2.4)	140 J	0.36	0.73	6.3 J	6.2 J
603193	TA2-2-PIT-BURM-MIX-W-S (off-site laboratory split)	6-21-00	3.21	**258**	0.345 J (0.49)	**1.41 J**	6.35	6.89
603197	TA2-2-CWLF-COBL-GRZ-1	6-26-00	3.3	170 J	0.46	**9.5**	**21**	9.5
603196	TA2-2-CWLF-COBL-GRZ-1 (off-site laboratory split)	6-26-00	3.73	**215**	0.48 J (0.499)	**13.2 J**	**13.9**	10.4

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603197	TA2-2-CWLF-COBL-GRZ-2	6-26-00	3.2	**210 J**	0.63	**5.7**	**18**	11
603196	TA2-2-CWLF-COBL-GRZ-2 (off-site laboratory split)	6-26-00	3.18	186	0.53	**7.28 J**	9.02	9.89
603197	TA2-2-CWLF-COBL-GRZ-3	6-26-00	2.8	**460 J**	0.52	**17**	**20**	**16**
603196	TA2-2-CWLF-COBL-GRZ-3 (off-site laboratory split)	6-26-00	3.48	**221**	0.4 J (0.498)	**5.09 J**	9.3	**13.2**
603197	TA2-2-CWLF-COBL-GRZ-4	6-26-00	3.2	**250 J**	0.58	**20**	**14**	**12**
603197	TA2-2-CWLF-COBL-GRZ-4DU	6-26-00	2.9	160 J	0.48	**3.3**	**13**	8.8
603196	TA2-2-CWLF-COBL-GRZ-4 (off-site laboratory split)	6-26-00	3.47	189	0.37 J (0.498)	**5.28 J**	8.57	10.7
603196	TA2-2-CWLF-COBL-GRZ-4DU (off-site laboratory split)	6-26-00	3.99	191	0.394 J (0.495)	**3.95 J**	9.68	9.49
603197	TA2-2-CWLF-COBL-GRZ-5	6-26-00	2.8	**220 J**	0.57	**5**	**16 J**	**12**
603196	TA2-2-CWLF-COBL-GRZ-5 (off-site laboratory split)	6-26-00	3.29	197	0.422 J (0.497)	**4.69 J**	10	**12.5**
603197	TA2-2-CWLF-COBL-GRZ-6	6-26-00	2.8	**500 J**	0.52	**4.5**	**17**	**23**
603196	TA2-2-CWLF-COBL-GRZ-6 (off-site laboratory split)	6-26-00	3.24	190	0.379 J (0.498)	**5.29 J**	10.2	**24.4**
603197	TA2-2-CWLF-COBL-GRZ-7	6-26-00	2.7	**240 J**	0.62	**4.7**	**17**	11
603196	TA2-2-CWLF-COBL-GRZ-7 (off-site laboratory split)	6-26-00	3.45	193	0.526	**4.77 J**	10.3	9.42
603197	TA2-2-CWLF-COBL-GRZ-8	6-26-00	2.6	200 J	0.57	**5.1**	**15**	10
603197	TA2-2-CWLF-COBL-GRZ-8DU	6-26-00	3.1	**260 J**	0.59	**7.2**	**18**	**12**
603196	TA2-2-CWLF-COBL-GRZ-8 (off-site laboratory split)	6-26-00	3.5	**240**	0.478 J (0.5)	**36.1 J**	9.88	10.6
603196	TA2-2-CWLF-COBL-GRZ-8DU (off-site laboratory split)	6-26-00	3.7	199	0.46 J (0.499)	**5.75 J**	10.4	**12.4**
603197	TA2-2-CWLF-COBL-GRZ-9	6-26-00	2.8	**220 J**	0.7	**5.8**	**17**	**14**

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603196	TA2-2-CWLF-COBL-GRZ-9 (off-site laboratory split)	6-26-00	3.6	177	0.439 J (0.497)	**4.57 J**	8.81	11.7
603197	TA2-2-CYLI-NDER-BRM-S	6-26-00	3	160 J	0.48	**5.2**	12	11
603196	TA2-2-CYLI-NDER-BRM-S (off-site laboratory split)	6-26-00	3.58	**228**	0.371 J (0.5)	**5.85 J**	9.25	**12**
Borrow Area Soils Used to Backfill ACF- and W-Pits								
600003	TA2-2-BORROW-1	3-05-98	**4.6**	**210 J**	0.45	ND (0.16 U)	9.9	8.2
600003	TA2-2-BORROW-2	3-05-98	**4.8**	170 J	0.45	ND (0.28 U)	8.8	**22**
Background Soil Concentrations—North Area[d]			4.4	200	0.8	0.9	12.8	11.2
Quality Assurance/Quality Control Samples (mg/L)								
600059	TA2-2-PTW1-EB (off-site laboratory)	4-06-98	NA	0.000332	0.000223	0.000208	0.000729	0.000678
600283	TA2-2-TRE5-0001-EB (off-site laboratory)	6-01-98	ND (0.00293)	0.00118	ND (0.00022)	0.00041 J	0.00226 J	ND (0.00068)
600459	TA2-2-TRD1-0006-EB (off-site laboratory)	7-06-98	ND (0.00293)	0.00102 J	ND (0.00022)	ND (0.00021)	ND (0.00073)	ND (0.00068)
600472	TA2-2-TRD6-0015-EB (off-site laboratory)	8-11-98	ND (0.00293)	0.00309 J	ND (0.00022)	0.00036 J	0.00151 J	ND (0.00068)
600494	TA2-2-TRD8-0025-EB (off-site laboratory)	9-21-98	ND (0.00451)	0.0009 J	ND (0.00026)	0.00046 J	0.00075 J	ND (0.00159)
601139	TA2-2-TRC7-0003-000-EB (off-site laboratory)	11-30-98	ND (0.00451)	0.00101 J	ND (0.00026)	ND (0.00044)	0.00066 J	ND (0.00159)

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
Soil Excavated from Pits and Trenches							
600046	TA2-2-ACF1-0001-SL2-S	4-01-98	**0.25 J (0.83)**	16 J	NA	NA	NA
600066	TA2-2-ACF2-0001-SL4-S	4-13-98	**0.21**	13	NA	ND (0.041 J)	NA
600039	TA2-2-ACF3-0001-SLI-SU	3-23-98	ND (0.04)	9	NA	NA	NA
600039	TA2-2-ACF4-0001-SLI-SU	3-24-98	**0.18**	15	NA	NA	NA
600048	TA2-2-ACF4-0001-SL5-S	4-02-98	**0.29**	**33 J**	NA	NA	NA
600461	TA2-2-ACF5-SL06-000-S	7-07-98	ND (0.042)	6.9	0.51 J (1.3)	ND (0.042)	0.89
600061	TA2-2-PW12-0001-SL7-S	4-07-98	**0.64 J**	11	NA	NA	NA
600061	TA2-2-PW12-0001-SL8-S	4-07-98	**0.88 J**	12	NA	NA	NA
600069	TA2-2-PTW3-0001-SL4-S	4-14-98	**5.9 J**	14	0.39 J (1.2)	**3 J**	NA
600076	TA2-2-PTW4-SL14-000-S	4-24-98	**1.1**	**28**	0.42 J (1.2)	0.88 J	NA
600085	TA2-2-TRE1-SL06-000-S	5-06-98	0.047 J (0.16)	8	0.44 J (1.2)	0.54	NA
600085	TA2-2-TRE1-SL13-000-S	5-06-98	0.056 J (0.15)	8.1 J	0.43 J (1.2)	0.069 J (0.15)	NA
600087	TA2-2-TRE2-SL07-000-S	5-11-98	0.041 J (0.16)	7.9 J	0.54 J (1.2)	0.07 J (0.16)	NA
600279	TA2-2-TRE3-SL07-000-S	5-21-98	ND (0.041 J)	10	0.42 J (1.2)	ND (0.041 J)	NA
600279	TA2-2-TRE4-SL10-000-S	5-21-98	ND (0.04)	7.4	0.63 J (1.2)	ND (0.04 J)	NA
600285	TA2-2-TRE5-SL17-000-S	6-01-98	0.039 J (0.15)	7.4	0.65 J (1.2)	ND (0.038)	NA
600285	TA2-2-TRE5-SL08-000-S	6-01-98	0.056 J (0.17)	6.6	0.72 J (1.2)	ND (0.042)	NA
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory)	6-08-98	ND (0.0173 J)	8.44	ND (0.07)	ND (0.467 J)	NA
600290	TA2-2-TRE6-SL09-000-S	6-08-98	ND (0.041)	8.3	0.75 J (1.2)	ND (0.041)	NA
600290	TA2-2-TRE6-SL22-000-S	6-08-98	ND (0.04)	7.6	0.91 J (1.2)	0.057 J (0.16)	NA
600290	TA2-2-TRE6-SL22-000-DUP	6-08-98	0.073 J (0.17)	7.4	0.77 J (1.3)	ND (0.044)	NA
600296	TA2-2-TRE7-SL08-000-S	6-17-98	ND (0.039 J)	6.7	0.64 J (1.2)	ND (0.039)	NA
600296	TA2-2-TRE7-SL13-000-S	6-17-98	ND (0.042 J)	7.8	0.82 J (1.3)	0.045 J (0.17)	NA
600296	TA2-2-TRE7-SL25-000-S	6-17-98	ND (0.042 J)	7.7	0.63 J (1.3)	ND (0.042)	NA
600299	TA2-2-TRE7-SL37-000-S	6-23-98	ND (0.043)	6.9	0.55 J (1.3)	0.38	0.94
600299	TA2-2-TRE7-SL49-000-S	6-23-98	ND (0.042)	5.4	0.44 J (1.3)	ND (0.042)	0.77

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
600299	TA2-2-TRE7-SL55-000-S	6-23-98	ND (0.042)	6.1	0.48 J (1.3)	0.06 J (0.17)	0.71
600301	TA2-2-TRE8-SL01-000-S	6-25-98	ND (0.044)	7.8	0.54 J (1.3)	ND (0.044)	0.92
600301	TA2-2-TRE8-SL14-000-S	6-25-98	ND (0.041)	6.5	0.46 J (1.2)	0.05 J (0.16)	0.79
600303	TA2-2-TRE8-SL07-000-S	6-29-98	0.048 J (0.17)	7.9	0.55 J (1.2)	ND (0.042)	1.62
600303	TA2-2-TRE8-SL21-000-S	6-29-98	0.046 J (0.17)	7.9	0.51 J (1.3)	ND (0.043)	1.05
600303	TA2-2-TRE8-SL29-000-S	6-29-98	0.062 J (0.15)	6.8	0.5 J (1.1)	ND (0.038)	0.94
600463	TA2-2-TRD1-SL02-000-S	7-07-98	0.048 J (0.17)	6.2	0.5 J (1.3)	ND (0.043)	0.76
600463	TA2-2-TRD1-SL06-000-S	7-07-98	ND (0.042)	6.7	0.48 J (1.3)	ND (0.042)	1.13
600463	TA2-2-TRD1-SL09-000-S	7-07-98	0.079 J (0.15)	7	0.49 J (1.2)	ND (0.039)	0.77
600463	TA2-2-TRD1-SL12-000-S	7-07-98	0.05 J (0.17)	6.6	0.54 J (1.3)	ND (0.042)	0.68
600465	TA2-2-TRD2-SL01-000-S	7-13-98	0.048 J (0.16)	8.6	0.57 J (1.2)	ND (0.04)	0.89
600465	TA2-2-TRD2-SL05-000-S	7-13-98	0.048 J (0.17)	7.5	0.5 J (1.3)	ND (0.043)	0.87
600467	TA2-2-TRD3-SL03-000-S	7-20-98	0.076 J (0.17)	8.5	0.61 J (1.2)	ND (0.042)	2.4
600467	TA2-2-TRD3-SL06-000-S	7-20-98	0.054 J (0.16)	8.5	0.53 J (1.2)	ND (0.041)	0.87
600467	TA2-2-TRD3-SL12-000-S	7-20-98	0.076 J (0.17)	9.4	0.43 J (1.3)	2.2	0.94
600470	TA2-2-TRD4-SL03-000-S	8-10-98	0.061 J (0.16)	7.4	0.6 J (1.2)	0.13 J (0.16)	0.94
600470	TA2-2-TRD4-SL03-000-DUP	8-10-98	0.056 J (0.17)	7.4	0.58 J (1.2)	ND (0.042)	0.84
600470	TA2-2-TRD4-SL07-000-S	8-10-98	**0.15 J (0.17)**	7.7	0.51 J (1.3)	0.044 J (0.17)	0.8
600470	TA2-2-TRD4-SL14-000-S	8-10-98	0.046 J (0.16)	7.7	0.47 J (1.2)	0.054 J (0.16)	0.99
600470	TA2-2-TRD5-SL05-000-S	8-10-98	**0.14 J (0.16)**	6.7	0.4 J (1.2)	ND (0.041)	0.61
600470	TA2-2-TRD5-SL05-000-DUP	8-10-98	ND (0.045)	9.2	0.38 J (1.3)	ND (0.045)	0.86
600474	TA2-2-TRD6-SL03-000-S	8-17-98	**0.21**	7.7	0.59 J (1.3)	0.089 J (0.17)	0.95
600474	TA2-2-TRD6-SL08-000-S	8-17-98	**0.12 J (0.18)**	6.5	0.42 J (1.3)	0.15 J (0.18)	0.81
600474	TA2-2-TRD6-SL15-000-S	8-17-98	**0.14 J (0.17)**	6.5	0.52 J (1.3)	0.14 J (0.17)	0.65
600474	TA2-2-TRD6-SL19-000-S	8-17-98	**0.11 J (0.17)**	8.1	0.64 J (1.3)	0.076 J (0.17)	0.8
600474	TA2-2-TRD6-SL23-000-S	8-17-98	**0.11 J (0.16)**	6.5	0.41 J (1.2)	0.11 J (0.16)	0.63
600489	TA2-2-TRD7-SL03-000-S	9-14-98	ND (0.04 J)	8.4	0.58 J (1.2)	0.049 J (0.16)	0.77
600489	TA2-2-TRD7-SL03-000-DUP	9-14-98	**0.14 J (0.19)**	9.3	0.7 J (1.4)	0.063 J (0.19)	0.89

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
600489	TA2-2-TRD7-SL11-000-S	9-14-98	ND (0.046 J)	8.7	0.64 J (1.4)	0.11 J (0.18)	0.84
600489	TA2-2-TRD7-SL13-000-S	9-14-98	ND (0.038 J)	8.4	0.65 J (1.2)	0.1 J (0.15)	1.1
600489	TA2-2-TRD7-SL23-000-S	9-14-98	ND (0.042 J)	8.7	0.57 J (1.3)	0.058 J (0.17)	0.87
600502	TA2-2-TRD8-SL01-049-S	10-20-98	0.6	12	0.43 J (1.2)	0.13 J (0.16)	0.84
600502	TA2-2-TRD8-SL01-049-DUP	10-20-98	0.76	13	0.71 J (1.3)	0.32	1.6
600502	TA2-2-TRD8-SL04-000-S	10-20-98	0.85	10	0.56 J (1.3)	0.17 J (0.17)	0.86
600502	TA2-2-TRD8-SL16-000-S	10-20-98	0.48	14	0.57 J (1.3)	0.13 J (0.17)	0.9
600502	TA2-2-TRD8-SL27-000-S	10-20-98	0.69	12	0.64 J (1.3)	0.18	0.8
600502	TA2-2-TRD8-SL33-000-S	10-20-98	0.7	12	0.54 J (1.2)	0.12 J (0.16)	0.87
600502	TA2-2-TRD8-SL45-000-S	10-20-98	0.81	14	0.58 J (1.3)	0.15 J (0.18)	1.1
600505	TA2-2-TRC9-SL01-000-S	11-03-98	0.42	21	0.69 J (1.1)	0.98	0.96
600505	TA2-2-TRC9-SL05-000-S	11-03-98	0.5	28	0.67 J (1.3)	0.95	0.67
600505	TA2-2-TRC9-SL19-000-S	11-03-98	0.56	11	0.71 J (1.3)	0.31	0.88
601134	TA2-2-TRC9-SL24-000-S	11-17-98	0.46	13	0.6 J (1.2)	0.38	1.5
601134	TA2-2-TRC9-SL42-000-S	11-17-98	0.33	9.8	0.61 J (1.2)	0.11 J (0.16)	1.1
601134	TA2-2-TRC9-SL57-000-S	11-17-98	0.37	8.8	0.64 J (1.3)	0.18	0.85
601134	TA2-2-TRC9-SL71-000-S	11-17-98	0.3	8.6	0.56 J (1.3)	0.38	0.72
601143	TA2-2-TRC7-SL01-000-S	1-14-99	0.65	11	0.71 J (1.2)	0.88	0.74
601143	TA2-2-TRC7-SL21-000-S	1-14-99	0.27	15	0.86 J (1.1)	0.31	0.99
601143	TA2-2-TRC8-SL04-000-S	1-14-99	0.81	19	0.91 J (1.3)	2.3	0.76
601143	TA2-2-TRC8-SL11-000-S	1-14-99	0.92	24	1.1 J (1.3)	3.3	0.94
601143	TA2-2-TRC8-SL17-000-S	1-14-99	1.8	23	0.84 J (1.2)	2.4	0.94
601143	TA2-2-TRC9-SL83-000-S	1-14-99	0.23	8.2	0.76 J (1.2)	1	1.2
601145	TA2-2-TRC6-SL07-000-S	1-21-99	0.2	12	0.88 J (1.2)	0.97	1.8
601154	TA2-2-TRC5-SL07-000-S	2-01-99	0.4 J	10	0.9 J (1.2)	0.39	1.5
601596	TA2-2-TRC3-SL04-000-S	3-11-99	2.7	7	0.62 J (1.2)	0.055 J (0.16)	0.55
601596	TA2-2-TRC4-SL08-000-S	3-10-99	0.21	6.1	0.46 J (1.2)	0.049 J (0.16)	0.62
601601	TA2-2-TRC3-SL12-000-S	3-29-99	0.4 J	12	0.68 J (1.1)	0.39	0.94

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
601603	TA2-2-TRC2-SL02-000-S	4-07-99	ND (0.042 J)	8.1	0.62 J (1.3)	0.096 J (0.17)	1.2
601605	TA2-2-TRC1-SL06-000-S	4-08-99	ND (0.043 J)	8	0.56 J (1.3)	0.2	1
601607	TA2-2-TRB1-SL03-000-S	4-13-99	**23 J**	9.3	0.64 J (1.3)	0.12 J (0.17)	1.2
601728	TA2-2-TRB2-SL01-000-S	4-21-99	**0.19 J**	7.7	**38**	0.1 J (0.17)	0.99
601731	TA2-2-TRB3-SL01-000-S	4-27-99	**0.11 J (0.16)**	12	0.74 J (1.2)	0.043 J (0.16)	0.92
601743	TA2-2-TRB3-SL16-000-S	6-07-99	**0.72 J**	13 J	**250 J**	0.15 J (0.16)	1
602082	TA2-2-TRA3-SL02-000-S	6-17-99	**0.32 J**	9.1	ND (0.28 J)	0.05 J (0.15)	1.1
602088	TA2-2-TRA3-SL07-000-S	6-28-99	**0.64 J**	12	ND (0.3 J)	0.14 J (0.16)	1.2
602093	TA2-2-TRA2-SL06-000-S	7-07-99	**1.1**	10	**1.2**	ND (0.038 J)	0.92
602099	TA2-2-TRA1-SL01-000-S	7-28-99	**0.9 J**	7.6	**1.1 J (1.2)**	ND (0.042)	**4.5**
602597	TA2-2-TR3-P10-SL1-S	8-18-99	**0.45**	11	ND (0.32 J)	0.15 J (0.17)	0.94
602606	TA2-2-TR2-P12-SL6-S	8-23-99	**1.1 J**	15	**1.1**	0.22	1.3
602606	TA2-2-TR2-P12-SL6-DU	8-23-99	**1 J**	14	**1.2**	**1.4**	1.8
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	**1.12**	10.4 J	ND (0.25)	**64 J**	2.17
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	**1.32**	11.1 J	ND (0.257)	0.435 J (0.476)	1.66
602617	TA2-2-TR1-P6-SL10-S	9-07-99	**0.26**	8.4	0.98 J (1.2)	0.083 J (0.16)	1.1
602784	TA2-2-TR1-P4-SL1-S	10-04-99	**0.8**	**230**	0.64 J (1.2)	0.11 J (0.16)	0.78
602784	TA2-2-TR1-P4-SL2-S	10-04-99	**1.2**	**130**	0.6 J (1.2)	**6.3**	0.77
602791	TA2-2-TR1-P3-SL2-S	10-18-99	**2.1**	**43**	0.5 J (1.1)	0.24	1.1
602792	TA2-2-TR1-P2-SL3-S	10-20-99	**1.0**	17	0.8 J (1.3)	0.38	1.2
602796	TA2-2-TRB3-SL16-002-S	10-20-99	**0.32**	16	0.82 J (1.2)	0.1 J (0.16)	1
602796	TA2-2-TRB3-SL16-003-S	10-20-99	**0.29**	8.9	0.72 J (1.2)	0.36	1.5
602796	TA2-2-TRB3-SL16-003-D	10-20-99	**0.32**	7.6	0.4 J (1.1)	0.087 J (0.15)	0.81
602796	TA2-2-TRB3-SL16-004-S	10-20-99	**0.94**	10	**1 J (1.2)**	0.31	1.4
602796	TA2-2-TRB3-SL16-005-S	10-20-99	**0.27**	8.9	0.79 J (1.1)	0.073 J (0.15)	1.3
602796	TA2-2-TRC9-SL83-002-S	10-20-99	**0.25**	12	0.65 J (1.3)	0.38	1.2

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
602796	TA2-2-TRC9-SL83-003-S	10-20-99	**0.2**	11	0.58 J (1.1)	0.33	1.1
602796	TA2-2-TRC9-SL83-004-S	10-20-99	**0.24**	14	0.58 J (1.2)	0.24	0.91
602796	TA2-2-TRC9-SL83-004-D	10-20-99	**0.26**	12	0.5 J (1.1)	0.24	0.96
602796	TA2-2-TRC9-SL83-005-S	10-20-99	**0.27**	12	0.56 J (1.3)	0.6	0.98
602804	TA2-2-TR1-P1-SL1-S	11-9-99	**0.17**	10	0.91 J (1.2)	0.23	0.8
602800	TA2-2-TR1-P2-SL7-S	10-27-99	**0.52**	13	ND (0.29 J)	0.59	0.85
602940	TA2-2-TR2-P8-SL1-S	12-01-99	**1.4**	7.2	ND (0.3 J)	0.2	0.57
602921	TA2-2-TR2-P10-SL1-S	11-19-99	0.064 J (0.16)	9.1	ND (0.3 J)	0.041 J (0.16)	1.3
602967	TA2-2-TR2-P9-SL1-S	1-03-00	**0.25**	16 J	0.88 J (1.1)	**1.8**	1.4
602967	TA2-2-TR2-P9-SL1-DU	1-03-00	**0.21**	9.7 J	**1.3**	0.14 J (0.15)	0.85
602968	TA2-2-TR2-P7-SL1-S	1-03-00	**0.3 J**	9.4	0.74 J (1.1)	0.11 J (0.15)	0.89
602968	TA2-2-TR2-P8-SL1-S	1-03-00	**0.79 J**	12	0.78 J (1.2)	0.26	1.0
602968	TA2-2-TR2-P8-SL1-DU	1-03-00	**0.58 J**	17	0.92 J (1.2)	0.35	1.0
602968	TA2-2-TR2-P9-SL2-S	1-03-00	**2 J**	23	0.65 J (1.2)	0.36	0.78
602970	TA2-2-TR2-P6-SL4-S	1-10-00	**6.6**	14 J	**1.2**	0.18	0.98
602974	TA2-2-TR2-P543-SL1-S	1-24-00	**6.8 J**	**30**	0.71 J (1.2)	0.57	1.1
602974	TA2-2-TR2-P543-SL1-DU	1-24-00	**6.7 J**	10	0.72 J (1.2)	0.53	1.2
602978	TA2-2-TR2-P543-SL4-S	2-08-00	**4.8 J**	12	0.8 J (1.2)	0.65	1.2
602978	TA2-2-TR2-P543-SL5-S	2-08-00	**1.3 J**	9.9	0.71 J (1.2)	0.68	0.94
603057	TA2-2-TR2-P2/1-SL1-S	2-28-00	**0.71**	10	0.42 J (1.2)	0.18	0.84
603057	TA2-2-TR2-P2/1-SL1-DU	2-28-00	**0.68**	16	0.73 J (1.1)	0.18	1.5
603057	TA2-2-TR2-P2/1-SL4-S	2-28-00	**1.2**	12	0.76 J (1.2)	0.26	1.4
603057	TA2-2-TR3-P2/3-SL2-S	2-28-00	**1.9**	10	0.52 J (1.2)	0.43	0.87
603057	TA2-2-TR3-P2/3-SL3-S	2-28-00	**0.81**	9.9	0.44 J (1.2)	0.28	1
603068	TA2-2-TR3-P456-SL1-S	3-02-00	**2.2**	17	0.46 J (1.2)	**1.1**	1.2
603068	TA2-2-TR3-P456-SL4-S	3-02-00	**0.57**	8.6	0.37 J (1.2)	**1.1**	1.2
603068	TA2-2-TR3-P456-SL5-S	3-02-00	**0.76**	9.7	0.6 J (1.2)	**1.1**	1.3
603068	TA2-2-TR3-P456-SL5-DU	3-02-00	**1.4**	9.5	0.56 J (1.2)	**1.2**	1.2

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603070	TA2-2-TR3-P456-SL1-S (off-site laboratory)	3-07-00	**0.811 J**	8.69	0.569 J	**7.14 J**	1.13
603070	TA2-2-TR3-P456-SL1-DU (off-site laboratory)	3-07-00	**1.01 J**	7.89	0.508 J	**1.62 J**	1.14
603070	TA2-2-TR3-P456-SL4-S (off-site laboratory)	3-07-00	**0.732 J**	7.52	0.585 J	**1.16 J**	1.08
603070	TA2-2-TR3-P456-SL4-DU (off-site laboratory)	3-07-00	**1.05 J**	8.36	0.773 J	**1.5 J**	2.03
603070	TA2-2-TR3-P789-SL2-S (off-site laboratory)	3-07-00	**2.05 J**	11.2	0.664 J	0.931 J	1.33
603070	TA2-2-TR3-P789-SL2-DU (off-site laboratory)	3-07-00	**1.86 J**	12.7	0.76 J	**1.36 J**	1.05
603070	TA2-2-TR3-P789-SL3-S (off-site laboratory)	3-07-00	**6.31 J**	16.7	0.694 J	0.783 J	1.25
603070	TA2-2-TR3-P789-SL3-DU (off-site laboratory)	3-07-00	**25.3 J**	10.5	0.71 J	0.714 J	1.09
603072	TA2-2-TR3-P789-SL2-S	3-14-00	**2.3 J**	11	0.49 J (1.2)	0.77	0.85
603072	TA2-2-TR3-P789-SL3-S	3-14-00	**12 J**	15	0.5 J (1.2)	0.89	1.1
Overburden Soils							
600071	TA2-2-OVER-0001-SL2-S	4-16-98	**0.35**	8.4	0.4 J (1.2)	0.081 J (0.16)	NA
600081	TA2-2-OVW4-0001-SL5-S	4-29-98	**0.34**	11	0.33 J (1.2)	0.35 J	NA
600083	TA2-2-OVW4-0001-SL8-S	5-04-98	**0.15 J (0.17)**	9.6	0.62 J (1.3)	0.19	NA
600083	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (0.041)	7.3	0.54 J (1.2)	0.045 J (0.16)	NA
600083	TA2-2-SLPE-0001-SL9-S	5-04-98	ND (0.042)	7.7	0.48 J (1.3)	ND (0.042)	NA
600083	TA2-2-SLPE-SL14-000-S	5-04-98	ND (0.043)	7.3	0.56 J (1.3)	0.21	NA
600277	TA2-2-SLPE-SL16-000-S	5-18-98	ND (0.042)	5.4	0.46 J (1.3)	ND (0.042 J)	NA
600277	TA2-2-SLPE-SL19-000-S	5-18-98	ND (0.038)	7.5	0.58 J (1.1)	ND (0.038 J)	NA
600277	TA2-2-SLPE-SL22-000-S	5-18-98	ND (0.039)	7.6	0.38 J (1.2)	ND (0.039 J)	NA

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
600277	TA2-2-SLPE-SL23-000-S	5-18-98	ND (0.038)	5.9	0.58 J (1.1)	ND (0.038 J)	NA
600277	TA2-2-SLPE-SL32-000-S	5-18-98	ND (0.041)	4.8	0.37 J (1.2)	ND (0.041 J)	NA
600277	TA2-2-SLPE-SL34-000-S	5-18-98	ND (0.042)	6.3	0.44 J (1.2)	ND (0.042 J)	NA
600281	TA2-2-OVTE-SL03-000-S	5-26-98	ND (0.042)	5	0.4 J (1.2)	ND (0.042 J)	NA
600281	TA2-2-OVTE-SL08-000-S	5-26-98	ND (0.04)	6.8	0.46 J (1.2)	ND (0.04 J)	NA
600285	TA2-2-OVTE-SL11-000-S	6-01-98	ND (0.043)	7.6	0.85 J (1.3)	ND (0.043)	NA
600285	TA2-2-OVTE-SL11-000-DUP	6-01-98	ND (0.041)	7	**1 J (1.2)**	ND (0.041)	NA
600292	TA2-2-OVA5-SL05-000-S	6-10-98	ND (0.037)	7.2	0.82 J (1.1)	ND (0.037)	NA
600292	TA2-2-OVA5-SL11-000-S	6-10-98	ND (0.039)	7	0.77 J (1.2)	ND (0.039)	NA
600292	TA2-2-OVA5-SL13-000-S	6-10-98	ND (0.041)	6.8	0.61 J (1.2)	ND (0.041)	NA
600461	TA2-2-OVD1-SL01-000-S	7-07-98	ND (0.041)	5	0.39 J (1.2)	ND (0.041)	0.63
600461	TA2-2-OVD1-SL02-000-S	7-07-98	ND (0.038)	7.5	0.45 J (1.1)	ND (0.038)	0.79
600465	TA2-2-OVD3-SL01-000-S	7-13-98	ND (0.041)	8.7	0.43 J (1.2)	ND (0.041)	0.75
600474	TA2-2-OVD4-SL03-000-S	8-17-98	ND (0.042)	8.8	0.52 J (1.3)	ND (0.042)	0.69
600489	TA2-2-OVD7-SL02-000-S	9-14-98	ND (0.039)	8.1	0.78 J (1.2)	ND (0.039)	0.74
600489	TA2-2-OVD8-SL02-000-S	9-14-98	ND (0.038)	7.2	0.54 J (1.1)	ND (0.038)	0.71
600493	TA2-2-SLPE-SL39-000-S	9-21-98	ND (0.041)	8.5	0.71 J (1.2)	ND (0.041)	0.89
600493	TA2-2-SLPE-SL41-000-S	9-21-98	ND (0.039)	7.8	0.67 J (1.2)	ND (0.039)	1.3
600505	TA2-2-SLPE-SL44-000-S	11-03-98	0.055 J (0.15)	8.2	0.88 J (1.2)	ND (0.038)	1.2
601726	TA2-2-OVB1-SL01-000-S	4-14-99	ND (0.042 J)	8	0.65 J (1.3)	ND (0.042)	1.3
602093	TA2-2-OVA2-SL01-000-S	7-07-99	**0.21**	12	0.99 J (1.2)	ND (0.04)	0.93
602093	TA2-2-OVA3-SL01-000-S	7-07-99	**0.13 J (0.16)**	8.3	0.72 J (1.2)	ND (0.039)	0.76
602099	TA2-2-FILL-DIRT-1/2-S	7-28-99	**0.36 J**	11	0.93 J (1.2)	0.05 J (0.16)	0.73
602099	TA2-2-FILL-DIRT-2/2-S	7-28-99	**4.7 J**	12	0.93 J (1.2)	0.35	1.1
602591	TA2-2-OVA1-SL06-000-S	8-03-99	0.093 J (0.15)	11	ND (0.29 J)	ND (0.038)	1.3
602591	TA2-2-OVT2-P12-SL1-S	8-03-99	0.06 J (0.17)	9.8	ND (0.31 J)	0.052 J (0.17)	0.7
602591	TA2-2-OVT3-P10-SL1-S	8-03-99	0.048 J (0.17)	11	ND (0.32 J)	0.055 J (0.17)	1.2
602617	TA2-2-OVT1-P6-SL1-S	9-07-99	ND (0.039)	6.6	0.83 J (1.2)	0.044 J (0.16)	0.75

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
602784	TA2-2-OVT1-P4-SL1-S	10-04-99	**0.1 J (0.16)**	8.7	0.53 J (1.2)	ND (0.04)	0.58
602791	TA2-2-OVT1-P2-SL1-S	10-18-99	0.043 J (0.16)	9.2	0.99 J (1.2)	ND (0.041)	1.6
602791	TA2-2-OVT1-P3-SL1-S	10-18-99	0.066 J (0.16)	9.7	0.74 J (1.2)	0.039 J (0.16)	1.2
602800	TA2-2-OVT1-P1-SL1-S	10-27-99	ND (0.038)	6.5	ND (0.29 J)	ND (0.038)	1.1
602921	TA2-2-OVT2-P10-SL1-S	11-19-99	**0.1 J (0.15)**	10	ND (0.28 J)	ND (0.038)	0.51
602922	TA2-2-OVT2-P9-SL1-S	11-15-99	ND (0.04)	7.0	ND (0.3 J)	ND (0.04)	0.79
602940	TA2-2-OVT2-P8-SL1-S	12-01-99	0.092 J (0.15)	8.7	ND (0.29 J)	ND (0.038)	1.1
602967	TA2-2-OVT2-P6-SL1-S	1-03-00	**0.1 J (0.16)**	9.7 J	0.9 J (1.2)	ND (0.041)	0.89
602967	TA2-2-OVT2-P7-SL1-S	1-03-00	ND (0.04)	6.7 J	0.95 J (1.2)	ND (0.04)	0.77
602968	TA2-2-OVT2-P5/1-SL1-S	1-03-00	**0.14 J (0.17)**	10	0.64 J (1.2)	ND (0.042)	1.0
603057	TA2-2-OVT3-P2/3-SL1-S	2-28-00	**0.15 J (0.16)**	8.6	0.6 J (1.2)	ND (0.039)	0.84
603057	TA2-2-OVT3-P2/3-SL1-DU	2-28-00	**0.22**	12	0.77 J (1.2)	0.063 J (0.16)	1.3
603057	TA2-2-OVT3-P456-SL1-S	2-28-00	**0.12 J (0.16)**	8.8	0.61 J (1.2)	ND (0.041)	1.1
603068	TA2-2-OVT3-P789-SL1-S	3-02-00	**0.21**	11	0.5 J (1.2)	0.057 J (0.16)	1.1
603068	TA2-2-OVT3-P789-SL2-S	3-02-00	**0.13 J (0.16)**	9.3	0.43 J (1.2)	0.044 J (0.16)	1.2
603068	TA2-2-OVT3-P789-SL2-DU	3-02-00	**2.2**	12	0.46 J (1.1)	0.6	1.2
602606	TA2-2-EAST-FNCE-001-S	8-23-99	**1.2 J**	11	**1 J (1.1)**	0.4	1
602606	TA2-2-EAST-FNCE-001-DU	8-23-99	**1.1 J**	11	**1.3**	0.29	0.87
602607	TA2-2-TR2-EAST-FNCE-002-S	8-23-99	**1.29**	9 J	ND (0.252)	0.178 J (0.467)	0.802
602607	TA2-2-TR2-EAST-FNCE-002-DU	8-23-99	**1.15**	12.5 J	ND (0.248)	**1.3 J**	0.918
Soil Removed Directly from Artifacts (Bin Soils)							
601594	TA2-2-TRC7-C6-BIN-S	3-10-99	**11**	**400**	0.75 J (1.2)	**110**	0.7
601594	TA2-2-TRC8-C/F-BIN-S	3-10-99	**7.7 J**	**360**	0.84 J (1.3)	**63**	0.76
601594	TA2-2-TRC9-C/F-BIN-S	3-10-99	**5.4**	**120**	**1.1**	**8.2**	1.1
601594	TA2-2-TRD8-C/F-BIN-S	3-10-99	**4.7**	**290**	**1.1 J (1.2)**	**48**	0.9
602974	TA2-2-P225-2C/F-BIN-S	1-24-00	**14 J**	**150**	**1.1**	**6.9**	1
602974	TA2-2-P225-3C/F-BIN-S	1-24-00	**180 J**	**64**	0.87 J (1.2)	**1.8**	1
602796	TA2-2-COBL-GRIZ-002-S	10-20-99	**0.86**	12	0.56 J (1.3)	0.31	1.2

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
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March 1998–June 2000
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Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
602796	TA2-2-COBL-GRIZ-003-S	10-20-99	**1.4**	13	0.51 J (1.2)	**2.8**	0.62
602796	TA2-2-COBL-GRIZ-004-S	10-20-99	**1.5**	12	0.59 J (1.2)	**1.3**	0.91
602796	TA2-2-COBL-GRIZ-004-D	10-20-99	**1.5**	9.4	0.54 J (1.2)	**4.3**	0.88
602796	TA2-2-COBL-GRIZ-005-S	10-20-99	**1**	14	0.75 J (1.2)	0.65	1.1
602600	TA2-2-COBL-GRIZ-TRA-S	8-18-99	**23**	17	ND (0.31 J)	0.28	0.95
602600	TA2-2-COBL-GRIZ-TRA-DUP	8-18-99	**7.1**	15	ND (0.3 J)	**1.2**	1.1
603073	TA2-2-1LAY-DOWN-BIN-S	3-09-00	**0.8**	13	0.96 J (1.2)	0.31	1.4
603073	TA2-2-2LAY-DOWN-BIN-S	3-09-00	**5.8**	14	0.6 J (1.2)	**1.9**	1.3
603073	TA2-2-3LAY-DOWN-BIN-S	3-09-00	**3.4**	15	**3.7**	0.72	1.2
603073	TA2-2-4LAY-DOWN-BIN-S	3-09-00	**1.6**	11	0.5 J (1.2)	0.97	1
603073	TA2-2-4LAY-DOWN-BIN-DU	3-09-00	**1.5**	13	0.33 J (1.2)	0.75	0.97
603073	TA2-2-5LAY-DOWN-BIN-S	3-09-00	**11**	14	0.59 J (1.2)	0.75	1.2
603073	TA2-2-6LAY-DOWN-BIN-S	3-09-00	**8.7**	12	0.36 J (1.2)	0.56	1.5
603073	TA2-2-7LAY-DOWN-BIN-S	3-09-00	**9.2**	18	**1.3**	**1**	1.3
603073	TA2-2-7LAY-DOWN-BIN-DU	3-09-00	**1.8**	16	0.5 J (1.2)	0.79	1.4
603073	TA2-2-8LAY-DOWN-BIN-S	3-09-00	**1.9**	20	0.45 J (1.3)	0.91	1.3
603073	TA2-2-9LAY-DOWN-BIN-S	3-09-00	**8.9**	18	0.44 J (1.2)	**1.4**	1.7
603077	TA2-2-2LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	**1.53**	**194 J**	0.295 J (0.5)	**1.29 J**	1.08
603077	TA2-2-6LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	**2.54**	10 J	ND (0.146)	**1.07 J**	1.24
603186	TA2-2-1LAY-DOWN-BIN-E	6-14-00	**1.9 J**	12	0.94 J (1.2)	0.51	1.1
603186	TA2-2-1LAY-DOWN-BIN-N	6-14-00	**3.2 J**	12	0.98 J (1.2)	0.43	1.9
603186	TA2-2-1LAY-DOWN-BIN-S	6-14-00	**2.8 J**	12	**1 J (1.2)**	0.59	1.9
603186	TA2-2-1LAY-DOWN-BIN-W	6-14-00	**3 J**	12	**2.2**	0.68	1.5
603186	TA2-2-1LAY-DOWN-BIN-WDU		**2.8 J**	10	**1.6**	0.5	0.89
603186	TA2-2-2LAY-DOWN-BIN-E	6-14-00	**3.2 J**	18	0.95 J (1.2)	0.76	1.3
603186	TA2-2-2LAY-DOWN-BIN-N	6-14-00	**1.5 J**	13	0.82 J (1.2)	0.52	1.2

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603186	TA2-2-2LAY-DOWN-BIN-NDU	6-14-00	**2.6 J**	21	**1.4**	**6.6**	1.6
603186	TA2-2-2LAY-DOWN-BIN-S	6-14-00	**3.9 J**	16	**1.2**	0.98	1.1
603186	TA2-2-2LAY-DOWN-BIN-W	6-14-00	**3.5 J**	24	**1 J (1.2)**	**2**	1.5
603186	TA2-2-3LAY-DOWN-BIN-E	6-14-00	**2.4 J**	15	0.89 J (1.2)	**1.2**	**4.4**
603186	TA2-2-3LAY-DOWN-BIN-EDU	6-14-00	**1.7 J**	10	0.71 J (1.2)	0.8	0.91
603186	TA2-2-3LAY-DOWN-BIN-N	6-14-00	**3.5 J**	17	**1.2**	**1.1**	1.9
603186	TA2-2-3LAY-DOWN-BIN-S	6-14-00	**2.6 J**	15	**1 J (1.2)**	0.67	1.2
603186	TA2-2-3LAY-DOWN-BIN-W	6-14-00	**2.6 J**	16	**1.2**	**1**	2.4
603186	TA2-2-4LAY-DOWN-BIN-E	6-14-00	**2.7 J**	10	0.89 J (1.2)	0.68	1
603186	TA2-2-4LAY-DOWN-BIN-N	6-14-00	**9.4**	9.5	0.79 J (1.2)	0.56	1.1
603186	TA2-2-4LAY-DOWN-BIN-S	6-14-00	**2.4 J**	10	0.67 J (1.2)	0.68	0.71
603186	TA2-2-4LAY-DOWN-BIN-SDU	6-14-00	**3 J**	16	0.89 J (1.2)	**3.5**	1.3
603186	TA2-2-4LAY-DOWN-BIN-W	6-14-00	**3 J**	8.3	0.71 J (1.2)	0.72	1.3
603186	TA2-2-5LAY-DOWN-BIN-E	6-14-00	**3.7 J**	11	**1.8**	0.53	1
603186	TA2-2-5LAY-DOWN-BIN-N	6-14-00	**2.1 J**	11	0.84 J (1.2)	0.73	1.3
603186	TA2-2-5LAY-DOWN-BIN-NDU	6-14-00	**2.4 J**	15	0.68 J (1.2)	0.83	1.2
603186	TA2-2-5LAY-DOWN-BIN-S	6-14-00	**2 J**	14	0.96 J (1.2)	0.44	1.3
603186	TA2-2-5LAY-DOWN-BIN-W	6-14-00	**2.3 J**	12	0.63 J (1.2)	0.57	1.1
603186	TA2-2-6LAY-DOWN-BIN-E	6-14-00	**2.4**	11	ND (0.3 J)	0.7	1.4
603186	TA2-2-6LAY-DOWN-BIN-EDU	6-14-00	**1.8**	11	ND (0.3 J)	0.38	1.1
603186	TA2-2-6LAY-DOWN-BIN-N	6-14-00	**1.5 J**	11	0.96 J (1.2)	0.29	1.2
603186	TA2-2-6LAY-DOWN-BIN-S	6-14-00	**3**	14	ND (1.4 U)	0.85	2.2
603186	TA2-2-6LAY-DOWN-BIN-W	6-14-00	**2.7**	12	ND (0.3 J)	0.91	1.2
603186	TA2-2-7LAY-DOWN-BIN-E	6-14-00	**3.3**	20	ND (0.3 J)	**1.1**	1.5
603186	TA2-2-7LAY-DOWN-BIN-N	6-14-00	**1.6**	18	ND (0.3 J)	0.76	1.1
603186	TA2-2-7LAY-DOWN-BIN-S	6-14-00	**2.4**	15	ND (0.33 J)	**1.7**	1.2
603186	TA2-2-7LAY-DOWN-BIN-SDU	6-14-00	**2.7**	18	**3**	0.7	1.2
603186	TA2-2-7LAY-DOWN-BIN-W	6-14-00	**2.2**	17	**9.6**	**1.8**	1.9

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603186	TA2-2-8LAY-DOWN-BIN-E	6-14-00	**2.3**	18	ND (0.3 J)	0.68	1.2
603186	TA2-2-8LAY-DOWN-BIN-N	6-14-00	**2.6**	11	ND (0.3 J)	0.7	1.2
603186	TA2-2-8LAY-DOWN-BIN-S	6-14-00	**2.1**	16	ND (0.3 J)	0.9	1.6
603186	TA2-2-8LAY-DOWN-BIN-W	6-14-00	**2.6**	14	ND (0.3 J)	0.62	**2.6**
603186	TA2-2-8LAY-DOWN-BIN-WDU	6-14-00	**5.8 J**	15	ND (1.2 U)	**1.1**	1.3
603186	TA2-2-9LAY-DOWN-BIN-E	6-14-00	**3.4 J**	15	ND (1.6 U)	0.77	**2.7**
603186	TA2-2-9LAY-DOWN-BIN-N	6-14-00	**3.5 J**	17	ND (0.3 J)	**1**	1.2
603186	TA2-2-9LAY-DOWN-BIN-NDU	6-14-00	**2.9 J**	13	ND (0.3 J)	**1.4**	1.2
603186	TA2-2-9LAY-DOWN-BIN-S	6-14-00	**9.2 J**	20	ND (1.3 U)	0.84	1.2
603186	TA2-2-9LAY-DOWN-BIN-W	6-14-00	**3 J**	16	ND (0.3 J)	0.68	1.6
603192	TA2-2-PIT-BURM-MIX-E-S	6-21-00	**0.3 J**	9.9	ND (0.3 J)	ND (0.18 U)	1.3
603193	TA2-2-PIT-BURM-MIX-E-S (off-site laboratory split)	6-21-00	**0.235 J**	7.1	ND (0.146)	ND (0.101)	1.18
603192	TA2-2-PIT-BURM-MIX-N-S	6-21-00	**0.47 J**	8.6	ND (0.3 J)	ND (0.04 J)	1.1
603193	TA2-2-PIT-BURM-MIX-N-S (off-site laboratory split)	6-21-00	**1.32 J**	8.91	ND (0.146)	ND (0.101)	0.932
603193	TA2-2-PIT-BURM-MIX-N-DU (off-site laboratory split)	6-21-00	**0.739 J**	6.73	ND (0.146)	ND (0.101)	0.942
603192	TA2-2-PIT-BURM-MIX-S-S	6-21-00	**0.15 J (0.16)**	5.8	ND (0.3 J)	ND (0.04)	0.61
603193	TA2-2-PIT-BURM-MIX-S-S (off-site laboratory split)	6-21-00	**0.267 J**	6.41	ND (0.146)	ND (0.101)	1.18
603192	TA2-2-PIT-BURM-MIX-W-S	6-21-00	**0.31 J**	9.2	ND (0.3 J)	ND (0.04 J)	1.1
603192	TA2-2-PIT-BURM-MIX-W-DU	6-21-00	**0.22 J**	6	ND (0.3 J)	ND (0.04 J)	1.3
603193	TA2-2-PIT-BURM-MIX-W-S (off-site laboratory split)	6-21-00	**0.321 J**	8.69	ND (0.146)	ND (0.101)	1.21
603197	TA2-2-CWLF-COBL-GRZ-1	6-26-00	**3.2**	22 J	ND (0.03 J)	**2.6**	1.1
603196	TA2-2-CWLF-COBL-GRZ-1 (off-site laboratory split)	6-26-00	**3.2**	21	0.313 J (0.499)	**3.31**	0.914

Refer to footnotes at end of table.

Table 5.6.3-6 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603197	TA2-2-CWLF-COBL-GRZ-2	6-26-00	**2.2**	23 J	ND (0.03 J)	**4**	1.2
603196	TA2-2-CWLF-COBL-GRZ-2 (off-site laboratory split)	6-26-00	**1.98**	20.6	0.757	**4.33**	1.11
603197	TA2-2-CWLF-COBL-GRZ-3	6-26-00	**2.9**	15 J	ND (0.3 J)	**7.9**	1
603196	TA2-2-CWLF-COBL-GRZ-3 (off-site laboratory split)	6-26-00	**1.88**	17.6	ND (0.146)	**24**	0.979
603197	TA2-2-CWLF-COBL-GRZ-4	6-26-00	**4.1**	17 J	ND (0.3 J)	**6.3**	1.4
603197	TA2-2-CWLF-COBL-GRZ-4DU	6-26-00	**2.8**	14 J	ND (0.3 J)	**1.4**	1.2
603196	TA2-2-CWLF-COBL-GRZ-4 (off-site laboratory split)	6-26-00	**1.46**	13.7	0.338 J (0.498)	**2.93**	1.15
603196	TA2-2-CWLF-COBL-GRZ-4DU (off-site laboratory split)	6-26-00	**1.28**	13.5	0.631	**3.24**	0.946
603197	TA2-2-CWLF-COBL-GRZ-5	6-26-00	**2.5**	16	ND (0.3 J)	**1.8**	1.2
603196	TA2-2-CWLF-COBL-GRZ-5 (off-site laboratory split)	6-26-00	**2.42**	14.6	0.374 J (0.497)	**1.43**	1.02
603197	TA2-2-CWLF-COBL-GRZ-6	6-26-00	**2.1**	16 J	ND (0.3 J)	**1.6**	1.2
603196	TA2-2-CWLF-COBL-GRZ-6 (off-site laboratory split)	6-26-00	**2.75**	12.6	0.296 J (0.498)	**1.63**	0.906
603197	TA2-2-CWLF-COBL-GRZ-7	6-26-00	**4.1**	19 J	ND (0.3 J)	**1.9**	1.2
603196	TA2-2-CWLF-COBL-GRZ-7 (off-site laboratory split)	6-26-00	**4.18**	18.6	0.466 J (0.498)	**4.05**	1.02
603197	TA2-2-CWLF-COBL-GRZ-8	6-26-00	**2.8**	16 J	ND (0.3 J)	**2.5**	1.2
603197	TA2-2-CWLF-COBL-GRZ-8DU	6-26-00	**3.4**	20 J	ND (0.3 J)	**2.6**	1.2
603196	TA2-2-CWLF-COBL-GRZ-8 (off-site laboratory split)	6-26-00	**3.29**	**86.7**	0.465 J (0.5)	**4.05**	0.976
603196	TA2-2-CWLF-COBL-GRZ-8DU (off-site laboratory split)	6-26-00	**3.18**	25	0.538	**2.45**	0.946
603197	TA2-2-CWLF-COBL-GRZ-9	6-26-00	**2.3**	20 J	ND (0.3 J)	**2.3**	1.3

Refer to footnotes at end of table.

Table 5.6.3-6 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603196	TA2-2-CWLF-COBL-GRZ-9 (off-site laboratory split)	6-26-00	**2.46**	16.8	0.641	**2.86**	0.954
603197	TA2-2-CYLI-NDER-BRM-S	6-26-00	**0.94**	12 J	ND (0.3 J)	0.36	0.99
603196	TA2-2-CYLI-NDER-BRM-S (off-site laboratory split)	6-26-00	**0.986**	10.7	0.399 J (0.5)	0.415 J (0.5)	0.922
Borrow Area Soils Used to Backfill ACF- and W-Pits							
600003	TA2-2-BORROW-1	3-05-98	ND (0.041)	9.1 J	0.54 J (1.2)	ND (0.041)	NA
600003	TA2-2-BORROW-2	3-05-98	ND (0.041)	7.5 J	0.55 J (1.2)	0.08 J (0.16)	NA
Background Soil Concentrations—North Area[d]			<0.1	25.4	<1	<1	2.3
Quality Assurance/Quality Control Samples (mg/L)							
600059	TA2-2-PTW1-EB (off-site laboratory)	4-06-98	0.000104	0.00227	NA	NA	NA
600283	TA2-2-TRE5-0001-EB (off-site laboratory)	6-01-98	ND (0.0001)	ND (0.00227)	0.00226	0.00274 J	NA
600459	TA2-2-TRD1-0006-EB (off-site laboratory)	7-06-98	ND (0.0001)	ND (0.00227)	ND (0.0014)	ND (0.00062)	0.00004 J
600472	TA2-2-TRD6-0015-EB (off-site laboratory)	8-11-98	ND (0.0001)	ND (0.00227)	ND (0.0014)	ND (0.00062)	NA
600494	TA2-2-TRD8-0025-EB (off-site laboratory)	9-21-98	ND (0.00004)	ND (0.00129)	ND (0.00271)	ND (0.00073)	0.00013 J
601139	TA2-2-TRC7-0003-000-EB (off-site laboratory)	11-30-98	0.00021 J	ND (0.00129)	ND (0.00271)	0.00982 J	ND (0.00003)

Note: Values in **bold** exceed background soil concentrations.

[a] EPA November 1986.

[b] Analysis request/chain-of-custody record.

[c] Sample naming scheme is provided in Table 5.6.2-1.

[d] From Dinwiddie September 1997. Subsurface values are used for comparison, because these samples were collected 15 to 18 feet below the surface.

EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ID = Identification.
J = Estimated value. See Data Validation report.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantification limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligrams(s) per liter.
NA = Not analyzed.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
ND (U) = Not detected at laboratory reported value, shown in parentheses.
RCRA = Resource Conservation and Recovery Act.
SWMU = Solid Waste Management Unit.

Table 5.6.3-7
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference					
Record Number[a]	ER Sample ID[b]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
Excavated Soil Samples								
600290	TA2-2-TRE6-SL22-000-S TA2-2-TRE6-SL22-000-DUP	6-08-98	26.7	NC	7.6	7.6	2.1	7.3
600470	TA2-2-TRD4-SL03-000-S TA2-2-TRD4-SL03-000-DUP	8-10-98	6.1	NC	31.8	50.0	1.3	9.2
600470	TA2-2-TRD5-SL05-000-S TA2-2-TRD5-SL05-000-DUP	8-10-98	21.4	NC	0.0	22.7	14.6	20.0
600489	TA2-2-TRD7-SL03-000-S TA2-2-TRD7-SL03-000-DUP	9-14-98	8.7	NC	6.1	NC	17.1	26.8
600502	TA2-2-TRD8-SL01-049-S TA2-2-TRD8-SL01-049-DUP	10-20-98	6.7	NC	5.3	1.04	NC	40.0
602606	TA2-2-TR2-P12-SL6-S TA2-2-TR2-P12-SL6-DU	8-23-99	14.8	NC	0.0	10.7	7.4	16.4
602607	TA2-2-TR2-P12A-SL6-S TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	3.3	8.1	NC	NC	23.7	NC
602796	TA2-2-TRB3-SL16-003-S TA2-2-TRB3-SL16-003-D	10-20-99	15.4	NC	16.9	41.6	69.4	6.0
602796	TA2-2-TRC9-SL83-004-S TA2-2-TRC9-SL83-004-D	10-20-99	5.9	NC	0.0	38.9	0.0	0.0
602796	TA2-2-TR2-P9-SL1-S TA2-2-TR2-P9-SL1-D	1-03-00	9.5	NC	21.0	NC	NC	59.3
602968	TA2-2-TR2-P8-SL1-S TA2-2-TR2-P8-SL1-DU	1-03-00	8.0	NC	0.0	NC	10.0	36.3
602974	TA2-2-TR2-P543-SL1-S TA2-2-TR2-P543-SL1-DU	1-24-00	18.8	NC	2.6	53.7	64.2	NC
603057	TA2-2-TR2-P2/1-SL1-S TA2-2-TR2-P2/1-SL1-DU	2-28-00	2.9	NC	27.9	6.8	35.3	20.7

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference					
Record Number[a]	ER Sample ID[b]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603068	TA2-2-TR3-P456-SL5-S TA2-2-TR3-P456-SL5-DU	3-02-00	10.5	NC	2.4	72.7	8.0	40.4
603070	TA2-2-TR3-P456-SL1-S TA2-2-TR3-P456-SL1-DU (off-site laboratory)	3-07-00	2.6	29.2	NC	78.0	9.1	NC
603070	TA2-2-TR3-P456-SL4-S TA2-2-TR3-P456-SL4-DU (off-site laboratory)	3-07-00	18.6	3.6	NC	116.9	1.6	NC
603070	TA2-2-TR3-P789-SL2-S TA2-2-TR3-P789-SL2-DU (off-site laboratory)	3-07-00	7.6	23.4	NC	159.0	8.1	NC
603070	TA2-2-TR3-P789-SL3-S TA2-2-TR3-P789-SL3-DU (off-site laboratory)	3-07-00	13.7	5.0	NC	181.2	100.4	NC
600285	TA2-2-OVTE-SL11-000-S TA2-2-OVTE-SL11-000-DUP	6-01-98	37.5	NC	19.7	NC	35.7	22.7
603057	TA2-2-OVT3-P2/3-SL1-S TA2-2-OVT3-P2/3-SL1-DU	2-28-00	21.6	NC	11.8	64.9	16.8	11.2
603068	TA2-2-OVT3-P789-SL2-S TA2-2-OVT3-P789-SL2-DU	3-02-00	9.0	NC	11.5	179.7	56.4	71.2
602606	TA2-2-EAST-FNCE-001-S TA2-2-EAST-FNCE-001-DU	8-23-00	6.4	NC	9.4	15.4	8.0	13.1
602607	TA2-2-TR2-EAST-FNCE-002-S TA2-2-TR2-EAST-FNCE-002-DU	8-23-00	12.0	6.8	NC	NC	20.1	NC
602796	TA2-2-COBL-GRIZ-004-S TA2-2-COBL-GRIZ-004-D	10-20-99	NC	NC	5.3	23.0	4.3	84.0
602600	TA2-2-COBL-GRIZ-TRA-S TA2-2-COBL-GRIZ-TRA-DUP	8-18-99	NC	NC	34.8	32.6	NC	5.0

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference					
Record Number[a]	ER Sample ID[b]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603073	TA2-2-4LAY-DOWN-BIN-S TA2-2-4LAY-DOWN-BIN-DU	3-09-00	3.2	NC	4.4	1.1	54.6	62.1
603073	TA2-2-7LAY-DOWN-BIN-S TA2-2-7LAY-DOWN-BIN-DU	3-09-00	3.0	NC	3.3	9.5	6.4	34.8
603186	TA2-2-1LAY-DOWN-BIN-W TA2-2-1LAY-DOWN-BIN-WDU	6-14-00	NC	NC	9.5	NC	NC	28.6
603186	TA2-2-2LAY-DOWN-BIN-N TA2-2-2LAY-DOWN-BIN-NDU	6-14-00	5.9	NC	25.6	NC	NC	14.6
603186	TA2-2-3LAY-DOWN-BIN-E TA2-2-3LAY-DOWN-BIN-EDU	6-14-00	NC	NC	29.6	NC	NC	74.2
603186	TA2-2-4LAY-DOWN-BIN-S TA2-2-4LAY-DOWN-BIN-SDU	6-14-00	NC	NC	2.3	NC	190.7	58.8
603186	TA2-2-5LAY-DOWN-BIN-N TA2-2-5LAY-DOWN-BIN-NDU	6-14-00	NC	NC	0.0	NC	0.0	23.5
603186	TA2-2-6LAY-DOWN-BIN-E TA2-2-6LAY-DOWN-BIN-EDU	6-14-00	NC	NC	3.4	NC	NC	27.0
603196	TA2-2-7LAY-DOWN-BIN-S TA2-2-7LAY-DOWN-BIN-SDU	6-14-00	18.8	NC	3.6	NC	NC	23.3
603186	TA2-2-8LAY-DOWN-BIN-W TA2-2-8LAY-DOWN-BIN-WDU	6-14-00	14.9	NC	23.3	NC	NC	NC
603186	TA-2-9LAY-DOWN-BIN-N TA-2-9LAY-DOWN-BIN-NDU	6-14-00	NC	NC	25.6	55.6	NC	NC
603192	TA2-2-PIT-BURM-MIX-W-S TA2-2-PIT-BURM-MIX-W-DU	6-21-00	NC	NC	26.5	40.4	NC	NC
603193	TA2-2-PIT-BURM-MIX-N-S TA2-2-PIT-BURM-MIX-N-DU (off-site laboratory)	6-21-00	7.9	15.1	NC	NC	8.0	15.7

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference					
Record Number[a]	ER Sample ID[b]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603196	TA2-2-CWLF-COBL-GRZ-4 TA2-2-CWLF-COBL-GRZ-4DU (off-site laboratory)	6-26-00	13.9	1.0	NC	NC	12.2	12.0
603196	TA2-2-CWLF-COBL-GRZ-8 TA2-2-CWLF-COBL-GRZ-8DU (off-site laboratory)	6-26-00	5.6	18.7	NC	NC	5.1	15.6
603197	TA2-2-CWLF-COBL-GRZ-4 TA2-2-CWLF-COBL-GRZ-4DU	6-26-00	9.8	NC	18.9	143.4	7.4	30.8
603197	TA2-2-CWLF-COBL-GRZ-8 TA2-2-CWLF-COBL-GRZ-8DU	6-26-00	17.5	NC	3.4	34.2	18.2	18.2
Excavation Confirmatory Samples from the Excavation Floor and Sidewalls								
603352	TA2-2-FINAL-FLR-400N-3900E-0.5 TA2-2-FINAL-FLR-400N-3900E-D (off-site laboratory)	8-07-00	10.2	NC	NC	NC	NC	9.0
603352	TA2-2-FINAL-FLR-450N-4000E-0.5 TA2-2-FINAL-FLR-450N-4000E-D (off-site laboratory)	8-07-00	10.1	NC	NC	NC	NC	13.6
603356	TA2-2-FINAL-FLR-500N-3850E-0.5 TA2-2-FINAL-FLR-500N-3850E-D (off-site laboratory)	8-08-00	5.4	0.2	NC	NC	22.2	13.5
603356	TA2-2-FINAL-FLR-500N-4100E-0.5 TA2-2-FINAL-FLR-500N-4100E-D (off-site laboratory)	8-08-00	4.2	37.3	NC	NC	15.8	9.5
603356	TA2-2-FINAL-SDW-550N-3950E-1.0 TA2-2-FINAL-SDW-550N-3950E-D (off-site laboratory)	8-08-00	12.7	2.9	NC	NC	11.0	1.0

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference					
Record Number[a]	ER Sample ID[b]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603358	TA2-2-FINAL-SDW-375N-4000E-1.0 TA2-2-FINAL-SDW-375N-4000E-D (off-site laboratory)	8-08-00	16.2	8.2	NC	NC	7.9	1.2
603358	TA2-2-FINAL-SDW-450N-4150E-1.0 TA2-2-FINAL-SDW-450N-4150E-D (off-site laboratory)	8-08-00	15.9	17.4	NC	NC	13.3	13.7
603360	TA2-2-FINAL-SDW-450N-3770E-1.0 TA2-2-FINAL-SDW-450N-3770E-D (off-site laboratory)	8-09-00	15.0	9.8	NC	NC	12.7	6.3

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference				
Record Number[a]	ER Sample ID[b]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
Excavated Soil Samples							
600290	TA2-2-TRE6-SL22-000-S TA2-2-TRE6-SL22-000-DUP	6-08-98	NC	2.7	NC	NC	NC
600470	TA2-2-TRD4-SL03-000-S TA2-2-TRD4-SL03-000-DUP	8-10-98	NC	0.0	NC	NC	11.2
600470	TA2-2-TRD5-SL05-000-S TA2-2-TRD5-SL05-000-DUP	8-10-98	NC	31.4	NC	NC	34.0
600489	TA2-2-TRD7-SL03-000-S TA2-2-TRD7-SL03-000-DUP	9-14-98	NC	10.2	NC	NC	14.5
600502	TA2-2-TRD8-SL01-049-S TA2-2-TRD8-SL01-049-DUP	10-20-98	23.5	8.0	NC	NC	62.3
602606	TA2-2-TR2-P12-SL6-S TA2-2-TR2-P12-SL6-DU	8-23-99	NC	6.9	8.7	145.7	32.3
602607	TA2-2-TR2-P12A-SL6-S TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	16.4	NC	NC	NC	26.6
602796	TA2-2-TRB3-SL16-003-S TA2-2-TRB3-SL16-003-D	10-20-99	9.8	15.8	NC	NC	59.7
602796	TA2-2-TRC9-SL83-004-S TA2-2-TRC9-SL83-004-D	10-20-99	8.0	15.4	NC	0.0	5.4
602796	TA2-2-TR2-P9-SL1-S TA2-2-TR2-P9-SL1-D	1-03-00	17.4	NC	NC	NC	48.9
602968	TA2-2-TR2-P8-SL1-S TA2-2-TR2-P8-SL1-DU	1-03-00	NC	34.5	NC	29.5	0.0
602974	TA2-2-TR2-P543-SL1-S TA2-2-TR2-P543-SL1-DU	1-24-00	NC	100.0	NC	7.3	8.7
603057	TA2-2-TR2-P2/1-SL1-S TA2-2-TR2-P2/1-SL1-DU	2-28-00	4.3	46.2	NC	0.0	56.4

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference				
Record Number[a]	ER Sample ID[b]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603068	TA2-2-TR3-P456-SL5-S TA2-2-TR3-P456-SL5-DU	3-02-00	59.3	2.1	NC	8.7	8.0
603070	TA2-2-TR3-P456-SL1-S TA2-2-TR3-P456-SL1-DU (off-site laboratory)	3-07-00	NC	9.6	NC	NC	0.9
603070	TA2-2-TR3-P456-SL4-S TA2-2-TR3-P456-SL4-DU (off-site laboratory)	3-07-00	NC	10.6	NC	NC	61.1
603070	TA2-2-TR3-P789-SL2-S TA2-2-TR3-P789-SL2-DU (off-site laboratory)	3-07-00	NC	12.6	NC	NC	23.5
603070	TA2-2-TR3-P789-SL3-S TA2-2-TR3-P789-SL3-DU (off-site laboratory)	3-07-00	NC	45.6	NC	NC	13.7
600285	TA2-2-OVTE-SL11-000-S TA2-2-OVTE-SL11-000-DUP	6-01-98	NC	8.2	NC	NC	NC
603057	TA2-2-OVT3-P2/3-SL1-S TA2-2-OVT3-P2/3-SL1-DU	2-28-00	NC	33.0	NC	NC	43.0
603068	TA2-2-OVT3-P789-SL2-S TA2-2-OVT3-P789-SL2-DU	3-02-00	NC	25.4	NC	NC	0.0
602606	TA2-2-EAST-FNCE-001-S TA2-2-EAST-FNCE-001-DU	8-23-00	NC	0.0	NC	31.9	13.9
602607	TA2-2-TR2-EAST-FNCE-002-S TA2-2-TR2-EAST-FNCE-002-DU	8-23-00	11.5	NC	NC	NC	13.5
602796	TA2-2-COBL-GRIZ-004-S TA2-2-COBL-GRIZ-004-D	10-20-99	0.0	24.3	NC	107.1	3.4
602600	TA2-2-COBL-GRIZ-TRA-S TA2-2-COBL-GRIZ-TRA-DUP	8-18-99	105.6	12.5	NC	124.3	14.6

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference				
Record Number[a]	ER Sample ID[b]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603073	TA2-2-4LAY-DOWN-BIN-S TA2-2-4LAY-DOWN-BIN-DU	3-09-00	6.4	16.7	NC	25.6	3.1
603073	TA2-2-7LAY-DOWN-BIN-S TA2-2-7LAY-DOWN-BIN-DU	3-09-00	134.6	11.8	NC	23.5	7.4
603186	TA2-2-1LAY-DOWN-BIN-W TA2-2-1LAY-DOWN-BIN-WDU	6-14-00	NC	18.2	31.6	30.5	51.0
603186	TA2-2-2LAY-DOWN-BIN-N TA2-2-2LAY-DOWN-BIN-NDU	6-14-00	NC	47.1	NC	170.8	28.6
603186	TA2-2-3LAY-DOWN-BIN-E TA2-2-3LAY-DOWN-BIN-EDU	6-14-00	NC	40.0	NC	40.0	131.4
603186	TA2-2-4LAY-DOWN-BIN-S TA2-2-4LAY-DOWN-BIN-SDU	6-14-00	NC	46.2	NC	134.9	58.7
603186	TA2-2-5LAY-DOWN-BIN-N TA2-2-5LAY-DOWN-BIN-NDU	6-14-00	NC	30.8	NC	12.8	8.0
603186	TA2-2-6LAY-DOWN-BIN-E TA2-2-6LAY-DOWN-BIN-EDU	6-14-00	28.6	0.0	NC	59.3	24.0
603196	TA2-2-7LAY-DOWN-BIN-S TA2-2-7LAY-DOWN-BIN-SDU	6-14-00	11.8	18.2	NC	83.3	0.0
603186	TA2-2-8LAY-DOWN-BIN-W TA2-2-8LAY-DOWN-BIN-WDU	6-14-00	NC	6.9	NC	55.8	66.7
603186	TA-2-9LAY-DOWN-BIN-N TA-2-9LAY-DOWN-BIN-NDU	6-14-00	NC	26.7	NC	33.3	0.0
603192	TA2-2-PIT-BURM-MIX-W-S TA2-2-PIT-BURM-MIX-W-DU	6-21-00	NC	42.1	NC	NC	16.7
603193	TA2-2-PIT-BURM-MIX-N-S TA2-2-PIT-BURM-MIX-N-DU (off-site laboratory)	6-21-00	NC	27.9	NC	NC	1.1

Refer to footnotes at end of table.

Table 5.6.3-7 (Continued)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference				
Record Number[a]	ER Sample ID[b]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603196	TA2-2-CWLF-COBL-GRZ-4 TA2-2-CWLF-COBL-GRZ-4DU (off-site laboratory)	6-26-00	13.1	1.5	NC	10.0	19.5
603196	TA2-2-CWLF-COBL-GRZ-8 TA2-2-CWLF-COBL-GRZ-8DU (off-site laboratory)	6-26-00	3.4	110.5	NC	49.2	3.1
603197	TA2-2-CWLF-COBL-GRZ-4 TA2-2-CWLF-COBL-GRZ-4DU	6-26-00	37.7	NC	NC	127.3	15.4
603197	TA2-2-CWLF-COBL-GRZ-8 TA2-2-CWLF-COBL-GRZ-8DU	6-26-00	19.4	NC	NC	3.9	0.0
Excavation Confirmatory Samples from the Excavation Floor and Sidewalls							
603352	TA2-2-FINAL-FLR-400N-3900E-0.5 TA2-2-FINAL-FLR-400N-3900E-D (off-site laboratory)	8-07-00	6.5	NC	NC	NC	29.8
603352	TA2-2-FINAL-FLR-450N-4000E-0.5 TA2-2-FINAL-FLR-450N-4000E-D (off-site laboratory)	8-07-00	2.7	NC	NC	NC	41.4
603356	TA2-2-FINAL-FLR-500N-3850E-0.5 TA2-2-FINAL-FLR-500N-3850E-D (off-site laboratory)	8-08-00	14.7	20.0	NC	NC	24.0
603356	TA2-2-FINAL-FLR-500N-4100E-0.5 TA2-2-FINAL-FLR-500N-4100E-D (off-site laboratory)	8-08-00	28.9	9.4	NC	NC	7.6
603356	TA2-2-FINAL-SDW-550N-3950E-1.0 TA2-2-FINAL-SDW-550N-3950E-D (off-site laboratory)	8-08-00	19.8	8.2	NC	NC	26.7

Refer to footnotes at end of table.

Table 5.6.3-7 (Concluded)
Summary of SWMU 2 Field Duplicate Relative Percent Differences for
Excavated Soil and Excavation Confirmatory Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analyses
March 1998–August 2000
(On-site Laboratory, except where noted)

Sample Attributes			Relative Percent Difference				
Record Number[a]	ER Sample ID[b]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603358	TA2-2-FINAL-SDW-375N-4000E-1.0 TA2-2-FINAL-SDW-375N-4000E-D (off-site laboratory)	8-08-00	140.2	16.1	NC	NC	5.2
603358	TA2-2-FINAL-SDW-450N-4150E-1.0 TA2-2-FINAL-SDW-450N-4150E-D (off-site laboratory)	8-08-00	18.4	8.2	NC	NC	17.1
603360	TA2-2-FINAL-SDW-450N-3770E-1.0 TA2-2-FINAL-SDW-450N-3770E-D (off-site laboratory)	8-09-00	50.5	16.3	NC	NC	25.3

[a]Analysis request/chain-of-custody record.
[b]Sample naming scheme is provided in Table 5.6.2-1.
ER = Environmental Restoration.
ID = Identification.
NC = Not calculated for estimated or nondetected results.
RCRA = Resource Conservation and Recovery Act.
SWMU = Solid Waste Management Unit.

Table 5.6.3-8
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
Soil Excavated from Pits and Trenches										
600045	TA2-2-ACF1-0001-SL2-S	4-01-98	0.0503	0.0282	0.878	0.477	ND (0.197)	--	0.991	0.69
600065	TA2-2-ACF2-0001-SL4-S	4-13-98	0.0489	0.0422	0.852	0.446	ND (0.196)	--	ND (1.3)	--
600040	TA2-2-ACF3-0001-SL1-S	3-23-98	0.0289	0.0196	0.834	0.429	ND (0.27)	--	ND (1.92)	--
600040	TA2-2-ACF4-0001-SL1-S	3-24-98	0.058	0.0403	0.794	0.404	ND (0.236)	--	ND (1.72)	--
600044	TA2-2-ACF4-0001-SL5-S	3-26-98	0.0526	0.0169	0.676	0.325	ND (0.159)	--	ND (1.38)	--
600460	TA2-2-ACF5-SL06-000-S	7-07-98	ND (0.0299)	--	0.673	0.362	ND (0.173)	--	1.25	0.886
600060	TA2-2-PW12-0001-SL7-S	4-07-98	0.0363	0.0314	0.764	0.427	ND (0.221)	--	ND (3.06)	--
600060	TA2-2-PW12-0001-SL8-S	4-07-98	ND (0.0347)	--	0.694	0.344	ND (0.183)	--	0.507	0.485
600063	TA2-2-PTW2-0001-12-S	4-09-98	ND (0.0272)	--	0.581	0.334	ND (0.179)	--	ND (1.53)	--
600068	TA2-2-PTW3-0001-SL4-S	4-14-98	0.00842	0.00857	0.76	0.379	ND (0.22)	--	ND (2.96)	--
600073	TA2-2-PTW4-0001-15-S	4-20-98	ND (0.0319)	--	0.696	0.426	ND (0.186)	--	0.821	0.626
600075	TA2-2-PTW4-SL10-000-S	4-23-98	0.0205	0.0205	0.772	0.369	ND (0.229)	--	ND (3.15)	--
600075	TA2-2-PTW4-SL14-000-S	4-23-98	0.0215	0.0196	0.755	0.358	ND (0.225)	--	ND (3.01)	--
600075	TA2-2-PTW4-SL15-000-S	4-23-98	ND (0.0312)	--	0.686	0.449	ND (0.222)	--	ND (3.06)	--
600079	TA2-2-TRE1-0001-000-S	4-28-98	ND (0.0677)	--	0.851	0.45	**3.28**	0.945	**208**	45.9
600084	TA2-2-TRE1-SL06-000-S	5-06-98	0.0325	0.0199	0.637	0.318	ND (0.172)	--	**2.72**	1.13
600084	TA2-2-TRE1-SL13-000-S	5-06-98	0.00978	0.0109	0.646	0.316	ND (0.122)	--	**2.52**	0.971
600086	TA2-2-TRE2-SL07-000-S	5-11-98	0.00967	0.00427	0.619	0.296	ND (0.214)	--	**3.16**	3.66
600278	TA2-2-TRE3-SL07-000-S	5-21-98	ND (0.0248)	--	0.671	0.353	**0.0844**	0.0787	**1.74**	1.7
600275	TA2-2-TRE4-0001-000-S	5-12-98	ND (0.0406)	--	0.707	0.357	ND (0.285)	--	ND (3.95)	--
600278	TA2-2-TRE4-SL10-000-S	5-21-98	ND (0.0308)	--	0.656	0.319	ND (0.172)	--	0.738	0.588
600284	TA2-2-TRE5-SL08-000-S	6-01-98	ND (0.0308)	--	0.672	0.338	ND (0.216)	--	ND (3.06)	--
600284	TA2-2-TRE5-SL17-000-S	6-01-98	ND (0.028)	--	0.625	0.314	ND (0.206)	--	ND (2.86)	--
600289	TA2-2-TRE6-SL09-000-S	6-08-98	ND (0.0286)	--	0.727	0.381	ND (0.181)	--	ND (1.58)	--
600289	TA2-2-TRE6-SL22-000-S	6-08-98	ND (0.026)	--	0.707	0.351	ND (0.179)	--	ND (1.54)	--
600289	TA2-2-TRE6-SL22-000-DUP	6-08-98	ND (0.0268)	--	0.742	0.355	ND (0.176)	--	ND (1.55)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600295	TA2-2-TRE7-SL08-000-S	6-17-98	ND (0.0314)	--	0.718	0.389	ND (0.226)	--	ND (3.3)	--
600295	TA2-2-TRE7-SL13-000-S	6-17-98	ND (0.0302)	--	0.677	0.369	ND (0.218)	--	ND (3.09)	--
600295	TA2-2-TRE7-SL25-000-S	6-17-98	ND (0.0309)	--	0.675	0.339	ND (0.216)	--	ND (3)	--
600298	TA2-2-TRE7-SL37-000-S	6-23-98	ND (0.0284)	--	0.651	0.32	ND (0.181)	--	ND (1.59)	--
600298	TA2-2-TRE7-SL49-000-S	6-23-98	0.0103	0.00948	0.668	0.327	ND (0.158)	--	ND (1.42)	--
600298	TA2-2-TRE7-SL55-000-S	6-23-98	ND (0.0259)	--	0.651	0.313	ND (0.167)	--	ND (1.46)	--
600300	TA2-2-TRE8-SL01-000-S	6-25-98	ND (0.0316)	--	0.696	0.357	ND (0.172)	--	ND (1.14)	--
600300	TA2-2-TRE8-SL14-000-S	6-25-98	ND (0.0282)	--	0.737	0.353	ND (0.203)	--	ND (2.82)	--
600302	TA2-2-TRE8-SL07-000-S	6-29-98	ND (0.0322)	--	0.616	0.326	ND (0.178)	--	0.966	0.649
600302	TA2-2-TRE8-SL21-000-S	6-29-98	ND (0.0256)	--	0.595	0.292	ND (0.173)	--	ND (1.53)	--
600302	TA2-2-TRE8-SL29-000-S	6-29-98	ND (0.0341)	--	0.717	0.356	ND (0.177)	--	0.511	0.515
600462	TA2-2-TRD1-SL02-000-S	7-07-98	ND (0.0296)	--	0.679	0.342	ND (0.185)	--	ND (1.7)	--
600462	TA2-2-TRD1-SL06-000-S	7-07-98	ND (0.0389)	--	0.899	0.454	ND (0.235)	--	1.07	1.05
600462	TA2-2-TRD1-SL09-000-S	7-07-98	ND (0.0332)	--	0.792	0.39	ND (0.2)	--	ND (1.84)	--
600462	TA2-2-TRD1-SL12-000-S	7-07-98	0.0118	0.0137	0.755	0.379	ND (0.189)	--	ND (1.74)	--
600464	TA2-2-TRD2-SL01-000-S	7-13-98	ND (0.0311)	--	0.717	0.377	ND (0.227)	--	ND (3.19)	--
600464	TA2-2-TRD2-SL05-000-S	7-13-98	ND (0.0314)	--	0.741	0.431	ND (0.232)	--	ND (3.22)	--
600466	TA2-2-TRD3-SL03-000-S	7-20-98	ND (0.0358)	--	0.682	0.389	ND (0.177)	--	1.34	0.693
600466	TA2-2-TRD3-SL06-000-S	7-20-98	ND (0.0339)	--	0.591	0.318	ND (0.187)	--	1.33	0.748
600466	TA2-2-TRD3-SL12-000-S	7-20-98	ND (0.0315)	--	0.63	0.333	ND (0.17)	--	0.923	0.653
600469	TA2-2-TRD4-SL03-000-S	8-10-98	ND (0.0328)	--	0.785	0.378	ND (0.236)	--	ND (0.786)	--
600469	TA2-2-TRD4-SL03-000-DUP	8-10-98	ND (0.0314)	--	0.613	0.317	ND (0.221)	--	0.982	0.639
600469	TA2-2-TRD4-SL05-000-S	8-10-98	ND (0.0281)	--	0.69	0.335	ND (0.215)	--	ND (0.709)	--
600469	TA2-2-TRD4-SL05-000-DUP	8-10-98	ND (0.0308)	--	0.761	1.31	ND (0.23)	--	0.535	0.377
600469	TA2-2-TRD4-SL07-000-S	8-10-98	ND (0.0286)	--	0.589	0.302	ND (0.202)	--	0.753	0.547
600469	TA2-2-TRD4-SL14-000-S	8-10-98	ND (0.0317)	--	0.691	0.333	ND (0.221)	--	0.658	0.426

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600473	TA2-2-TRD6-SL03-000-S	8-17-98	ND (0.0281)	--	0.645	0.314	ND (0.203)	--	ND (0.535)	--
600473	TA2-2-TRD6-SL08-000-S	8-17-98	ND (0.0279)	--	0.646	0.339	ND (0.205)	--	0.834	0.422
600473	TA2-2-TRD6-SL15-000-S	8-17-98	ND (0.0273)	--	0.648	0.581	ND (0.196)	--	ND (0.676)	--
600473	TA2-2-TRD6-SL19-000-S	8-17-98	ND (0.0277)	--	0.628	0.301	ND (0.202)	--	0.437	0.402
600473	TA2-2-TRD6-SL23-000-S	8-17-98	ND (0.0271)	--	0.677	0.323	0.1	0.172	0.663	0.502
600488	TA2-2-TRD7-SL03-000-S	9-14-98	ND (0.0308)	--	0.612	0.301	ND (0.217)	--	0.605	0.367
600488	TA2-2-TRD7-SL11-000-S	9-14-98	ND (0.0318)	--	0.601	0.343	0.136	0.189	0.921	0.425
600488	TA2-2-TRD7-SL13-000-S	9-14-98	0.0224	0.0213	0.735	0.349	ND (0.196)	--	0.749	0.468
600488	TA2-2-TRD7-SL23-000-S	9-14-98	ND (0.0294)	--	0.704	0.335	0.123	0.178	0.387	0.436
600501	TA2-2-TRD8-SL01-049-S	10-20-98	0.0127	0.0105	0.725	0.365	ND (0.194)	--	0.779	0.455
600501	TA2-2-TRD8-SL04-000-S	10-20-98	0.0194	0.0223	0.705	0.335	ND (0.207)	--	ND (0.712)	--
600501	TA2-2-TRD8-SL16-000-S	10-20-98	ND (0.0327)	--	0.778	0.372	ND (0.226)	--	0.732	0.616
600501	TA2-2-TRD8-SL27-000-S	10-20-98	ND (0.0322)	--	0.649	0.348	ND (0.218)	--	ND (0.537)	--
600501	TA2-2-TRD8-SL33-000-S	10-20-98	ND (0.0316)	--	0.689	0.34	0.106	0.188	0.543	0.409
600501	TA2-2-TRD8-SL45-000-S	10-20-98	ND (0.0302)	--	0.684	0.332	ND (0.218)	--	0.552	0.353
600504	TA2-2-TRC9-SL01-000-S	11-03-98	ND (0.0345)	--	0.825	0.452	0.107	0.205	1.08	0.54
600504	TA2-2-TRC9-SL05-000-S	11-03-98	ND (0.0369)	--	0.784	0.381	**0.206**	0.22	ND (0.878)	--
600504	TA2-2-TRC9-SL19-000-S	11-03-98	ND (0.0377)	--	0.813	0.469	ND (0.208)	--	ND (0.572)	--
601133	TA2-2-TRC9-SL24-000-S	11-17-98	ND (0.0327)	--	0.788	0.42	0.108	0.194	0.833	0.614
601133	TA2-2-TRC9-SL42-000-S	11-17-98	ND (0.039)	--	0.835	0.42	0.12	0.227	0.315	0.362
601133	TA2-2-TRC9-SL57-000-S	11-17-98	ND (0.0325)	--	0.783	0.393	0.114	0.2	0.875	0.501
601133	TA2-2-TRC9-SL71-000-S	11-17-98	ND (0.0371)	--	0.86	0.417	**0.365**	0.231	0.952	0.501
602795	TA2-2-TRC9-SL83-001-S	10-20-99	ND (0.0353)	--	0.716	1.06	ND (0.19)	--	ND (0.527)	--
601140	TA2-2-TRC9-SL83-000-S	1-13-99	ND (0.0327)	--	0.853	0.46	ND (0.234)	--	ND (0.799)	--
601140	TA2-2-TRC8-SL04-000-S	1-13-99	0.0142	0.0257	0.841	0.436	0.162	0.165	ND (0.727)	--
601140	TA2-2-TRC8-SL11-000-S	1-13-99	ND (0.0294)	--	0.711	0.406	0.172	0.175	ND (0.737)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601140	TA2-2-TRC8-SL17-000-S	1-13-99	**0.114**	0.0415	0.755	0.406	ND (0.219)	--	ND (0.734)	--
601140	TA2-2-TRC7-SL01-000-S	1-13-99	0.024	0.0127	0.822	0.43	0.171	0.172	ND (0.774)	--
601140	TA2-2-TRC7-SL21-000-S	1-13-99	0.0205	0.019	0.778	0.476	ND (0.224)	--	ND (0.746)	--
601141	TA2-2-TRC6-SL01-000-S	1-13-99	ND (0.048)	--	1.04	0.998	**0.222**	0.199	0.731	0.543
601141	TA2-2-TRC6-SL02-000-S	1-13-99	0.0436	0.044	0.896	0.525	ND (0.265)	--	1.15	0.887
601141	TA2-2-TRC6-SL03-000-S	1-13-99	ND (0.0278)	--	0.913	0.513	0.128	0.208	ND (0.51)	--
601141	TA2-2-TRC6-SL04-000-S	1-13-99	0.021	0.0216	0.998	0.515	ND (0.245)	--	1.01	1.02
601142	TA2-2-TRC6-SL05-000-S	1-14-99	0.0366	0.049	1.03	0.601	**0.201**	0.277	ND (0.907)	--
601142	TA2-2-TRC6-SL06-000-S	1-14-99	ND (0.0522)	--	0.945	0.569	**0.195**	0.235	ND (0.748)	--
601142	TA2-2-TRC6-SL07-000-S	1-14-99	ND (0.0553)	--	1.11	0.665	ND (0.29)	--	ND (0.81)	--
601146	TA2-2-TRC7-C6-BIN-S	1-25-99	**0.136**	0.0604	0.815	0.489	**0.248**	0.199	0.476	0.437
601146	TA2-2-TRC8-C/F-BIN-S	1-25-99	0.0508	0.04	0.746	0.459	ND (0.224)	--	ND (0.619)	--
601146	TA2-2-TRC9-C/F-BIN-S	1-25-99	0.0308	0.0328	0.708	0.379	0.138	0.172	**1.61**	1.29
601146	TA2-2-TRD8-C/F-BIN-S	1-25-99	0.0626	0.0338	0.591	0.366	ND (0.194)	--	ND (0.533)	--
601152	TA2-2-TRC5-SL01-000-S	1-28-99	ND (0.0434)	--	0.963	0.54	ND (0.235)	--	ND (0.663)	--
601152	TA2-2-TRC5-SL02-000-S	1-28-99	0.0331	0.0414	0.94	0.537	ND (0.24)	--	ND (0.674)	--
601152	TA2-2-TRC5-SL03-000-S	1-28-99	ND (0.0297)	--	1.03	0.579	ND (0.278)	--	ND (0.776)	--
601152	TA2-2-TRC5-SL07-000-S	1-28-99	ND (0.0246)	--	1.04	0.618	ND (0.264)	--	ND (0.753)	--
601153	TA2-2-TRC5-SL05-000-S	2-01-99	ND (0.0381)	--	0.962	0.507	0.153	0.208	ND (0.901)	--
601153	TA2-2-TRC5-SL06-000-S	2-01-99	ND (0.0366)	--	0.954	0.524	ND (0.248)	--	ND (0.851)	--
601153	TA2-2-TRC5-SL07-000-S	2-01-99	0.0314	0.0262	0.927	0.486	ND (0.213)	--	ND (0.746)	--
601155	TA2-2-TRC5-SL08-000-S	2-02-99	ND (0.0555)	--	0.989	0.577	ND (0.278)	--	ND (0.773)	--
601155	TA2-2-TRC5-SL09-000-S	2-02-99	ND (0.0449)	--	0.737	0.423	ND (0.234)	--	0.445	0.417
601155	TA2-2-TRC5-SL10-000-S	2-02-99	ND (0.0549)	--	0.93	0.508	ND (0.274)	--	ND (0.685)	--
601156	TA2-2-TRC5-SL11-000-S	2-03-99	0.0358	0.0303	0.861	0.485	ND (0.225)	--	ND (0.632)	--
601156	TA2-2-TRC5-SL12-000-S	2-03-99	0.0173	0.0223	0.911	0.497	ND (0.235)	--	ND (0.669)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601156	TA2-2-TRC5-SL13-000-S	2-03-99	ND (0.0412)	--	0.843	0.482	ND (0.221)	--	ND (0.607)	--
601593	TA2-2-TRC4-SL01-000-S	3-09-99	ND (0.0269)	--	0.687	0.371	ND (0.175)	--	ND (0.567)	--
601593	TA2-2-TRC4-SL02-000-S	3-09-99	ND (0.0361)	--	0.753	0.431	ND (0.196)	--	ND (0.555)	--
601593	TA2-2-TRC4-SL03-000-S	3-09-99	ND (0.0317)	--	0.797	0.427	**0.189**	0.166	0.92	0.5
601593	TA2-2-TRC4-SL04-000-S	3-09-99	ND (0.0341)	--	ND (0.15)	--	ND (0.197)	--	ND (0.574)	--
601593	TA2-2-TRC4-SL05-000-S	3-09-99	ND (0.0285)	--	0.735	0.418	0.137	0.153	0.573	0.691
601593	TA2-2-TRC4-SL06-000-S	3-09-99	ND (0.0288)	--	0.861	0.439	ND (0.193)	--	0.77	0.799
601593	TA2-2-TRC4-SL07-000-S	3-09-99	ND (0.032)	--	0.797	0.428	**0.193**	0.172	ND (0.638)	--
601593	TA2-2-TRC4-SL08-000-S	3-09-99	ND (0.0272)	--	0.642	0.417	ND (0.17)	--	ND (0.558)	--
601597	TA2-2-TRC3-SL01-000-S	3-10-99	ND (0.0362)	--	0.792	0.454	ND (0.203)	--	ND (0.539)	--
601597	TA2-2-TRC3-SL02-000-S	3-10-99	0.0319	0.0329	0.807	0.47	ND (0.221)	--	0.874	0.426
601597	TA2-2-TRC3-SL03-000-S	3-11-99	ND (0.0385)	--	0.807	0.449	ND (0.211)	--	ND (0.565)	--
601597	TA2-2-TRC3-SL04-000-S	3-11-99	0.051	0.028	0.788	0.454	ND (0.21)	--	ND (0.562)	--
601597	TA2-2-TRC3-SL05-000-S	3-11-99	ND (0.0391)	--	0.905	0.501	0.138	0.182	ND (0.588)	--
601597	TA2-2-TRC3-SL06-000-S	3-11-99	ND (0.0344)	--	0.802	0.421	ND (0.2)	--	ND (0.526)	--
601598	TA2-2-TRC3-SL07-000-S	3-15-99	ND (0.0303)	--	0.817	0.453	ND (0.226)	--	ND (0.775)	--
601598	TA2-2-TRC3-SL08-000-S	3-15-99	ND (0.0304)	--	0.831	0.407	ND (0.224)	--	ND (0.763)	--
601598	TA2-2-TRC3-SL09-000-S	3-15-99	ND (0.033)	--	0.712	0.419	ND (0.221)	--	ND (0.781)	--
601599	TA2-2-TRC3-SL10-000-S	3-22-99	ND (0.0428)	--	0.825	0.477	ND (0.237)	--	ND (0.671)	--
601599	TA2-2-TRC3-SL11-000-S	3-22-99	ND (0.0437)	--	0.772	0.449	ND (0.226)	--	0.916	1.15
601599	TA2-2-TRC3-SL12-000-S	3-22-99	ND (0.0429)	--	0.755	0.455	ND (0.229)	--	ND (0.632)	--
601599	TA2-2-TRC3-SL13-000-S	3-22-99	ND (0.0365)	--	0.779	0.397	ND (0.196)	--	ND (0.492)	--
601599	TA2-2-TRC3-SL14-000-S	3-22-99	ND (0.035)	--	0.85	0.446	ND (0.203)	--	ND (0.564)	--
601599	TA2-2-TRC3-SL15-000-S	3-22-99	ND (0.0364)	--	0.81	0.481	ND (0.216)	--	ND (0.591)	--
601599	TA2-2-TRC3-SL16-000-S	3-22-99	ND (0.0353)	--	0.813	1.2	ND (0.203)	--	ND (0.548)	--
601602	TA2-2-TRC2-SL01-000-S	4-07-99	ND (0.0379)	--	0.763	0.507	ND (0.226)	--	ND (0.621)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601602	TA2-2-TRC2-SL02-000-S	4-07-99	ND (0.0211)	--	0.877	0.498	ND (0.22)	--	ND (0.595)	--
601602	TA2-2-TRC2-SL03-000-S	4-07-99	ND (0.041)	--	0.794	0.358	ND (0.222)	--	ND (0.607)	--
601602	TA2-2-TRC2-SL04-000-S	4-07-99	ND (0.039)	--	0.825	0.479	0.169	0.185	ND (0.582)	--
601602	TA2-2-TRC2-SL05-000-S	4-07-99	ND (0.0323)	--	0.79	0.851	ND (0.226)	--	ND (0.777)	--
601602	TA2-2-TRC2-SL06-000-S	4-07-99	ND (0.0305)	--	0.656	0.36	0.106	0.173	ND (0.735)	--
601602	TA2-2-TRC2-SL07-000-S	4-07-99	ND (0.0321)	--	0.716	0.416	ND (0.219)	--	ND (0.771)	--
601602	TA2-2-TRC2-SL08-000-S	4-07-99	ND (0.0301)	--	0.704	0.428	ND (0.218)	--	ND (0.772)	--
601604	TA2-2-TRC1-SL01-000-S	4-08-99	ND (0.032)	--	0.755	0.448	ND (0.214)	--	ND (0.732)	--
601604	TA2-2-TRC1-SL02-000-S	4-08-99	ND (0.0327)	--	0.791	0.467	0.163	0.192	ND (0.829)	--
601604	TA2-2-TRC1-SL03-000-S	4-08-99	ND (0.0357)	--	0.771	0.448	ND (0.26)	--	ND (0.864)	--
601604	TA2-2-TRC1-SL04-000-S	4-08-99	ND (0.0336)	--	0.743	0.426	0.122	0.179	ND (0.794)	--
601604	TA2-2-TRC1-SL05-000-S	4-08-99	ND (0.0371)	--	0.922	0.501	ND (0.258)	--	ND (0.851)	--
601604	TA2-2-TRC1-SL06-000-S	4-08-99	ND (0.031)	--	0.761	0.428	ND (0.237)	--	ND (0.81)	--
601604	TA2-2-TRC1-SL07-000-S	4-08-99	ND (0.0333)	--	0.75	0.424	ND (0.23)	--	ND (0.767)	--
601604	TA2-2-TRC1-SL08-000-S	4-08-99	ND (0.0336)	--	0.811	0.43	ND (0.228)	--	ND (0.782)	--
601606	TA2-2-TRB1-SL01-000-S	4-13-99	ND (0.0182)	--	ND (0.134)	--	0.178	0.17	ND (0.711)	--
601606	TA2-2-TRB1-SL02-000-S	4-13-99	ND (0.0313)	--	0.693	0.401	ND (0.218)	--	ND (0.752)	--
601606	TA2-2-TRB1-SL03-000-S	4-13-99	ND (0.0322)	--	0.718	0.407	ND (0.224)	--	ND (0.767)	--
601606	TA2-2-TRB1-SL04-000-S	4-13-99	ND (0.0292)	--	0.828	0.416	ND (0.214)	--	ND (0.732)	--
601606	TA2-2-TRB1-SL05-000-S	4-13-99	ND (0.0309)	--	0.852	0.473	ND (0.21)	--	ND (0.725)	--
601608	TA2-2-TRB1-SL06-000-S	4-14-99	ND (0.0453)	--	0.738	0.466	0.228	0.212	ND (0.668)	--
601608	TA2-2-TRB1-SL07-000-S	4-14-99	ND (0.0467)	--	0.857	0.505	ND (0.128)	--	ND (0.668)	--
601608	TA2-2-TRB1-SL08-000-S	4-14-99	ND (0.0406)	--	0.797	0.812	0.122	0.203	ND (0.649)	--
601608	TA2-2-TRB1-SL09-000-S	4-14-99	ND (0.0376)	--	0.668	0.341	ND (0.0957)	--	ND (0.55)	--
601608	TA2-2-TRB1-SL10-000-S	4-14-99	ND (0.0343)	--	0.683	0.393	ND (0.192)	--	0.656	0.375
601727	TA2-2-TRB1-SL11-000-S	4-19-99	0.0307	0.00447	0.896	0.473	ND (0.222)	--	ND (0.755)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601727	TA2-2-TRB1-SL12-000-S	4-19-99	ND (0.0158)	--	0.799	0.454	ND (0.223)	--	ND (0.765)	--
601727	TA2-2-TRB2-SL01-000-S	4-19-99	ND (0.0142)	--	0.746	0.387	ND (0.201)	--	ND (0.672)	--
601727	TA2-2-TRB2-SL02-000-S	4-19-99	ND (0.0288)	--	0.781	0.421	ND (0.215)	--	ND (0.732)	--
601730	TA2-2-TRB3-SL01-000-S	4-27-99	ND (0.0286)	--	0.811	0.42	ND (0.205)	--	ND (0.7)	--
601730	TA2-2-TRB3-SL02-000-S	4-27-99	ND (0.0277)	--	0.702	0.484	ND (0.21)	--	ND (0.694)	--
601730	TA2-2-TRB3-SL03-000-S	4-27-99	ND (0.0291)	--	0.728	0.416	0.087	0.163	0.614	0.545
601730	TA2-2-TRB3-SL04-000-S	4-27-99	ND (0.0279)	--	0.717	0.417	ND (0.208)	--	ND (0.708)	--
601732	TA2-2-TRB3-SL05-000-S	4-28-99	ND (0.0278)	--	0.767	0.404	ND (0.2)	--	ND (0.647)	--
601732	TA2-2-TRB3-SL06-000-S	4-28-99	ND (0.0281)	--	0.819	0.428	ND (0.204)	--	ND (0.716)	--
601732	TA2-2-TRB3-SL07-000-S	4-28-99	ND (0.0118)	--	0.642	0.347	ND (0.185)	--	ND (0.653)	--
601732	TA2-2-TRB3-SL08-000-S	4-28-99	ND (0.0159)	--	0.786	0.364	ND (0.208)	--	ND (0.705)	--
601733	TA2-2-TRB3-SL09-000-S	5-12-99	ND (0.0401)	--	ND (0.179)	--	ND (0.215)	--	0.76	0.577
601733	TA2-2-TRB3-SL10-000-S	5-12-99	ND (0.036)	--	0.848	0.447	ND (0.204)	--	ND (0.589)	--
601733	TA2-2-TRB3-SL11-000-S	5-12-99	ND (0.0359)	--	0.735	0.45	0.154	0.189	ND (0.568)	--
601733	TA2-2-TRB3-SL12-000-S	5-12-99	ND (0.0347)	--	0.951	0.424	ND (0.246)	--	ND (0.838)	--
601733	TA2-2-TRB3-SL13-000-S	5-12-99	ND (0.0313)	--	0.78	1.41	ND (0.226)	--	ND (0.787)	--
601733	TA2-2-TRB3-SL14-000-S	5-12-99	ND (0.0304)	--	0.873	0.458	ND (0.224)	--	ND (0.769)	--
601742	TA2-2-TRB3-SL15-000-S	6-02-99	ND (0.0305)	--	0.849	0.45	0.12	0.171	ND (0.721)	--
601742	TA2-2-TRB3-SL16-000-S	6-02-99	ND (0.0259)	--	0.744	0.382	0.169	0.16	**2.88**	1.5
602795	TA2-2-TRB3-SL16-001-S	10-20-99	ND (0.0371)	--	0.805	0.429	ND (0.192)	--	ND (0.522)	--
601742	TA2-2-TRB3-SL17-000-S	6-02-99	ND (0.0295)	--	ND (0.12)	--	ND (0.205)	--	ND (0.686)	--
601744	TA2-2-TRA3-SL01-000-S	6-09-99	ND (0.0318)	--	0.814	0.476	0.143	0.183	ND (0.766)	--
601744	TA2-2-TRA3-SL02-000-S	6-09-99	ND (0.0322)	--	0.76	0.409	ND (0.221)	--	ND (0.75)	--
601744	TA2-2-TRA3-SL03-000-S	6-09-99	ND (0.0336)	--	0.828	0.389	0.175	0.194	ND (0.848)	--
601744	TA2-2-TRA3-SL04-000-S	6-09-99	ND (0.0351)	--	ND (0.184)	--	0.113	0.195	ND (0.875)	--
601744	TA2-2-TRA3-SL05-000-S	6-09-99	ND (0.0367)	--	0.879	0.495	ND (0.241)	--	ND (0.85)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602084	TA2-2-TRA3-SL06-000-S	6-17-99	0.0127	0.00747	0.747	0.413	ND (0.211)	--	ND (0.741)	--
602084	TA2-2-TRA3-SL07-000-S	6-17-99	ND (0.0321)	--	0.85	0.454	ND (0.226)	--	ND (0.792)	--
602084	TA2-2-TRA3-SL08-000-S	6-17-99	ND (0.0372)	--	0.785	1.55	ND (0.252)	--	ND (0.856)	--
602084	TA2-2-TRA3-SL09-000-S	6-17-99	0.0114	0.012	0.7	0.451	ND (0.238)	--	ND (0.796)	--
602084	TA2-2-TRA3-SL10-000-S	6-17-99	ND (0.0304)	--	0.743	0.337	ND (0.219)	--	ND (0.759)	--
602084	TA2-2-TRA3-SL11-000-S	6-17-99	ND (0.0375)	--	0.969	0.489	ND (0.252)	--	ND (0.837)	--
602084	TA2-2-TRA3-SL12-000-S	6-17-99	ND (0.0325)	--	0.822	0.432	ND (0.226)	--	ND (0.761)	--
602084	TA2-2-TRA3-SL13-000-S	6-17-99	ND (0.0321)	--	0.898	0.481	ND (0.237)	--	ND (0.804)	--
602085	TA2-2-TRA3-SL14-000-S	6-21-99	ND (0.0313)	--	ND (0.141)	--	0.1	0.178	ND (0.775)	--
602085	TA2-2-TRA3-SL15-000-S	6-21-99	ND (0.0324)	--	ND (0.146)	--	ND (0.228)	--	ND (0.803)	--
602085	TA2-2-TRA3-SL16-000-S	6-21-99	ND (0.028)	--	0.858	0.447	ND (0.214)	--	ND (0.726)	--
602089	TA2-2-TRA2-SL01-000-S	6-30-99	ND (0.033)	--	0.89	0.429	ND (0.219)	--	ND (0.762)	--
602089	TA2-2-TRA2-SL02-000-S	6-30-99	ND (0.0463)	--	**3.58**	2.33	ND (0.332)	--	ND (1.16)	--
602089	TA2-2-TRA2-SL03-000-S	6-30-99	ND (0.0363)	--	0.784	0.37	ND (0.242)	--	ND (0.842)	--
602089	TA2-2-TRA2-SL04-000-S	6-30-99	ND (0.036)	--	0.767	0.438	ND (0.247)	--	ND (0.864)	--
602089	TA2-2-TRA2-SL05-000-S	6-30-99	ND (0.0334)	--	0.851	0.48	0.113	0.184	ND (0.778)	--
602091	TA2-2-TRA2-SL06-000-S	7-07-99	ND (0.032)	--	0.727	0.428	ND (0.218)	--	ND (0.744)	--
602091	TA2-2-TRA2-SL07-000-S	7-07-99	ND (0.033)	--	0.812	0.486	0.161	0.189	ND (0.846)	--
602094	TA2-2-TRA2-SL02-2ND-S	7-12-99	ND (0.03)	--	0.785	0.415	ND (0.217)	--	ND (0.748)	--
602094	TA2-2-TRA2-SL02-RE-S	7-12-99	ND (0.0333)	--	0.902	0.48	**0.18**	0.186	ND (0.805)	--
602096	TA2-2-TRA1-SL01-000-S	7-20-99	ND (0.0332)	--	0.93	0.517	ND (0.24)	--	ND (0.831)	--
602096	TA2-2-TRA1-SL02-000-S	7-20-99	ND (0.0295)	--	0.844	0.457	ND (0.21)	--	ND (0.733)	--
602096	TA2-2-TRA1-SL03-000-S	7-20-99	0.0166	0.0169	0.785	0.415	ND (0.21)	--	ND (0.746)	--
602096	TA2-2-TRA1-SL04-000-S	7-20-99	ND (0.0276)	--	ND (0.117)	--	ND (0.211)	--	ND (0.699)	--
602100	TA2-2-TRA1-SL05-000-S	7-28-99	ND (0.0303)	--	0.942	0.5	ND (0.219)	--	ND (0.735)	--
602100	TA2-2-TRA1-SL06-000-S	7-28-99	ND (0.0261)	--	0.816	0.426	ND (0.196)	--	ND (0.68)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602599	TA2-2-P331-3C/F-BIN-S	8-18-99	0.029	0.0355	0.869	0.486	ND (0.208)	--	ND (0.571)	--
602599	TA2-2-P331-4C/F-BIN-S	8-18-99	ND (0.0417)	--	0.93	0.444	0.113	0.181	ND (0.575)	--
602920	TA2-2-TR2-P10-SL1-S	11-11-99	ND (0.0244)	--	ND (0.11)	--	0.102	0.143	ND (0.614)	--
602920	TA2-2-TR2-P10-SL2-S	11-11-99	ND (0.0269)	--	ND (0.107)	--	0.105	0.143	ND (0.628)	--
602931	TA2-2-TR2-P8-SL1-S	11-23-99	ND (0.0275)	--	0.824	0.437	ND (0.199)	--	ND (0.661)	--
602931	TA2-2-TR2-P8-SL2-S	11-23-99	ND (0.0275)	--	ND (0.125)	--	0.0793	0.148	ND (0.659)	--
602931	TA2-2-TR2-P8-SL3-S	11-23-99	ND (0.0275)	--	0.75	0.681	0.14	0.161	ND (0.697)	--
602599	TA2-2-TR2-P12-SL1-S	8-18-99	ND (0.038)	--	0.871	0.624	ND (0.2)	--	ND (0.549)	--
602599	TA2-2-TR2-P12-SL2-S	8-18-99	ND (0.0357)	--	0.731	0.405	0.112	0.178	0.998	1.15
602599	TA2-2-TR2-P12-SL3-S	8-18-99	ND (0.0388)	--	0.797	0.432	0.151	0.187	ND (0.523)	--
602599	TA2-2-TR2-P12-SL4-S	8-18-99	ND (0.0345)	--	ND (0.137)	--	0.102	0.172	0.915	0.508
602599	TA2-2-TR2-P12-SL5-S	8-18-99	ND (0.0369)	--	ND (0.164)	--	ND (0.209)	--	ND (0.595)	--
602605	TA2-2-TR2-P12-SL6-S	8-23-99	ND (0.0382)	--	1.1	1.61	ND (0.266)	--	ND (0.934)	--
602612	TA2-2-TR2-P12-SL7-S	8-31-99	ND (0.0345)	--	0.872	0.462	ND (0.231)	--	ND (0.818)	--
602612	TA2-2-TR2-P12-SL8-S	8-31-99	ND (0.0300)	--	0.704	0.407	ND (0.215)	--	1.16	1.29
601740	TA2-2-P298-0C/F-BIN-S	5-27-99	ND (0.0316)	--	0.803	0.386	ND (0.198)	--	1.2	0.612
601740	TA2-2-P298-1C/F-BIN-S	5-27-99	**0.247**	0.0457	0.78	0.444	ND (0.206)	--	ND (0.669)	--
601740	TA2-2-P298-2C/F-BIN-S	5-27-99	0.0425	0.0347	0.934	0.517	ND (0.226)	--	ND (0.723)	--
602092	TA2-2-P298-3C/F-BIN-S	7-07-99	ND (0.0193)	--	0.776	0.422	0.107	0.197	ND (0.848)	--
602612	TA2-2-P333-6C/F-BIN-S	8-31-99	0.0271	0.0211	0.828	0.429	0.101	0.165	ND (0.722)	--
602618	TA2-2-TR1-P6-SL1-S	9-02-99	ND (0.0284)	--	0.885	0.395	ND (0.216)	--	ND (0.738)	--
602618	TA2-2-TR1-P6-SL2-S	9-02-99	ND (0.0302)	--	ND (0.136)	--	ND (0.216)	--	ND (0.755)	--
602618	TA2-2-TR1-P6-SL3-S	9-02-99	ND (0.0275)	--	0.905	0.447	ND (0.199)	--	ND (0.695)	--
602618	TA2-2-TR1-P6-SL4-S	9-02-99	ND (0.0293)	--	0.92	0.487	0.145	0.173	ND (0.753)	--
602618	TA2-2-TR1-P6-SL5-S	9-02-99	ND (0.03)	--	0.713	0.372	ND (0.211)	--	ND (0.693)	--
602618	TA2-2-TR1-P6-SL6-S	9-02-99	ND (0.0273)	--	ND (0.125)	--	**0.237**	0.159	ND (0.675)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602618	TA2-2-TR1-P6-SL7-S	9-02-99	ND (0.0282)	--	0.785	0.413	ND (0.202)	--	ND (0.683)	--
602618	TA2-2-TR1-P6-SL8-S	9-02-99	ND (0.0278)	--	0.759	0.389	0.0958	0.155	ND (0.683)	--
602618	TA2-2-TR1-P6-SL9-S	9-02-99	ND (0.03)	--	ND (0.132)	--	ND (0.22)	--	ND (0.748)	--
602618	TA2-2-TR1-P6-SL10-S	9-02-99	ND (0.0274)	--	0.78	0.403	ND (0.196)	--	ND (0.685)	--
602618	TA2-2-TR1-P6-SL11-S	9-02-99	ND (0.0314)	--	0.704	0.439	ND (0.207)	--	ND (0.745)	--
602782	TA2-2-TR1-P4-SL1-S	9-22-99	ND (0.0393)	--	0.583	0.174	ND (0.207)	--	ND (0.574)	--
602782	TA2-2-TR1-P4-SL2-S	9-22-99	ND (0.0343)	--	0.74	0.392	ND (0.178)	--	ND (0.439)	--
602782	TA2-2-TR1-P4-SL3-S	9-22-99	ND (0.0349)	--	ND (0.153)	--	0.15	0.163	ND (0.52)	--
602787	TA2-2-TR1-P3-SL1-S	10-13-99	ND (0.0274)	--	0.606	0.284	ND (0.186)	--	ND (0.682)	--
602787	TA2-2-TR1-P3-SL2-S	10-13-99	ND (0.0303)	--	0.844	0.391	ND (0.208)	--	ND (0.749)	--
602789	TA2-2-TR1-P2-SL1-S	10-18-99	0.0369	0.0598	0.593	0.349	ND (0.205)	--	ND (0.71)	--
602789	TA2-2-TR1-P2-SL2-S	10-18-99	ND (0.0315)	--	0.829	0.399	0.0981	0.165	ND (0.745)	--
602789	TA2-2-TR1-P2-SL3-S	10-18-99	0.0088	0.0142	0.812	0.451	ND (0.245)	--	ND (0.877)	--
602789	TA2-2-TR1-P2-SL4-S	10-18-99	ND (0.0313)	--	0.898	0.49	ND (0.211)	--	ND (0.757)	--
602789	TA2-2-TR1-P2-SL5-S	10-18-99	ND (0.0191)	--	0.779	0.423	0.178	0.174	ND (0.79)	--
602789	TA2-2-TR1-P2-SL6-S	10-18-99	ND (0.0309)	--	0.65	0.393	ND (0.213)	--	ND (0.727)	--
602794	TA2-2-TR1-P2-SL7-S	10-19-99	ND (0.0355)	--	0.725	0.37	ND (0.187)	--	ND (0.562)	--
602794	TA2-2-TR1-P2-SL8-S	10-19-99	ND (0.0358)	--	ND (0.156)	--	0.0766	0.147	ND (0.534)	--
602801	TA2-2-TR1-P1-SL1-S	10-28-99	ND (0.0277)	--	ND (0.116)	--	ND (0.196)	--	ND (0.681)	--
602801	TA2-2-TR1-P1-SL2-S	10-28-99	ND (0.0249)	--	ND (0.103)	--	ND (0.178)	--	ND (0.605)	--
602801	TA2-2-TR1-P1-SL3-S	10-28-99	ND (0.0257)	--	0.708	0.367	ND (0.184)	--	ND (0.628)	--
602801	TA2-2-TR1-P1-SL4-S	10-28-99	ND (0.026)	--	0.6	0.326	0.116	0.145	ND (0.617)	--
602801	TA2-2-TR1-P1-SL5-S	10-28-99	ND (0.0266)	--	0.571	0.292	ND (0.187)	--	ND (0.647)	--
602608	TA2-2-P191-5C/F-BIN-S	8-23-99	0.0457	0.022	0.785	0.974	ND (0.0819)	--	1.69	0.907
602783	TA2-2-P339-7C/F-BIN-S	9-30-99	0.0183	0.0223	0.692	0.391	0.088	0.17	0.648	0.627
602801	TA2-2-P350-3C/F-BIN-S	10-28-99	0.00863	0.0106	0.78	0.359	ND (0.214)	--	ND (0.731)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602801	TA2-2-P350-4C/F-BIN-S	10-28-99	ND (0.027)	--	0.9	0.448	0.122	0.155	ND (0.703)	--
602810	TA2-2-P360-5C/F-BINS-S	11-15-99	ND (0.0425)	--	0.584	0.333	ND (0.318)	--	ND (0.935)	--
602965	TA2-2-TR2-P9-SL1-S	1-03-00	ND (0.0341)	--	0.757	0.394	ND (0.178)	--	ND (0.478)	--
602965	TA2-2-TR2-P9-SL2-S	1-03-00	ND (0.0329)	--	0.789	0.412	ND (0.114)	--	0.607	0.423
602965	TA2-2-TR2-P9-SL3-S	1-03-00	ND (0.0303)	--	0.756	0.444	ND (0.171)	--	0.707	0.86
602966	TA2-2-TR2-P7-SL1-S	1-03-00	ND (0.026)	--	0.749	0.392	ND (0.181)	--	ND (0.635)	--
602966	TA2-2-TR2-P7-SL2-S	1-03-00	ND (0.0278)	--	0.772	0.395	ND (0.197)	--	ND (0.69)	--
602966	TA2-2-TR2-P8-SL1-S	1-03-00	ND (0.028)	--	0.812	0.519	ND (0.2)	--	ND (0.662)	--
602966	TA2-2-TR2-P8-SL2-S	1-03-00	ND (0.0256)	--	0.855	0.434	ND (0.186)	--	ND (0.643)	--
602969	TA2-2-TR2-P6-SL1-S	1-10-00	ND (0.0261)	--	0.785	0.574	0.0814	0.149	ND (0.664)	--
602969	TA2-2-TR2-P6-SL2-S	1-10-00	ND (0.0246)	--	0.667	0.325	ND (0.176)	--	ND (0.608)	--
602969	TA2-2-TR2-P6-SL3-S	1-10-00	ND (0.0264)	--	0.706	0.383	ND (0.189)	--	ND (0.647)	--
602969	TA2-2-TR2-P6-SL4-S	1-10-00	ND (0.024)	--	0.637	0.335	ND (0.174)	--	ND (0.582)	--
602973	TA2-2-TR2-P543-SL1-S	1-24-00	ND (0.0264)	--	0.788	0.4	ND (0.192)	--	ND (0.655)	--
602973	TA2-2-TR2-P543-SL2-S	1-24-00	ND (0.0287)	--	0.891	0.454	ND (0.202)	--	ND (0.722)	--
602973	TA2-2-TR2-P543-SL3-S	1-24-00	ND (0.0268)	--	0.677	0.379	ND (0.192)	--	ND (0.654)	--
602973	TA2-2-TR2-P543-SL4-S	1-24-00	ND (0.0252)	--	0.597	0.351	0.125	0.0202	ND (0.67)	--
602973	TA2-2-TR2-P543-SL5-S	1-24-00	ND (0.0266)	--	0.627	0.327	ND (0.193)	--	ND (0.644)	--
602979	TA2-2-TR2-P2/1-SL1-S	2-09-00	ND (0.0309)	--	0.689	0.379	ND (0.173)	--	ND (0.467)	--
602979	TA2-2-TR2-P2/1-SL2-S	2-09-00	ND (0.0333)	--	0.874	0.486	ND (0.184)	--	ND (0.494)	--
602979	TA2-2-TR2-P2/1-SL3-S	2-09-00	ND (0.033)	--	0.739	0.422	ND (0.179)	--	ND (0.456)	--
602979	TA2-2-TR2-P2/1-SL4-S	2-09-00	ND (0.0329)	--	ND (0.141)	--	ND (0.182)	--	ND (0.51)	--
602979	TA2-2-TR3-P2/3-SL1-S	2-09-00	ND (0.0342)	--	0.749	0.417	ND (0.182)	--	ND (0.524)	--
602979	TA2-2-TR3-P2/3-SL2-S	2-09-00	ND (0.0347)	--	0.718	0.393	ND (0.185)	--	ND (0.508)	--
602979	TA2-2-TR3-P2/3-SL3-S	2-09-99	ND (0.0321)	--	0.789	0.432	ND (0.185)	--	ND (0.497)	--
602979	TA2-2-TR3-P2/3-SL4-S	2-09-00	ND (0.0332)	--	0.753	0.428	0.162	0.158	ND (0.491)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603059	TA2-2-TR3-P456-SL1-S	2-28-00	ND (0.0294)	--	0.774	0.436	0.099	0.149	ND (0.484)	--
603059	TA2-2-TR3-P456-SL2-S	2-28-00	ND (0.034)	--	ND (0.14)	--	ND (0.186)	--	ND (0.521)	--
603059	TA2-2-TR3-P456-SL3-S	2-28-00	ND (0.036)	--	0.594	0.356	ND (0.183)	--	ND (0.517)	--
603059	TA2-2-TR3-P456-SL4-S	2-28-00	ND (0.0358)	--	0.616	0.319	0.13	0.236	ND (0.527)	--
603059	TA2-2-TR3-P456-SL5-S	2-28-00	ND (0.0323)	--	0.731	0.391	ND (0.187)	--	0.831	0.46
603059	TA2-2-TR3-P456-SL6-S	2-28-00	ND (0.0317)	--	0.647	1.16	ND (0.188)	--	ND (0.493)	--
603069	TA2-2-TR3-P789-SL1-S	3-02-00	ND (0.029)	--	0.741	0.381	ND (0.199)	--	ND (0.682)	--
603069	TA2-2-TR3-P789-SL2-S	3-02-00	ND (0.0259)	--	0.711	0.388	0.135	0.156	ND (0.648)	--
603069	TA2-2-TR3-P789-SL3-S	3-02-00	ND (0.0287)	--	0.652	0.349	ND (0.198)	--	ND (0.683)	--
603069	TA2-2-TR3-P789-SL4-S	3-02-00	ND (0.0308)	--	0.83	0.431	ND (0.202)	--	ND (0.705)	--
603069	TA2-2-TR3-P789-SL5-S	3-02-00	ND (0.0163)	--	ND (0.117)	--	ND (0.203)	--	ND (0.7)	--
602595	TA2-2-TR3-P10-SL1-S	8-12-99	ND (0.0419)		0.948	0.451	ND (0.203)		ND (0.588)	
602595	TA2-2-TR3-P10-SL2-S	8-12-99	ND (0.0426)		0.960	0.463	ND (0.204)		0.866	1.54
Overburden Soils										
600070	TA2-2-OVER-0001-SL2-S	4-16-98	0.0229	0.0271	0.772	0.614	ND (0.23)	--	ND (3.24)	--
600080	TA2-2-OVW4-0001-SL5-S	4-29-98	0.0284	0.0136	0.693	0.347	ND (0.194)	--	ND (1.7)	--
600082	TA2-2-OVW4-0001-SL8-S	5-04-98	ND (0.0305)	--	0.645	0.312	ND (0.225)	--	ND (3.14)	--
600082	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (0.029)	--	0.688	0.387	ND (0.219)	--	ND (2.87)	--
600082	TA2-2-SLPE-0001-SL9-S	5-04-98	ND (0.0272)	--	0.664	0.347	ND (0.176)	--	ND (1.26)	--
600082	TA2-2-SLPE-SL14-000-S	5-04-98	ND (0.0321)	--	0.618	0.3	ND (0.228)	--	ND (3)	--
600276	TA2-2-SLPE-SL16-000-S	5-18-98	ND (0.0285)	--	0.672	0.323	ND (0.034)	--	ND (2.9)	--
600276	TA2-2-SLPE-SL19-000-S	5-18-98	0.0107	0.00238	0.73	0.349	ND (0.0371)	--	ND (3.2)	--
600276	TA2-2-SLPE-SL22-000-S	5-18-98	ND (0.0288)	--	0.715	0.338	ND (0.0325)	--	ND (2.85)	--
600276	TA2-2-SLPE-SL23-000-S	5-18-98	ND (0.0272)	--	0.671	0.321	ND (0.0326)	--	ND (2.91)	--
600276	TA2-2-SLPE-SL32-000-S	5-18-98	ND (0.0274)	--	0.736	0.35	ND (0.031)	--	ND (2.73)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600276	TA2-2-SLPE-SL34-000-S	5-18-98	ND (0.0288)	--	0.738	1.31	ND (0.0337)	--	ND (2.96)	--
600492	TA2-2-SLPE-SL39-000-S	9-21-98	ND (0.03)	--	0.69	0.356	0.0812	0.139	0.81	0.486
600492	TA2-2-SLPE-SL41-000-S	9-21-98	ND (0.0335)	--	0.646	0.36	0.095	0.145	ND (0.518)	--
602100	TA2-2-SLPE-SL45-000-S	7-28-99	ND (0.0364)	--	0.871	0.466	ND (0.24)	--	ND (0.818)	--
602100	TA2-2-SLPE-SL46-000-S	7-28-99	ND (0.0335)	--	0.891	0.488	0.0993	0.194	ND (0.813)	--
600280	TA2-2-OVTE-SL03-000-S	5-26-98	ND (0.0273)	--	0.747	0.365	ND (0.203)	--	ND (2.88)	--
600280	TA2-2-OVTE-SL08-000-S	5-26-98	ND (0.0309)	--	0.713	0.373	ND (0.219)	--	ND (3.03)	--
600284	TA2-2-OVTE-SL11-000-S	6-01-98	ND (0.0447)	--	0.564	0.348	ND (0.28)	--	ND (2.4)	--
600284	TA2-2-OVTE-SL11-000-DUP	6-01-98	ND (0.041)	--	0.394	0.278	ND (0.248)	--	ND (2.13)	--
600291	TA2-2-OVA5-SL05-000-S	6-10-98	ND (0.0289)	--	0.659	0.325	ND (0.207)	--	ND (2.96)	--
600291	TA2-2-OVA5-SL11-000-S	6-10-98	ND (0.0309)	--	0.687	0.345	ND (0.226)	--	ND (3.14)	--
600291	TA2-2-OVA5-SL13-000-S	6-10-98	ND (0.027)	--	0.66	0.439	ND (0.207)	--	ND (2.97)	--
600460	TA2-2-OVD1-SL01-000-S	7-07-98	ND (0.0332)	--	0.784	0.451	ND (0.181)	--	ND (1.22)	--
600460	TA2-2-OVD2-SL02-000-S	7-07-98	ND (0.0384)	--	0.762	0.383	ND (0.2)	--	1.08	0.699
600464	TA2-2-OVD3-SL01-000-S	7-13-98	ND (0.0438)	--	0.86	0.456	ND (0.291)	--	ND (4.18)	--
600473	TA2-2-OVD4-SL03-000-S	8-17-98	0.0461	0.0287	0.674	0.327	ND (0.223)	--	0.659	0.477
600488	TA2-2-OVD7-SL02-000-S	9-14-98	0.0155	0.0281	0.706	0.611	ND (0.213)	--	0.76	0.414
600488	TA2-2-OVD8-SL02-000-S	9-14-98	ND (0.0269)	--	0.661	0.316	ND (0.194)	--	ND (0.66)	--
600497	TA2-2-I600-SORT-SEG-S	9-23-98	0.0384	0.0235	0.763	0.394	0.0265	0.148	0.911	0.654
600497	TA2-2-I607-SORT-SEG-S	9-23-98	0.0382	0.0248	0.682	0.387	ND (0.172)	--	ND (0.54)	--
600504	TA2-2-SLPE-SL44-000-S	11-03-98	ND (0.0325)	--	0.785	0.447	ND (0.203)	--	ND (0.542)	--
601608	TA2-2-OVB1-SL01-000-S	4-14-99	ND (0.0475)	--	0.844	0.424	0.159	0.206	ND (0.652)	--
601608	TA2-2-OVB1-SL02-000-S	4-14-99	ND (0.0516)	--	0.854	0.511	ND (0.26)	--	ND (0.637)	--
601729	TA2-2-OVB2-B301-000-S	4-22-99	ND (0.0301)	--	0.748	0.415	ND (0.22)	--	ND (0.738)	--
602091	TA2-2-OVA2-SL01-000-S	7-07-99	ND (0.0346)	--	0.942	0.507	ND (0.247)	--	ND (0.843)	--
602091	TA2-2-OVA3-SL01-000-S	7-07-99	ND (0.036)	--	0.831	0.496	ND (0.246)	--	ND (0.842)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602095	TA2-2-FILL-DIRT-1/2-S	7-19-99	ND (0.0292)	--	0.673	0.346	ND (0.205)	--	ND (0.712)	--
602095	TA2-2-FILL-DIRT-2/2-S	7-19-99	ND (0.0296)	--	ND (0.148)	--	ND (0.216)	--	ND (0.736)	--
602100	TA2-2-OVA1-SL01-000-S	7-28-99	ND (0.0267)	--	0.681	0.331	0.116	0.157	ND (0.655)	--
602100	TA2-2-OVA1-SL02-000-S	7-28-99	ND (0.0269)	--	0.826	0.424	ND (0.21)	--	ND (0.729)	--
602100	TA2-2-OVA1-SL03-000-S	7-28-99	ND (0.031)	--	0.91	0.432	ND (0.22)	--	ND (0.746)	--
602100	TA2-2-OVA1-SL04-000-S	7-28-99	ND (0.0337)	--	0.936	0.573	0.136	0.2	ND (0.876)	--
602100	TA2-2-OVA1-SL05-000-S	7-28-99	ND (0.0309)	--	ND (0.148)	--	0.114	0.173	ND (0.747)	--
602100	TA2-2-OVA1-SL06-000-S	7-28-99	ND (0.028)	--	0.774	1.06	ND (0.208)	--	ND (0.732)	--
602799	TA2-2-OVT1-P1-SL1-S	10-21-99	ND (0.0355)	--	0.759	0.416	ND (0.184)	--	ND (0.458)	--
602799	TA2-2-OVT1-P1-SL2-S	10-21-99	ND (0.0334)	--	ND (0.129)	--	ND (0.179)	--	ND (0.489)	--
602788	TA2-2-OVT1-P2-SL1-S	10-14-99	ND (0.0242)	--	0.705	0.363	ND (0.181)	--	ND (0.625)	--
602788	TA2-2-OVT1-P2-SL2-S	10-14-99	0.0180	0.0242	0.800	0.409	ND (0.194)	--	ND (0.664)	--
602788	TA2-2-OVT1-P3-SL1-S	10-14-99	ND (0.0253)	--	0.796	0.409	ND (0.192)	--	ND (0.661)	--
602788	TA2-2-OVT1-P3-SL2-S	10-14-99	ND (0.0251)	--	0.743	0.400	ND (0.109)	--	ND (0.650)	--
602782	TA2-2-OVT1-P4-SL1-S	9-22-99	ND (0.0366)	--	ND (0.157)	--	0.153	0.173	ND (0.54)	--
602101	TA2-2-OVT2-P12-SL1-S	8-03-99	ND (0.0358)	--	0.834	0.448	ND (0.23)	--	ND (0.816)	--
602101	TA2-2-OVT2-P12-SL2-S	8-03-99	ND (0.0274)	--	0.714	0.377	ND (0.199)	--	ND (0.67)	--
602920	TA2-2-OVT2-P10-SL1-S	11-11-99	ND (0.024)	--	0.722	0.375	0.0869	0.141	ND (0.606)	--
602810	TA2-2-OVT2-P9-SL1-S	11-15-99	ND (0.0318)	--	0.808	0.436	ND (0.215)	--	ND (0.753)	--
602931	TA2-2-OVT2-P8-SL1-S	11-23-99	ND (0.0266)	--	0.787	0.42	0.123	0.154	ND (0.674)	--
602965	TA2-2-OVT2-P8-SL1-S	1-03-00	ND (0.0382)	--	ND (0.151)	--	ND (0.2)	--	ND (0.546)	--
602965	TA2-2-OVT2-P7-SL1-S	1-03-00	ND (0.0307)	--	0.715	0.369	0.109	0.147	0.707	0.793
602966	TA2-2-OVT2-P5/1-SL1-S	1-03-00	0.0307	0.0282	0.738	0.568	ND (0.194)	--	ND (0.665)	--
602966	TA2-2-OVT2-P5/1-SL2-S	1-03-00	ND (0.0157)	--	0.774	0.891	ND (0.202)	--	ND (0.701)	--
602101	TA2-2-OVT3-P10-SL1-S	8-03-99	ND (0.0245)	--	0.709	0.38	ND (0.185)	--	ND (0.62)	--
602101	TA2-2-OVT3-P10-SL2-S	8-03-99	ND (0.0278)	--	0.906	0.439	ND (0.208)	--	ND (0.704)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602101	TA2-2-OVT3-P10-SL3-S	8-03-99	ND (0.026)	--	0.691	0.345	ND (0.194)	--	ND (0.648)	--
603059	TA2-2-OVT3-P789-SL1-S	2-28-00	ND (0.0333)	--	0.647	0.388	ND (0.183)	--	0.404	0.399
603059	TA2-2-OVT3-P789-SL2-S	2-28-00	ND (0.0312)	--	ND (0.137)	--	0.163	0.151	0.812	0.74
602979	TA2-2-OVT3-P456-SL1-S	2-09-00	ND (0.0361)	--	0.731	0.379	ND (0.19)	--	ND (0.521)	--
602979	TA2-2-OVT3-P2/3-SL1-S	2-09-00	ND (0.0374)	--	0.861	0.449	ND (0.197)	--	0.328	0.405
602616	TA2-2-OV1-P6-SL1-S	9-07-99	ND (0.0372)	--	ND (0.158)	--	0.102	0.148	ND (0.446)	--
602605	TA2-2-EAST-FNCE-001-S	8-23-99	ND (0.0378)	--	0.961	0.511	**0.187**	0.2	ND (0.875)	--
Soils Removed Directly from Artifacts (Bin Soils)										
602973	TA2-2-P225-2C/F-BIN-S	1-24-00	0.0296	0.0247	0.709	0.858	0.131	0.16	ND (0.716)	--
602973	TA2-2-P225-3C/F-BIN-S	1-24-00	0.0764	0.0212	0.807	0.38	ND (0.198)	--	ND (0.71)	--
602795	TA2-2-COBL-GRIZ-001-S	10-20-99	ND (0.0405)	--	0.689	0.37	ND (0.213)	--	ND (0.579)	--
602599	TA2-2-COBL-GRIZ-TRA-S	8-18-99	ND (0.0343)	--	0.684	0.38	ND (0.199)	--	ND (0.526)	--
603071	TA2-2-1LAY-DOWN-BIN-S	3-07-00	ND (0.0172)	--	0.599	0.708	**0.274**	0.17	ND (0.727)	--
603071	TA2-2-2LAY-DOWN-BIN-S	3-07-00	ND (0.0305)	--	0.589	0.346	ND (0.211)	--	ND (0.72)	--
603071	TA2-2-3LAY-DOWN-BIN-S	3-07-00	ND (0.0306)	--	0.692	0.39	0.104	0.165	ND (0.741)	--
603071	TA2-2-4LAY-DOWN-BIN-S	3-07-00	ND (0.0289)	--	0.717	0.773	ND (0.203)	--	ND (0.718)	--
603071	TA2-2-5LAY-DOWN-BIN-S	3-07-00	0.012	0.0146	0.827	0.44	0.128	0.175	ND (0.773)	--
603071	TA2-2-6LAY-DOWN-BIN-S	3-07-00	ND (0.0335)	--	0.742	0.379	ND (0.212)	--	ND (0.736)	--
603071	TA2-2-7LAY-DOWN-BIN-S	3-07-00	ND (0.0391)	--	ND (0.166)	--	0.0903	0.172	ND (0.56)	--
603071	TA2-2-8LAY-DOWN-BIN-S	3-07-00	ND (0.036)	--	0.759	0.426	ND (0.193)	--	0.869	0.481
603071	TA2-2-9LAY-DOWN-BIN-S	3-07-00	ND (0.0388)	--	0.802	0.453	ND (0.21)	--	ND (0.584)	--
603187	TA2-2-PIT-BURM-MIX-E-S	6-15-00	ND (0.0276)	--	0.748	0.692	ND (0.195)	--	ND (0.699)	--
603187	TA2-2-PIT-BURM-MIX-N-S	6-15-00	ND (0.0262)	--	0.68	0.363	0.0863	0.152	ND (0.667)	--
603187	TA2-2-PIT-BURM-MIX-S-S	6-15-00	ND (0.0273)	--	0.696	0.384	ND (0.194)	--	ND (0.667)	--
603187	TA2-2-PIT-BURM-MIX-W-S	6-15-00	ND (0.0264)	--	0.706	1.21	ND (0.196)	--	ND (0.667)	--
603195	TA2-2-CWLF-COBL-GRIZ-1	6-22-00	0.0345	0.0336	0.782	0.404	0.0826	0.154	ND (0.542)	--

Refer to footnotes at end of table.

Table 5.6.3-8 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603195	TA2-2-CWLF-COBL-GRIZ-2	6-22-00	ND (0.0169)	--	ND (0.114)	--	0.0971	0.149	ND (0.665)	--
603195	TA2-2-CWLF-COBL-GRIZ-3	6-22-00	0.0256	0.0227	0.746	0.395	ND (0.187)	--	ND (0.515)	--
603195	TA2-2-CWLF-COBL-GRIZ-5	6-22-00	0.0329	0.024	0.752	0.4	ND (0.188)	--	ND (0.673)	--
603195	TA2-2-CWLF-COBL-GRIZ-6	6-22-00	0.023	0.0257	ND (0.124)	--	ND (0.192)	--	ND (0.7)	--
603195	TA2-2-CWLF-COBL-GRIZ-7	6-22-00	0.0386	0.0147	0.973	0.737	ND (0.211)	--	ND (0.757)	--
603195	TA2-2-CWLF-COBL-GRIZ-8	6-22-00	ND (0.0217)	--	0.806	0.436	0.119	0.144	ND (0.512)	--
603195	TA2-2-CWLF-COBL-GRIZ-9	6-22-00	0.0332	0.022	0.838	0.436	ND (0.182)	--	ND (0.501)	--
603195	TA2-2-CYLI-NDER-BRM-S	6-22-00	ND (0.0326)	--	0.827	0.415	ND (0.172)	--	ND (0.463)	--
Background Soil Activities—North Area[d]			0.084[e]	NA	1.54	NA	0.18	NA	1.3	NA
Quality Assurance/Quality Control Samples (pCi/mL)										
600282	TA2-2-TR5-0001-EB	6-01-98	ND (0.0443)	--	ND (0.300)	--	ND (0.276)	--	ND (0.688)	--
600458	TA2-2-TRD1-0006-EB	7-06-98	ND (0.0467)	--	ND (0.360)	--	ND (0.313)	--	ND (0.641)	--
600471	TA2-2-TRD6-0015-EB	8-11-98	ND (0.0173)	--	ND (0.111)	--	ND (0.1)	--	ND (0.251)	--
601138	TA2-2-TRC7-0003-000EB	11-30-98	ND (0.0204)	--	ND (0.138)	--	ND (0.0952)	--	ND (0.225)	--

Note: Values in **bold** exceed background soil activities.

[a]Analysis request/chain-of-custody record.

[b]Sample naming scheme is provided in Table 5.6.2-1.

[c]Two standard deviations about the mean detected activity.

[d]From Dinwiddie September 1997.

[e]The more conservative, lower subsurface background activity is used as a benchmark for consistency with current risk screening assessment methodology.

ER = Environmental Restoration.
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected at or above the reported value, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/mL = Picocurie(s) per milliliter.
SWMU = Soil Waste Management Unit.
-- = Error not provided for nondetect results.

Table 5.6.3-9
Gamma Spectroscopy Minimum Detectable Activities Used for SWMU 2
Excavated Soil and Excavation Confirmatory Soil Sampling
March 1998–August 2000
(On-site Laboratory)

Radionuclide	Soil Sample MDA Range (pCi/g)
Actinium-228	0.0578–1.14
Americium-241	0.148–0.719
Antimony-122	0.0239–0.382
Antimony-124	0.0197–0.0539
Antimony-125	0.0579–0.135
Barium-133	0.0351–0.0824
Beryllium-7	0.179–0.443
Bismuth-212	0.196–0.543
Bismuth-214	0.0315–0.087
Cadmium-109	0.0315–2.06
Cadmium-115	0.0746–1.02
Cerium-139	0.0212–0.0414
Cerium-141	0.0288–0.0832
Cerium-144	0.168–0.341
Cesium-134	0.028–0.0606
Cesium-137	0.0117–0.0522
Cobalt-56	0.0143–0.0583
Cobalt-57	0.0154–0.0446
Cobalt-58	0.0194–0.0562
Cobalt-60	0.0257–0.0729
Chromium-51	0.134–0.447
Europium-152	0.0637–0.133
Europium-154	0.129–0.331
Europium-155	0.0517–0.205
Gadolinium-153	0.0566–0.151
Iodine-131	0.0193–0.0702
Iridium-192	0.0193–0.0469
Iron-59	0.0514–0.138
Lead-210	3.82–53.2
Lead-211	0.612–1.38
Lead-212	0.0295–0.23
Lead-214	0.0346–0.131
Manganese-52	0.0267–0.122
Manganese-54	0.0115–0.0633
Mercury-203	0.0234–0.0523
Molybdenum-99	0.219–2.16
Neodymium-147	0.0929–2.55
Neptunium-237	0.12–3.02
Nickel-57	0.035–2.9
Niobium-95	0.0661–1.21
Plutonium-239	185–642
Potassium-40	0.158–1.33
Protactinium-231	0.981–3.52

Refer to footnotes at end of table.

Table 5.6.3-9 (Concluded)
Gamma Spectroscopy Minimum Detectable Activities Used for SWMU 2
Excavated Soil and Excavation Confirmatory Soil Sampling
March 1998–August 2000
(On-site Laboratory)

Radionuclide	Soil Sample MDA Range (pCi/g)
Protactinium-233	0.0407–0.0943
Radium-223	0.116–0.432
Radium-224	0.04–0.241
Radium-226	0.376–1.03
Radium-228	0.0959–0.261
Radon-219	0.189–0.646
Ruthenium-103	0.021–0.0491
Ruthenium-106	0.114–0.509
Silver-108	0.0266–0.0684
Silver-110	0.0219–0.0629
Sodium-22	0.0166–0.0729
Sodium-24	0.0526–395
Strontium-85	0.0222–0.0695
Tantalum-182	0.0973–0.298
Tantalum-183	0.0805–1.6
Technicium-99	0.116–1.36
Thallium-201	0.0568–1.27
Thallium-207	8.95–26.1
Thallium-208	0.0447–0.143
Thorium-227	0.211–0.728
Thorium-228	0.257–0.898
Thorium-229	0.096–0.368
Thorium-232	0.0904–0.26
Tin-113	0.0218–0.0639
Uranium-235	0.0819–0.332
Uranium-238	0.262–3.03
Xenon-133	0.0577–1.8
Yttrium-88	0.016–0.0504
Zinc-65	0.0656–0.197
Zirconium-95	0.0366–0.105

MDA = Minimum detectable activity.
pCi/g = Picocurie(s) per gram.
SWMU = Solid Waste Management Unit.

Table 5.6.3-10
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
600009	TA2-2-ACF2-0001-15-S	3-12-98	**208,000**	103,600
600011	TA2-2-ACF3-0001-12-S	3-20-98	ND (110,400)	--
600040	TA2-2-ACF3-0001-SL1-S	3-23-98	**160,600**	163,400
600040	TA2-2-ACF4-0001-SL1-S	3-24-98	**164,800**	244,000
600042	TA2-2-ACF4-0001-12-S	3-25-98	**165,800**	168,200
600044	TA2-2-ACF4-0001-SL5-S	3-26-98	**51,400**	137,800
600045	TA2-2-ACF1-0001-SL2-S	4-01-98	**32,800**	131,600
600045	TA2-2-PTW1-0001-10-S	4-01-98	**510,000**	182,000
600060	TA2-2-PW12-0001-SL7-S	4-07-98	**113,400**	158,800
600063	TA2-2-PTW2-0001-12-S	4-09-98	**366,000**	184,200
600065	TA2-2-ACF2-0001-SL4-S	4-13-98	ND (170,200)	--
600065	TA2-2-PTW3-0001-12-S	4-13-98	**45,200**	134,800
600068	TA2-2-PTW3-0001-SL4-S	4-14-98	ND (159,200)	--
600070	TA2-2-OVER-0001-SL2-S	4-16-98	**190,600**	185,600
600073	TA2-2-PTW4-15-S	4-20-98	**132,400**	144,800
600075	TA2-2-PTW4-SL10-000-S	4-23-98	**67,000**	165,400
600075	TA2-2-PTW4-SL14-000-S	4-23-98	**210,000**	222,000
600075	TA2-2-PTW4-SL15-000-S	4-23-98	**162,800**	200,000
600080	TA2-2-OVW4-0001-SL5-S	4-29-98	**15,840**	184,600
600082	TA2-2-OVW4-0001-SL8-S	5-04-98	**18,480**	130,000
600082	TA2-2-SLPE-SL14-000-S	5-04-98	ND (175,200)	--
600082	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (175,200)	--
600082	TA2-2-SLPE-0001-SL9-S	5-04-98	ND (175,200)	--
600084	TA2-2-TRE1-SL06-000-S	5-06-98	**342,000**	304,000
600084	TA2-2-TRE1-SL13-000-S	5-06-98	**514,000**	292,000
600086	TA2-2-TRE2-SL07-000-S	5-11-98	**1,574,000**	452,000
600275	TA2-2-TRE4-0001-000-S	5-12-98	ND (31,400)	--
600276	TA2-2-SLPE-SL16-000-S	5-18-98	**52,400**	130,400
600276	TA2-2-SLPE-SL22-000-S	5-18-98	**79,400**	126,400
600276	TA2-2-SLPE-SL23-000-S	5-18-98	**41,800**	126,600
600276	TA2-2-SLPE-SL19-000-S	5-18-98	**94,600**	145,400
600276	TA2-2-SLPE-SL32-000-S	5-18-98	**74,000**	122,800
600276	TA2-2-SLPE-SL34-000-S	5-18-98	**62,000**	137,000
600278	TA2-2-TRE3-SL07-000-S	5-21-98	**1,220,000**	394,000
600278	TA2-2-TRE4-SL10-000-S	5-21-98	**1,182,000**	406,000
600280	TA2-2-OVTE-SL03-000-S	5-26-98	**250,000**	185,800
600280	TA2-2-OVTE-SL08-000-S	5-26-98	**76,200**	159,800
600284	TA2-2-TRE5-SL17-000-S	6-01-98	**610,000**	312,000
600284	TA2-2-TRE5-SL08-000-S	6-01-98	**550,000**	320,000
600284	TA2-2-OVTE-SL11-000-S	6-01-98	**119,600**	202,000
600284	TA2-2-OVTE-SL11-000-DUP	6-01-98	**208,000**	252,000

Refer to footnotes at end of table.

Table 5.6.3-10 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory)	6-08-98	**79,300**	**1,580**
600289	TA2-2-TRE6-SL22-000-S	6-08-98	**152,000**	200,000
600289	TA2-2-TRE6-SL22-000-DUP	6-08-98	**167,000**	202,000
600289	TA2-2-TRE6-SL09-000-S	6-08-98	**156,600**	190,200
600291	TA2-2-OVA5-SL05-000-S	6-10-98	**115,600**	164,600
600291	TA2-2-OVA5-SL11-000-S	6-10-98	ND (40,800)	--
600291	TA2-2-OVA5-SL13-000-S	6-10-98	**121,000**	204,000
600295	TA2-2-TRE7-SL25-000-S	6-17-98	**30,400**	228,000
600295	TA2-2-TRE7-SL13-000-S	6-17-98	**186,800**	226,000
600295	TA2-2-TRE7-SL08-000-S	6-17-98	**206,000**	220,000
600298	TA2-2-TRE7-SL55-000-S	6-23-98	**147,000**	188,000
600298	TA2-2-TRE7-SL37-000-S	6-23-98	**134,600**	193,000
600298	TA2-2-TRE7-SL49-000-S	6-23-98	**145,800**	187,800
600300	TA2-2-TRE8-SL01-000-S	6-25-98	**128,600**	178,000
600300	TA2-2-TRE8-SL14-000-S	6-25-98	**167,600**	160,200
600302	TA2-2-TRE8-SL07-000-S	6-29-98	**188,000**	157,200
600302	TA2-2-TRE8-SL21-000-S	6-29-98	**119,200**	135,600
600302	TA2-2-TRE8-SL29-000-S	6-29-98	**204,000**	154,600
600460	TA2-2-OVD1-SL01-000-S	7-07-98	**23,800**	110,800
600460	TA2-2-OVD2-SL02-000-S	7-07-98	ND (150,200)	--
600460	TA2-2-ACF5-SL06-000-S	7-07-98	**7,060**	139,200
600462	TA2-2-TRD1-SL02-000-S	7-07-98	**316,000**	218,000
600462	TA2-2-TRD1-SL06-000-S	7-07-98	**278,000**	173,000
600462	TA2-2-TRD1-SL09-000-S	7-07-98	**218,000**	230,000
600462	TA2-2-TRD1-SL12-000-S	7-07-98	**288,000**	175,600
600464	TA2-2-TRD2-SL01-000-S	7-13-98	**1,466,000**	414,000
600464	TA2-2-TRD2-SL05-000-S	7-13-98	**1,718,000**	430,000
600464	TA2-2-OVD3-SL01-000-S	7-13-98	**28,600**	173,600
600466	TA2-2-TRD3-SL03-000-S	7-20-98	**1,238,000**	356,000
600466	TA2-2-TRD3-SL06-000-S	7-20-98	**962,000**	332,000
600466	TA2-2-TRD3-SL12-000-S	7-20-98	**1,062,000**	344,000
600469	TA2-2-TRD4-SL03-000-S	8-10-98	**580,000**	224,000
600469	TA2-2-TRD4-SL03-000-DUP	8-10-98	**620,000**	240,000
600469	TA2-2-TRD4-SL07-000-S	8-10-98	**516,000**	254,000
600469	TA2-2-TRD4-SL14-000-S	8-10-98	**544,000**	238,000
600469	TA2-2-TRD4-SL05-000-S	8-10-98	**129,600**	152,000
600469	TA2-2-TRD5-SL05-000-DUP	8-10-98	**138,800**	178,600
600473	TA2-2-TRD6-SL19-000-S	8-17-98	ND (30,600)	--
600473	TA2-2-TRD6-SL23-000-S	8-17-98	**68,800**	220,000
600473	TA2-2-TRD6-SL15-000-S	8-17-98	**162,400**	222,000
600473	TA2-2-TRD6-SL03-000-S	8-17-98	ND (30,600)	--

Refer to footnotes at end of table.

Table 5.6.3-10 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
600473	TA2-2-OVD4-SL03-000-S	8-17-98	**55,400**	220,000
600473	TA2-2-TRD6-SL08-000-S	8-17-98	**314,000**	274,000
600488	TA2-2-OVD8-SL02-000-S	9-14-98	**196,800**	282,000
600488	TA2-2-TRD7-SL03-000-S	9-14-98	**1,040,000**	344,000
600488	TA2-2-TRD7-SL11-000-S	9-14-98	**1,148,000**	404,000
600488	TA2-2-TRD7-SL13-000-S	9-14-98	**1,536,000**	446,000
600488	TA2-2-TRD7-SL23-000-S	9-14-98	**896,000**	354,000
600488	TA2-2-OVD7-SL02-000-S	9-14-98	**284,000**	292,000
600492	TA2-2-SLPE-SL39-000-S	9-14-98	**87,000**	165,400
600492	TA2-2-SLPE-SL41-000-S	9-14-98	ND (22,000)	--
600501	TA2-2-TRD8-SL04-000-S	10-20-98	**264,000**	226,000
600501	TA2-2-TRD8-SL01-049-S	10-20-98	**162,400**	228,000
600501	TA2-2-TRD8-SL45-000-S	10-20-98	**416,000**	266,000
600501	TA2-2-TRD8-SL33-000-S	10-20-98	**612,000**	284,000
600501	TA2-2-TRD8-SL16-000-S	10-20-98	**566,000**	286,000
600501	TA2-2-TRD8-SL27-000-S	10-20-98	**414,000**	274,000
600504	TA2-2-TRC9-SL19-000-S	11-03-98	**624,000**	734,000
600504	TA2-2-SLPE-SL44-000-S	11-03-98	**240,000**	756,000
600504	TA2-2-TRC9-SL01-000-S	11-03-98	**31,800**	688,000
600504	TA2-2-TRC9-SL05-000-S	11-03-98	ND (68,000)	--
601133	TA2-2-TRC9-SL24-000-S	11-17-98	**350,000**	184,200
601133	TA2-2-TRC9-SL42-000-S	11-17-98	**462,000**	226,000
601133	TA2-2-TRC9-SL57-000-S	11-17-98	**314,000**	186,600
601133	TA2-2-TRC9-SL71-000-S	11-17-98	**254,000**	206,000
601140	TA2-2-TRC8-SL11-000-S	1-13-99	**918,000**	368,000
601140	TA2-2-TRC7-SL21-000-S	1-13-99	**148,000**	214,000
601140	TA2-2-TRC7-SL01-000-S	1-13-99	**354,000**	270,000
601140	TA2-2-TRC8-SL17-000-S	1-13-99	**410,000**	296,000
601140	TA2-2-TRC9-SL83-000-S	1-13-99	**230,000**	284,000
601140	TA2-2-TRC8-SL04-000-S	1-13-99	**848,000**	380,000
601141	TA2-2-TRC6-SL01-000-S	1-13-99	**336,000**	214,000
601141	TA2-2-TRC6-SL02-000-S	1-13-99	**268,000**	202,000
601141	TA2-2-TRC6-SL03-000-S	1-13-99	**212,000**	185,600
601141	TA2-2-TRC6-SL04-000-S	1-13-99	**264,000**	185,200
601142	TA2-2-TRC6-SL05-000-S	1-14-99	**128,400**	182,600
601142	TA2-2-TRC6-SL06-000-S	1-14-99	**376,000**	202,000
601142	TA2-2-TRC6-SL07-000-S	1-14-99	**298,000**	222,000
601152	TA2-2-TRC5-SL01-000-S	1-28-99	**226,000**	200,000
601152	TA2-2-TRC5-SL02-000-S	1-28-99	**136,200**	180,000
601152	TA2-2-TRC5-SL03-000-S	1-28-99	**184,200**	202,000
601152	TA2-2-TRC5-SL04-000-S	1-28-99	**188,200**	192,000
601153	TA2-2-TRC5-SL05-000-S	2-01-99	**260,000**	312,000

Refer to footnotes at end of table.

Table 5.6.3-10 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
601153	TA2-2-TRC5-SL06-000-S	2-01-99	**142,200**	314,000
601153	TA2-2-TRC5-SL07-000-S	2-01-99	**268,000**	364,000
601155	TA2-2-TRC5-SL08-000-S	2-02-99	**290,000**	310,000
601155	TA2-2-TRC5-SL09-000-S	2-02-99	**400,000**	358,000
601155	TA2-2-TRC5-SL10-000-S	2-02-99	**135,000**	324,000
601156	TA2-2-TRC5-SL11-000-S	2-03-99	**348,000**	260,000
601156	TA2-2-TRC5-SL12-000-S	2-03-99	**328,000**	298,000
601156	TA2-2-TRC5-SL13-000-S	2-03-99	**184,600**	264,000
601593	TA2-2-TRC4-SL01-000-S	3-09-99	**89,400**	181,200
601593	TA2-2-TRC4-SL02-000-S	3-09-99	**85,800**	146,600
601593	TA2-2-TRC4-SL03-000-S	3-09-99	**80,200**	188,800
601593	TA2-2-TRC4-SL04-000-S	3-09-99	ND (31,000)	--
601593	TA2-2-TRC4-SL05-000-S	3-09-99	ND (31,000)	--
601593	TA2-2-TRC4-SL06-000-S	3-09-99	**44,800**	156,600
601593	TA2-2-TRC4-SL07-000-S	3-09-99	**11,820**	181,200
601593	TA2-2-TRC4-SL08-000-S	3-09-99	ND (31,000)	--
601597	TA2-2-TRC3-SL01-000-S	3-10-99	**63,200**	183,400
601597	TA2-2-TRC3-SL02-000-S	3-11-99	**91,200**	176,200
601597	TA2-2-TRC3-SL03-000-S	3-11-99	**136,400**	175,400
601597	TA2-2-TRC3-SL04-000-S	3-11-99	**135,200**	183,600
601597	TA2-2-TRC3-SL05-000-S	3-11-99	**135,400**	192,000
601597	TA2-2-TRC3-SL06-000-S	3-11-99	**195,600**	198,000
601599	TA2-2-TRC3-SL10-000-S	3-22-99	**232,000**	172,600
601599	TA2-2-TRC3-SL11-000-S	3-22-99	**216,000**	210,000
601599	TA2-2-TRC3-SL12-000-S	3-22-99	**184,400**	195,000
601599	TA2-2-TRC3-SL13-000-S	3-22-99	**242,000**	224,000
601599	TA2-2-TRC3-SL14-000-S	3-22-99	**244,000**	204,000
601599	TA2-2-TRC3-SL15-000-S	3-22-99	**290,000**	216,000
601599	TA2-2-TRC3-SL16-000-S	3-22-99	**256,000**	222,000
602607	TA2-2-TR2-EAST-FNCE-002-S (off-site laboratory)	8-23-99	**75,500**	1,500
602607	TA2-2-TR2-EAST-FNCE-002-DU (off-site laboratory)	8-23-99	**72,000**	1,430
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	**65,700 J**	1,310
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	**71,000 J**	1,410
602797	TA2-2-COBL-GRIZ-006-S (off-site laboratory)	10-20-99	**17,2000**	2,100

Refer to footnotes at end of table.

Table 5.6.3-10 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
602797	TA2-2-TRB3-SL16-006-S (off-site laboratory)	10-20-99	**20,300**	736
602797	TA2-2-TRC9-SL83-006-S (off-site laboratory)	10-20-99	**46,100**	1,090
Background Soil Activity[e]			420	NA
Quality Assurance/Quality Control Samples (pCi/L)				
600059	TA2-2-PTW1-EB (off-site laboratory)	4-06-98	ND (171)	--
600458	TA2-2-TRD1-00006-EB	7-06-98	ND (467)	--
600471	TA2-2-TRD6-0015-EB	8-11-98	ND (434)	--
600495	TA2-2-TRD8-0025-EB	9-21-98	ND (315)	--
601138	TA2-2-TRC7-0003-000-EB	11-30-98	ND (374)	--

Note: Values in **bold** exceed background soil activity.
[a]Off-site laboratory analyses performed by tritium distillation method. On-site laboratory analyses performed by liquid scintillation counting method and pCi/g values converted to pCi/L assuming a soil density of 1 g/cubic centimeter and a soil moisture of 5 percent.
[b]Analysis request/chain-of-custody record.
[c]Sample naming scheme is provided in Table 5.6.2-1.
[d]Two standard deviations about the mean detected activity.
[e]From Tharp February 1999.
ER = Environmental Restoration.
ID = Identification.
J = Estimated value. See Data Validation report.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not provided for nondetect results.

Table 5.6.3.1-1
Comparison of Excavated Soil Analytical Results to Background and Preliminary Remediation Goal Values

COC Type	Number of Samples[a]	COC	NMED Approved Background Concentration[b] (mg/kg)	Preliminary Remediation Goal Concentration (mg/kg)	Maximum Concentration (mg/kg)	Average Concentration[c] (mg/kg)	Number of Samples Exceeding Background Concentration[d]	Number of Samples Exceeding PRG Concentration[e]
Metals	356 environmental	Arsenic	4.4	1.9	8.3	2.94	8	294
	368 environmental	Barium	200	509	8,100	253.2	134	12
	368 environmental	Beryllium	0.80	206	4.20	0.44	6	0
	368 environmental	Cadmium	0.9	209	740	13.13	201	6
	368 environmental	Chromium	12.8	1,590	460	14.80	104	0
	368 environmental	Lead	11.2	2,000	620	20.28	94	0
	368 environmental	Mercury	<0.1	9.96	180	1.94	200	7
	368 environmental	Nickel	25.4	3,570	400	16.16	15	0
	354 environmental	Selenium	<1	5.89	250	1.38	29	3
	355 environmental	Silver	<1	1,550	110	1.52	61	0
	318 environmental	Uranium	2.3	102	4.50	1.11	4	0
Radionuclides[f]	453 environmental	Cs-137	0.084	22.1	0.247	NA	3	0
	453 environmental	Th-232	1.54	4.45	3.58	NA	1	0
	453 environmental	U-235	0.18	88.1	3.28	NA	17	0
	453 environmental	U-238	1.3	491	208	NA	10	0
	218 environmental	Tritium	420 pCi/L[g] (0.021pCi/g)	59,600,000 pCi/L (2,980 pCi/g)	1,718,000 pCi/L (85.9 pCi/g)	NA	180	0

[a]Number of samples includes duplicates and splits.
[b]From Dinwiddie September 1997.
[c]Average concentration includes all samples. For nondetect results, the MDL is used to calculate the average.
[d]Includes samples with nondetect results where the MDA or MDL exceeds the approved background limit.
[e]Includes samples where the method detection limit exceeds the PRG.
[f]An average MDA is not calculated because of the variability in instrument counting error and the number of reported nondetect activities.
[g]From Tharp February 1999.
COC = Constituent of concern.
MDA = Minimum detectable activity.
MDL = Method detection limit.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
NMED = New Mexico Environment Department.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
PRG = Preliminary remediation goal.

exceeding the PRGs and background values are the "bin-soils," i.e., soil scraped directly off artifacts.

The final risk assessment results show that if all the excavated soil, including the bin-soils, are used as backfill and covered with a minimum of 5 feet (1.5 meters) of clean fill, there would be no adverse effects to potential human or ecological receptors (Section 5.9.2.2). Therefore, all excavated soil was determined to be appropriate for use as backfill material for the excavation.

5.7 VCM Confirmatory Activities

5.7.1 Final Excavation Geophysical Survey

Between March and August 2000, three verification surveys were performed by MDM Services, Inc. in the final excavation using an EM-61 high-precision metal locator (Figure 5.7.1-1) to determine if buried material remained (MDM Services, Inc. February 2001). The first verification survey indicating some small remaining anomalies is shown in Figure 5.7.1-2. These areas were subsequently checked with a Schonstadt metal detector by technicians and excavated by hand. Several resurveys and localized excavation were conducted to ensure that the largest buried items were removed. A final EM-61 survey of the excavation conducted in July-August 2000 indicated no significant buried debris remained (MDM Services, Inc. February 2001). Correlation between the debris excavated and the EM-61 response verified that only small bits of scrap metal remained. A map of the final survey is shown in Figure 5.7.1-3.

5.7.2 Confirmatory Soil Sampling

In August 2000, following the final geophysical survey, VCM confirmatory soil samples were collected from the excavation floor and sidewalls (Figure 5.7.2-1). These were collected from undisturbed, native material. Sampling activities were performed in accordance with the rationale and procedures described in the SWMU 2 SAP (SNL/NM February 1998b). SNL/NM chain-of-custody and sample documentation procedures were followed for all samples collected.

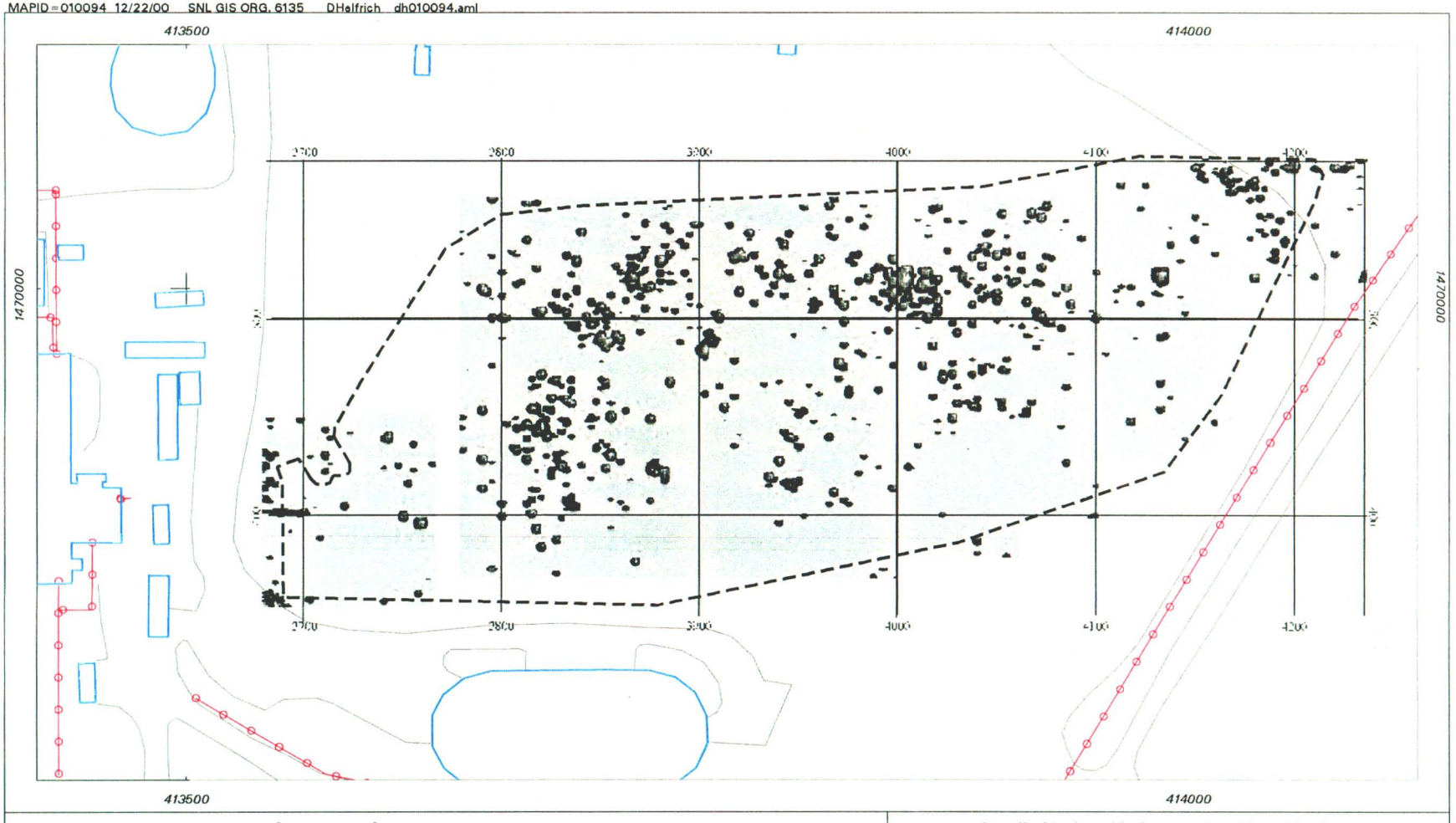
Samples were collected on 50-foot centers using the grid established for the final geophysical survey. Details of the identification nomenclature are provided in Table 5.6.2-1. Samples from the excavation floor were collected from 0.5–1.0 feet below grade. Samples from the excavation sidewall were collected from 1.0–1.5 feet laterally into the wall halfway up the excavation side.

A total of 58 soil samples (including duplicates) were collected from the SWMU 2 excavation floor and sidewalls in August 2000. The confirmatory data set also includes soil samples from the floors of the four W-Pits and four of the five ACF Pits. Because these pits were adjacent to the site haul roads, they were excavated separately, sampled, and following an informal data review with NMED, backfilled for safety reasons. Pit ACF-5 was excavated concurrently with disposal cell E-8 and was not sampled separately. The ACF-5 location is within the landfill proper and was included in the confirmatory sampling grid.

All confirmatory soil samples from the excavation were analyzed at the off-site laboratory (GEL) for RCRA metals plus beryllium, nickel, and uranium by EPA Methods 6010/7000 and tritium by

Figure 5.7.1-1
Geophysical Surveying in the SWMU 2 Excavation

MAPID=010094 12/22/00 SNL GIS ORG. 6135 DHelfrich dh010094.aml



Legend

- Road / Parking
- Fence
- Building / Structure
- SWMU 2 Boundary

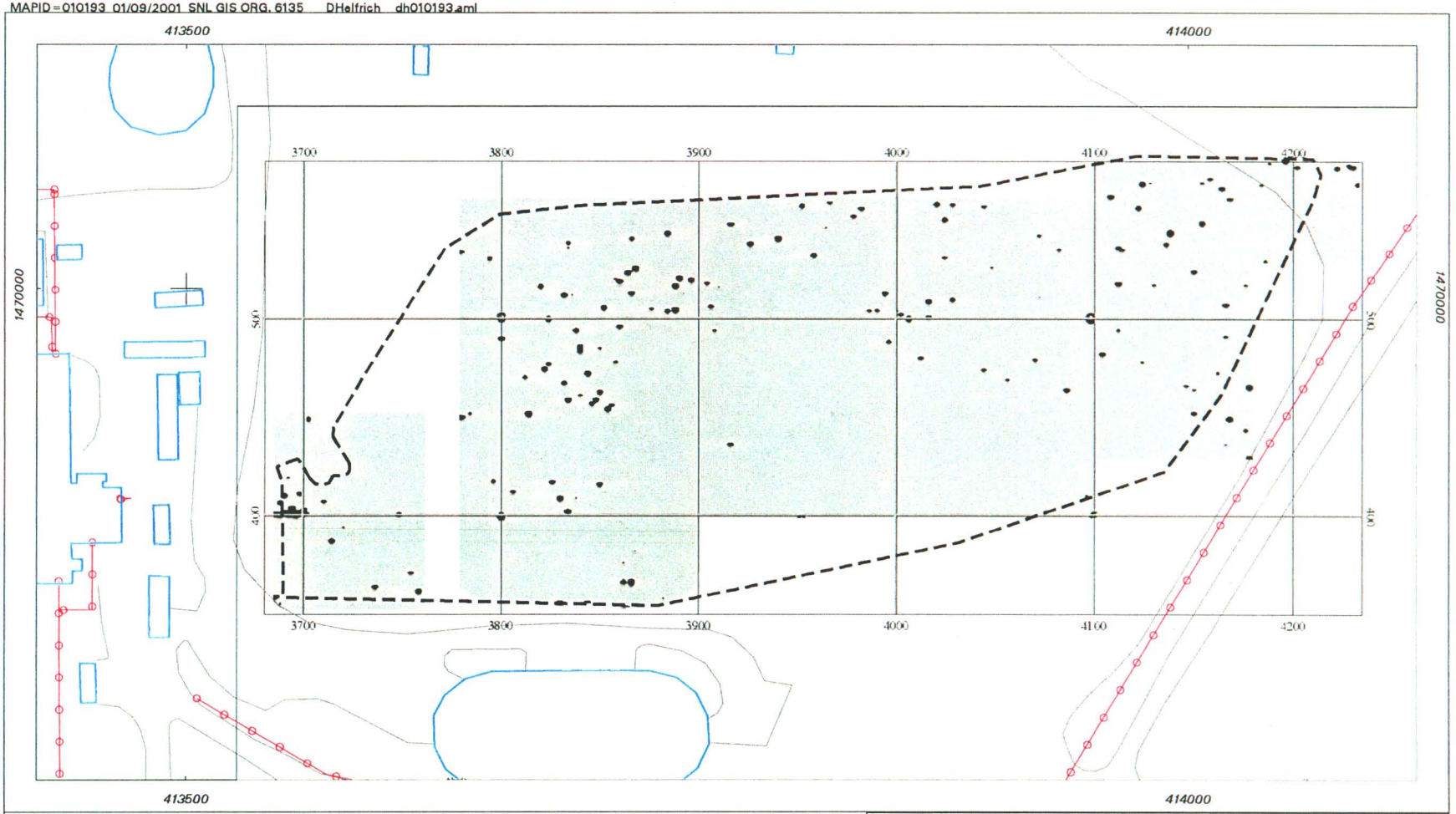
0 40 80
Scale in Feet

0 9.6 19.2
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5.7.1-2
First Electromagnetic (EM-61) Verification Survey in VCM Excavation, SWMU 2 March, 2000

MAPID=010193 01/09/2001 SNL GIS ORG. 6135 DHelfrich dh010193.aml



Legend

- Road / Parking
- Fence
- Building / Structure
- SWMU 2 Boundary

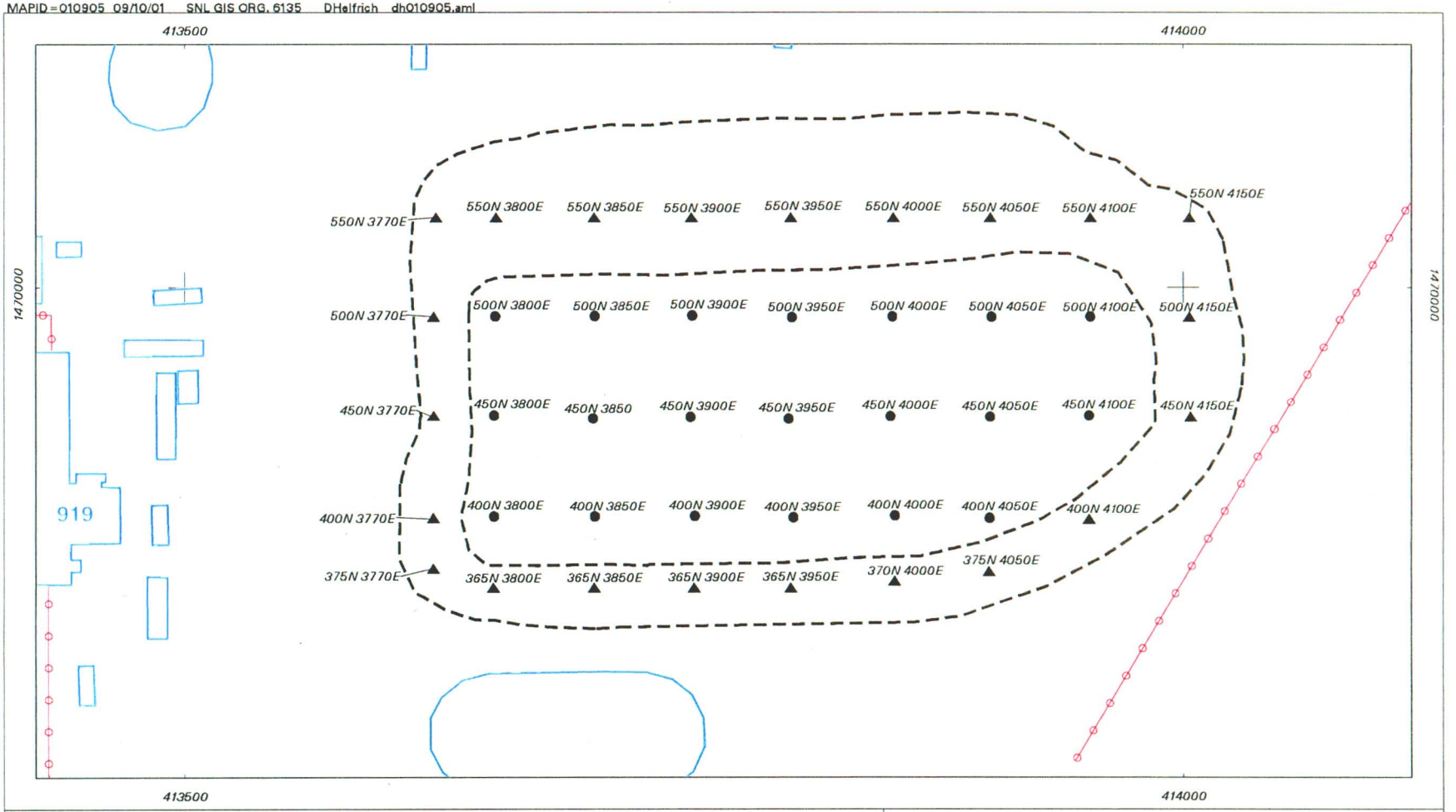
0 40 80
Scale in Feet

0 9.6 19.2
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5.7.1-3
Final Electromagnetic (EM-61) Verification Survey in VCM Excavation, SWMU 2 July-August, 2000

MAPID=010905_09/10/01 SNL GIS ORG. 6135 DHelfrich dh010905.aml



Legend

- Floor Verification Sample
- Sidewall Verification Sample
- Unpaved Road / Parking
- Fence
- Building / Structure
- Final Excavation Limit / Floor

0 40 80
Scale in Feet

0 9.6 19.2
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5.7.2-1
Location of Final VCM Verification Soil Samples, SWMU 2, August 2000

EPA Method 906.0. Gamma spectroscopy analyses were performed at the SNL/NM RPSD Laboratory. The results are discussed below.

5.7.2.1 QA/QC Samples

QA/QC samples were collected at an approximate frequency of one per 10 field samples. These included duplicates, MS/MSD, equipment blanks, and trip blanks (for VOCs only). Annex 5-E contains the data validation reports for all soil samples collected. The data validation results and any problems identified with QA/QC samples, are discussed in Section 5.7.4.

5.7.3 Confirmatory Soil Sampling Analytical Results

VOCs

Table 5.7.3-1 presents the analytical results for the VOC analyses for soil samples collected from the bases of the excavated ACF and W-Pits. No samples for VOC analyses were collected in the final VCM excavation. A total of three VOC compounds were detected in the 15 samples analyzed. Acetone (ND to 19 µg/kg) was detected in four samples; methylene chloride (ND to 2.9 J µg/kg) in two samples; and toluene (ND to 1 J µg/kg) in one sample. The low concentrations of these compounds probably indicate laboratory contamination rather than a release. The MDLs for these analyses are provided in Table 5.6.3-2.

RCRA Metals plus Beryllium, Nickel, and Uranium

Table 5.7.3-2 presents the analytical results for the RCRA metals plus beryllium, nickel, and uranium analysis of soil samples collected from the VCM excavation floor and sidewalls in August 2000. Table 5.7.3-2 also includes samples collected from the base of the four ACF and four W-Pits before they were backfilled. The results are discussed below.

- Arsenic (1.67 to 5.86 mg/kg) exceeded the NMED-approved background concentration of 4.4 mg/kg in only 1 of the 52 samples analyzed.
- Barium (82.8 to 1,110 mg/kg) was detected in 24 of the 58 samples at concentrations above the NMED-approved background of 200 mg/kg.
- Beryllium (0.239 J to 0.579 mg/kg) was not detected in any of the 58 samples at concentrations above the NMED-approved 0.80 mg/kg background value.
- Cadmium (ND to 5.14 mg/kg) was detected in 2 of the 58 samples at concentrations above the 0.9 mg/kg NMED-approved background value.
- Chromium (4.60 to 12.9 mg/kg) exceeded the 12.8 mg/kg NMED-approved background concentration in only 1 of the 58 samples.
- Lead (3.39 to 33.4 mg/kg) exceeded the 11.2 mg/kg NMED-approved background concentration in only 1 of the 58 samples.

- Mercury (ND to 0.369 mg/kg) exceeded the 0.1 mg/kg NMED-approved background concentration in only 2 of the 58 samples.

- Nickel (4.93 to 10.6 mg/kg) was not detected in any of the 58 samples above the 25.4 mg/kg NMED-approved background value.

- Selenium (ND to 0.881 mg/kg) was not detected in any of the 51 samples analyzed above the 0.1 mg/kg NMED-approved background value.

- Silver (ND to 0.223 mg/kg) was not detected in any of the 51 samples analyzed above the 0.1 mg/kg NMED-approved background value.

- Uranium (0.544 to 1.66 mg/kg) was not detected in any of the 50 samples analyzed above the 2.3 mg/kg NMED-approved background value.

Table 5.6.3-7 presents the RPD results for the RCRA metals plus beryllium, nickel, and uranium analyses performed for the eight duplicate soil samples collected from excavation floor and sidewalls. RPDs were only calculated for detections and were not calculated for results that were qualified "J" during data validation. As a result, RPDs were not calculated for beryllium, cadmium, selenium, or silver. RPDs ranged from 4.2 to 16.2 for arsenic, 0.2 to 37.3 for barium, 7.9 to 22.2 for chromium, 1.0 to 13.7 for lead, 2.7 to 140.2 for mercury, 8.2 to 20.0 for nickel, and 5.2 to 41.4 for uranium. Variations in the RPD most likely reflect soil heterogeneity.

Radionuclides

Table 5.7.3-3 presents the results for the gamma spectroscopic analysis of soil samples collected from the VCM excavation floor and sidewalls in August 2000. The table also includes samples collected from the bases of the ACF and W-Pits before they were backfilled. The MDAs for the analyses are presented in Table 5.6.3-9. The results for the 58 samples are discussed below.

- Cesium-137 was not detected in any sample at an activity above the 0.084 pCi/g NMED-approved background value.

- Thorium-232 (ND to 1.12 pCi/g) was not detected in any sample at an activity above the 1.54 pCi/g NMED-approved background value.

- Uranium-235 (ND to 0.254 pCi/g) was only detected in two samples above the 0.18 pCi/g NMED-approved background value.

- Uranium-238 (ND to 0.972 pCi/g) was not detected in any sample at an activity above the 1.3 pCi/g NMED-approved background value.

Tritium

Table 5.7.3-4 presents the analytical results for the tritium analysis of soil samples collected from the excavation floor and sidewalls in August 2000. Table 5.7.3-4 also includes samples collected from the bases of the ACF and W-Pits. Tritium (ND [<99.1 pCi/L] to 923,000 pCi/L)

Table 5.7.3-1
Summary of SWMU 2 Excavation Confirmatory Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Depth (ft)	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600005	TA2-2-ACF1-0001-18-S	18	ND (5 J)	ND (2 J)	ND (5)	ND (1)	ND (1)	ND (2)	ND (3)
600004	TA2-2-ACF1-0001-18-S (off-site laboratory split)	18	ND (2 J) H	ND (1 J) H	ND (2 J) H	ND (2.8 J) H	ND (1 J) H	NA	NA
600008	TA2-2-ACF2-0001-15-S	15	ND (5 J)	ND (2 J)	ND (5)	ND (1)	ND (1)	ND (2)	ND (3)
600007	TA2-2-ACF2-0001-15-S (off-site laboratory split)	15	**19**	ND (1)	ND (2)	**2.9 J (5)**	ND (1)	NA	NA
600012	TA2-2-ACF3-0001-12-S	12	ND (6.2)	ND (2.5 J)	ND (6.2)	ND (1.2)	ND (1.2)	ND (2.5 J)	ND (3.8 J)
600010	TA2-2-ACF3-0001-12-S (off-site laboratory split)	12	ND (2)	ND (1)	ND (2)	ND (1)	**1 J (2)**	NA	NA
600041	TA2-2-ACF4-0001-12-S (off-site laboratory split)	12	ND (2)	ND (1)	ND (2)	ND (1)	ND (1)	NA	NA
600046	TA2-2-PTW1-0001-10-S	10	ND (6.7 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600047	TA2-2-PTW1-0001-10-S (off-site laboratory split)	10	**9.1 J (10)**	ND (1)	ND (2)	**2.5 J (5)**	ND (1)	NA	NA
600064	TA2-2-PTW2-0001-12-S	12	**10 J (21)**	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600062	TA2-2-PTW2-0001-12-S (off-site laboratory split)	12	ND (6.7 J)	ND (1 J)	ND (2 J)	R	ND (1 J)	NA	NA
600067	TA2-2-PTW3-0001-12-S (off-site laboratory split)	12	**4.1 J (10)**	ND (1 J)	ND (2 J)	R	ND (1 J)	NA	NA
600066	TA2-2-PTW3-0001-12-S	12	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600074	TA2-2-PTW4-0001-15-S	15	R	R	R	R	R	R	R
600072	TA2-2-PTW4-0001-15-S (off-site laboratory split)	15	ND (2.4 J)	ND (0.23)	ND (4.4)	R	ND (0.22)	NA	NA
Quality Assurance/Quality Control Samples[d] (µg/L)									
600007	TA2-2-ACF2-0001-15-S (EB)	NA	ND (2 J) H	ND (1 J) H	ND (2 J) H	ND (1 J) H	ND (1 J) H	NA	NA
600010	TA2-2-ACF3-0001-12-S (EB)	NA	ND (2)	ND (1)	ND (2)	ND (1)	ND (1)	NA	NA
600041	TA2-2-ACF4-TB	NA	R	R	R	R	R	NA	NA
600047	TA2-2-PTW1-TB	NA	R	R	R	R	R	NA	NA
600059	TA2-2-PTW1-EB	NA	ND (2)	ND (1)	ND (2)	**2.4 J (5)**	ND (1)	NA	NA
600059	TA2-2-PTW1-TB	NA	ND (2)	ND (1)	ND (2)	**3.1 J (5)**	ND (1)	NA	NA
600062	TA2-2-PTW2-TB	NA	ND (2 J) H	ND (1 J) H	ND (2 J) H	ND (1.9 J) H	ND (1 J) H	NA	NA
600067	TA2-2-PTW3-TB	NA	ND (2) H	ND (1) H	**22 H**	**3.7 J (5) H**	**1.5 J (2) H**	NA	NA
600072	TA2-2-PTW4-TB	NA	ND (2.2)	ND (0.23)	ND (4.4)	ND (2.2 J)	ND (0.22)	NA	NA

Note: Values in **bold** represent detected VOCs.

[a] EPA November 1986.

[b] Analysis request/chain-of-custody record.

[c] Sample naming scheme is provided in Table 5.6.2-1.

[d] All quality assurance/quality control samples were analyzed by an off-site laboratory.

EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantitation limit, shown in parentheses.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
NA = Not analyzed.
ND = Not detected above the method detection limit, shown in parentheses.
R = Rejected value. See Data Validation report.
SWMU = Solid Waste Management Unit.
VOC = Volatile organic compound.

Table 5.7.3-2
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Depth[d] (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600004	TA-2-ACF1-0001-18-S	18–18.5	NA	102	0.277 J	ND (0.0104)	7.19	2.28
600007	TA-2-ACF2-0001-15-S	15–15.5	NA	137	0.264 J	0.218 J	6.89	3.75
600010	TA-2-ACF3-0001-12-S	12–12.5	NA	115	0.0509 J	ND (0.0104)	4.18	3.86
600041	TA-2-ACF4-0001-12-S	12–12.5	NA	121	0.126 J	**2.1**	9.98	4.27
600047	TA-2-PTW1-0001-10-S	10–10.5	NA	**262**	0.308 J	0.0978 J	5.13	3.22
600062	TA-2-PTW2-0001-12-S	12–12.5	NA	**479**	0.336 J	**5.14**	6.98	4.09
600067	TA-2-PTW3-0001-12-S	12–12.5	3.12	**264**	0.276 J	0.0553 J	5.4	3.23
600072	TA-2-PTW4-0001-15-S	15–15.5	3.83	170 J	0.258 J	0.143 J	7.71	6.26
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	3.07	**223 J**	0.266 J (0.500)	0.264 J (0.500)	4.75 J	3.57
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	2.79	**298 J**	0.320 J (0.498)	0.134 J (0.498)	4.60 J	3.58
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	3.06	**264 J**	0.323 J (0.500)	0.119 J (0.500)	5.35 J	3.49
603352	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	3.39	**347 J**	0.304 J (0.500)	0.0912 J (0.500)	5.69 J	3.82
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	3.28	**201 J**	0.285 J (0.500)	0.176 J (0.500)	5.37 J	3.77
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	3.29	108 J	0.318 J (0.500)	0.118 J (0.500)	6.11 J	4.03
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	2.51	197 J	0.331 J (0.498)	0.275 J (0.498)	6.07 J	4.82
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	2.04	86.1 J	0.336 J (0.498)	0.158 J (0.498)	5.43 J	4.07
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	1.67	85.9 J	0.275 J (0.499)	0.168 J (0.499)	4.64 J	3.39
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	3.25	**283 J**	0.344 J (0.499)	0.16 J (0.499)	6.37 J	4.77
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	2.11	198 J	0.311 J (0.500)	0.135 J (0.500)	5.88 J	4.12
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	2.59	**237 J**	0.296 J (0.499)	0.182 J (0.499)	6.54 J	4.49
603352	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	2.34	155 J	0.316 J (0.500)	0.202 J (0.500)	6.09 J	3.92
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	3.25	**355**	0.307 J (0.499)	0.223 J (0.499)	**12.9**	4.22
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	2.26	135	0.327 J (0.497)	0.484 J (0.497)	6.29	4.58
603354	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	2.29	88.6	0.346 J (0.500)	0.140 J (0.500)	6.86	4.94
603356	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	1.80	82.8	0.334 J (0.497)	ND (0.0382)	5.54	4.50
603356	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	1.90	83.0	0.404 J (0.500)	ND (0.0382)	6.92	5.15
603356	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	2.64	123	0.373 J (0.500)	0.359 J (0.500)	8.26	**33.4**
603356	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	3.73	114	0.579	0.217 J (0.499)	10.1	7.26
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	2.59	128	0.372 J (0.497)	0.098 J (0.497)	7.36	5.25
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	2.32	**217**	0.360 J (0.498)	0.335 J (0.498)	5.97	4.88
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	2.44	159	0.347 J (0.498)	0.133 J (0.498)	7.10	5.14
603356	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	2.34	109	0.400 J (0.497)	0.124 J (0.497)	8.32	5.65

footnotes at end of table.

Table 5.7.3-2 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Depth[d] (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	2.24	184	0.239 J (0.500)	0.106 J (0.500)	4.85	3.44
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	1.0–1.5	4.27	**219**	0.392 J (0.499)	0.138 J (0.499)	7.99	6.02
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	3.77	**440**	0.369 J (0.497)	0.129 J (0.497)	7.10	4.97
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	3.13	**328**	0.304 J (0.500)	0.131 J (0.500)	7.55	4.05
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	3.62	**301**	0.391 J (0.497)	0.153 J (0.497)	6.63	5.01
603356	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	4.11	**310**	0.382 J (0.498)	0.151 J (0.498)	7.40	4.96
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	4.00	**241**	0.399 J (0.498)	0.153 J (0.498)	7.44	5.50
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	3.43	**386**	0.470 J (0.500)	ND (0.0382)	9.62	6.19
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	3.21	**1110**	0.324 J (0.500)	0.315 J (0.500)	6.40	4.64
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	2.35	119	0.280 J (0.481)	ND (0.0382)	6.66	5.87
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	2.48	131	0.261 J (0.472)	ND (0.0382)	7.31	5.68
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	3.36	157	0.383 J (0.481)	ND (0.0382)	8.62	6.13
603358	TA2-2-FINAL-SDW-370N-4050E-1.0	1.0–1.5	2.91	143	0.304 J (0.463)	0.539	7.04	5.77
603358	TA2-2-FINAL-SDW-375N-4000E-1.0	1.0–1.5	1.99	140	0.256 J (0.500)	ND (0.0382)	6.42	6.61
603358	TA2-2-FINAL-SDW-375N-4000E-D	1.0–1.5	2.34	129	0.241 J (0.481)	ND (0.0382)	6.95	6.69
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	2.70	164	0.360 J (0.495)	ND (0.0382)	7.24	5.49
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	2.60	110	0.263 J (0.472)	ND (0.0382)	6.18	4.20
603358	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	3.05	131	0.258 J (0.500)	ND (0.0382)	5.41	4.82
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	3.24	**257**	0.264 J (0.490)	ND (0.0382)	5.48	4.32
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	**5.86**	113	0.260 J (0.476)	ND (0.0382)	5.67	7.21
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	3.46	**228**	0.321 J (0.463)	ND (0.0382)	7.13	4.53
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	3.34	122	0.352 J (0.476)	ND (0.0382)	7.81	5.40
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	3.17	**202**	0.334 J (0.476)	ND (0.0382)	7.42	4.71
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	3.21	165	0.344 J (0.485)	ND (0.0382)	6.85	4.10
603360	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	3.73	182	0.326 J (0.463)	ND (0.0382)	6.03	3.85
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	3.89	**363**	0.437 J (0.495)	ND (0.0382)	9.42	4.86
Background Soil Concentrations—North Area[e]			4.4	200	0.80	0.9	12.8	11.2
Quality Assurance/Quality Control Samples (mg/L)								
603356	TA2-2-FINL-EB1	8-8-00	ND (0.00257)	0.00212 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	0.00184 J
603356	TA2-2-FINL-EB2	8-8-00	ND (0.00257)	0.00177 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	ND (0.00183)
603356	TA2-2-FINL-EB3	8-8-00	ND (0.00257)	0.00092 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	ND (0.00183)
603360	TA2-2-FINL-EB4	8-9-00	ND (0.00253 J)	0.00299 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	0.00215 J
603360	TA2-2-FINL-EB5	8-9-00	ND (0.00253 J)	0.00085 J	ND (0.00047)	ND (0.00063)	0.0012 J	ND (0.00183)

Refer to footnotes at end of table.

Table 5.7.3-2 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Depth[d] (ft)	Mercury	Nickel	Selenium	Silver	Uranium
600004	TA2-2-ACF1-0001-18-S	18–18.5	ND (0.0173)	0.258 J	NA	NA	NA
600007	TA2-2-ACF2-0001-15-S	15–15.5	ND (0.0173)	4.89	NA	NA	NA
600010	TA2-2-ACF3-0001-12-S	12–12.5	0.0451	4.94	NA	NA	NA
600041	TA2-2-ACF4-0001-12-S	12–12.5	ND (0.0173)	8.78	NA	NA	NA
600047	TA2-2-PTW1-0001-10-S	10–10.5	ND (0.0173)	5.72	NA	NA	NA
600062	TA2-2-PTW2-0001-12-S	12–12.5	0.0233 J	16.8	NA	NA	NA
600067	TA2-2-PTW3-0001-12-S	12–12.5	ND (0.0173)	4.46	NA	NA	NA
600072	TA2-2-PTW4-0001-15-S	15–15.5	ND (0.0173)	8.98	ND (0.07)	ND (0.031)	NA
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	0.028	5.03 J	ND (0.146)	ND (0.101)	0.825
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	0.0237	5.57 J	ND (0.146)	ND (0.101)	0.853
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	0.0149	5.25 J	ND (0.146)	ND (0.101)	0.909
603352	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	0.0159	5.37 J	ND (0.146)	ND (0.101)	0.673
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	0.116	5.23 J	ND (0.146)	ND (0.101)	0.749
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	0.00794 J (0.009)	5.49 J	ND (0.146)	ND (0.101)	0.790
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	0.0797	6.63 J	ND (0.146)	ND (0.101)	1.24
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	0.00826 J (0.00972)	6.64 J	ND (0.146)	ND (0.101)	1.37
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	0.0177	6.04 J	ND (0.146)	ND (0.101)	0.872
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	0.00536 J (0.00912)	6.49 J	ND (0.146)	ND (0.101)	1.57
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	0.00509 J (0.00871)	6.58 J	ND (0.146)	ND (0.101)	0.891
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	0.011	6.03 J	ND (0.146)	ND (0.101)	0.880
603352	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	0.0113	5.89 J	ND (0.146)	ND (0.101)	1.34
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	0.0887	6.08	0.881	ND (0.101)	0.800
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	0.0288	5.85	0.828	ND (0.101)	1.27
603354	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	0.0134	6.61	ND (0.146)	ND (0.101)	0.733
603356	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	0.0151	6.04	ND (0.146)	ND (0.101)	1.40
603356	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	0.0175	7.38	ND (0.146)	ND (0.101)	1.10
603356	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	0.0215	8.21	ND (0.146)	ND (0.101)	0.788
603356	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	0.0421	10.6	ND (0.146)	ND (0.101)	0.866
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	0.012	7.32	ND (0.146)	ND (0.101)	0.697
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	0.0932	6.02	ND (0.146)	ND (0.101)	0.721
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	0.0231	7.16	ND (0.146)	ND (0.101)	0.877

Refer to footnotes at end of table.

Table 5.7.3-2 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Depth[d] (ft)	Mercury	Nickel	Selenium	Silver	Uranium
603356	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	0.0309	7.87	ND (0.146)	ND (0.101)	0.813
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	0.0156	4.97	ND (0.146)	ND (0.101)	1.24
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	1.0–1.5	0.00922 J (0.00923)	8.40	ND (0.146)	ND (0.101)	0.784
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	0.00649 J (0.00866)	7.40	0.456 J (0.497)	ND (0.101)	0.645
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	0.00718 J (0.00955)	7.57	ND (0.146)	ND (0.101)	0.544
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	0.010	6.92	ND (0.146)	ND (0.101)	0.910
603356	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	0.0122	7.51	ND (0.146)	ND (0.101)	0.696
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	ND (0.00455)	8.03	ND (0.146)	ND (0.101)	0.770
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	0.0253	9.42	ND (0.146)	ND (0.101)	1.13
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	0.0579	6.60	ND (0.146)	ND (0.101)	0.756
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	0.0315	6.63	0.298 J (0.481)	0.223 J (0.481)	1.22
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	0.0109	6.80	ND (0.146)	ND (0.101)	1.47
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	0.00861 J (0.00987)	7.67	ND (0.146)	0.209 J (0.481)	1.66
603358	TA2-2-FINAL-SDW-370N-4050E-1.0	1.0–1.5	**0.369**	6.47	0.298 J (0.463)	0.205 J (0.463)	1.43
603358	TA2-2-FINAL-SDW-375N-4000E-1.0	1.0–1.5	0.0631	6.84	0.381 J (0.500)	0.220 J (0.500)	1.30
603358	TA2-2-FINAL-SDW-375N-4000E-D	1.0–1.5	0.0111	5.82	ND (0.146)	ND (0.101)	1.37
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	0.0319	7.60	ND (0.146)	0.202 J (0.495)	0.995
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	0.0736	5.60	0.469 J (0.472)	ND (0.101)	1.40
603358	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	0.0612	5.16	0.437 J (0.500)	ND (0.101)	1.18
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	ND (0.00455)	4.93	0.332 J (0.490)	ND (0.101)	0.864
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	0.0381	6.02	ND (0.146)	0.199 J (0.476)	0.977
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	0.0138	6.95	0.318 J (0.463)	ND (0.101)	1.14
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	0.00979	8.06	0.769 J	ND (0.101)	1.37
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	0.0724	6.63	0.598 J	ND (0.101)	0.889
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	0.0682	6.22	0.297 J (0.485)	ND (0.101)	0.799
603360	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	0.0407	5.28	ND (0.146 J)	ND (0.101)	1.03
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	**0.169**	8.36	0.546 J	ND (0.101)	0.946
Background Soil Concentrations—North Area[e]			<0.1	25.4	<1	<1	2.3
Quality Assurance/Quality Control Samples (mg/L)							
603356	TA2-2-FINL-EB1	8-8-00	R	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603356	TA2-2-FINL-EB2	8-8-00	R	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)

Refer to footnotes at end of table.

Table 5.7.3-2 (Concluded)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603356	TA2-2-FINL-EB3	8-8-00	R	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603360	TA2-2-FINL-EB4	8-9-00	ND (0.00006)	ND (0.00309)	ND (0.00236)	0.0008 J	0.00002 J
603360	TA2-2-FINL-EB5	8-9-00	ND (0.00006)	ND (0.00309)	0.00295 J	ND (0.00053)	ND (0.00002)

Note: Values in **bold** exceed background soil concentrations.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Sample naming scheme is provided in Table 5.6.2-1.

[d]Depth below final excavation floor or sidewall surface for FINAL and FLOOR samples and below ground for ACF and PTW samples.

[e]From Dinwiddie September 1997. Subsurface values are used for comparison, since these samples were collected 15 to 18 feet below the surface.

EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J = Estimated value. See Data Validation report.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantification limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligrams(s) per liter.
NA = Not analyzed or not applicable.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
R = Rejected value. See Data Validation report.
RCRA = Resource Conservation and Recovery Act.
SWMU = Solid Waste Management Unit.

Table 5.7.3-3
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–August 2000
(On-site Laboratory)

Sample Attributes				Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
				Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600006	TA2-2-ACF1-0001-18-S	18–18.5	3-06-98	ND (0.0281)	--	0.799	0.375	ND (0.218)	--	ND (2.98)	--
600009	TA2-2-ACF2-0001-15-S	15–15.5	3-12-98	ND (0.0265)	--	0.798	0.375	ND (0.178)	--	0.972	0.763
600011	TA2-2-ACF3-0001-12-S	12–12.5	3-20-98	ND (0.0351)	--	0.703	0.404	ND (0.189)	--	ND (1.25)	--
600042	TA2-2-ACF4-0001-12-S	12–12.5	3-25-98	ND (0.028)	--	0.721	0.357	ND (0.181)	--	ND (1.59)	--
600045	TA2-2-PTW1-0001-10-S	10–10.5	4-01-98	ND (0.0295)	--	0.529	0.312	ND (0.165)	--	0.375	0.649
600063	TA2-2-PTW2-0001-12-S	12–12.5	4-09-98	ND (0.0272)	--	0.581	0.334	ND (0.179)	--	ND (1.53)	--
600065	TA2-2-PTW3-0001-12-S	12–12.5	4-13-98	ND (0.0328)	--	0.56	0.362	ND (0.176)	--	0.715	0.626
600073	TA2-2-PTW4-0001-15-S	15–15.5	4-20-98	ND (0.0319)	--	0.696	0.426	ND (0.186)	--	0.821	0.626
603351	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	8-07-00	ND (0.0263)	--	ND (0.122)	--	0.14	0.151	ND (0.68)	--
603351	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	8-07-00	ND (0.0244)	--	0.496	0.299	0.14	0.147	ND (0.626)	--
603351	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	8-07-00	ND (0.0281)	--	0.721	0.401	ND (0.202)	--	ND (0.686)	--
603351	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	8-07-00	ND (0.0252)	--	0.595	0.324	ND (0.181)	--	ND (0.61)	--
603351	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	8-07-00	ND (0.0258)	--	0.603	0.331	ND (0.19)	--	ND (0.643)	--
603351	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	8-07-00	ND (0.026)	--	0.737	0.678	0.154	0.154	ND (0.682)	--
603351	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	8-07-00	ND (0.0273)	--	0.966	0.474	ND (0.206)	--	ND (0.707)	--
603351	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	8-07-00	ND (0.0358)	--	1.12	0.577	ND (0.16)	--	ND (0.565)	--
603351	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	8-07-00	ND (0.032)	--	0.793	1.5	ND (0.193)	--	0.503	0.51
603351	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	8-07-00	ND (0.0361)	--	0.922	0.51	0.127	0.171	ND (0.523)	--
603351	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	8-07-00	ND (0.0321)	--	0.726	0.389	0.171	0.161	ND (0.511)	--
603351	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	8-07-00	ND (0.0331)	--	0.798	0.434	0.0945	0.17	ND (0.511)	--
603351	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	8-07-00	ND (0.0332)	--	0.855	0.459	ND (0.185)	--	ND (0.505)	--
603353	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	8-07-00	ND (0.0336)	--	0.853	0.456	ND (0.188)	--	ND (0.503)	--
603353	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	8-07-00	ND (0.034)	--	0.976	0.487	**0.254**	0.172	ND (0.553)	--
603353	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	8-07-00	ND (0.0448)	--	0.866	0.496	ND (0.233)	--	ND (0.643)	--
603355	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	8-08-00	ND (0.0361)	--	0.701	1.05	0.114	0.168	ND (0.53)	--
603355	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	8-08-00	ND (0.0376)	--	0.684	1.27	0.129	0.176	ND (0.509)	--
603355	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	8-08-00	ND (0.0364)	--	ND (0.14)	--	ND (0.192)	--	0.505	0.434
603355	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	8-08-00	ND (0.0396)	--	ND (0.167)	--	**0.228**	0.184	0.705	0.647
603355	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	8-08-00	ND (0.0397)	--	0.895	0.625	ND (0.215)	--	ND (0.588)	--
603355	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	8-08-00	ND (0.0414)	--	0.792	1.18	0.106	0.182	ND (0.591)	--
603355	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	8-08-00	ND (0.0357)	--	0.786	0.446	0.0973	0.174	0.544	0.487

Refer to footnotes at end of table.

Table 5.7.3-3 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–August 2000
(On-site Laboratory)

Sample Attributes				Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
				Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603355	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	8-08-00	ND (0.0285)	--	0.936	0.438	ND (0.211)	--	ND (0.72)	--
603355	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	8-08-00	ND (0.0268)	--	0.593	0.29	ND (0.197)	--	ND (0.684)	--
603355	TA2-2-FINAL-SDW-550N-3800E-1.0	1.0–1.5	8-08-00	ND (0.0281)	--	0.665	0.316	ND (0.21)	--	ND (0.732)	--
603355	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	8-08-00	ND (0.0283)	--	0.638	0.362	0.166	0.163	ND (0.713)	--
603355	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	8-08-00	ND (0.0235)	--	ND (0.105)	--	ND (0.177)	--	ND (0.621)	--
603355	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	8-08-00	ND (0.0296)	--	0.682	0.324	0.103	0.167	ND (0.747)	--
603355	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	8-08-00	ND (0.0259)	--	0.69	0.381	ND (0.201)	--	ND (0.704)	--
603355	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	8-08-00	ND (0.0285)	--	0.701	0.374	ND (0.215)	--	ND (0.757)	--
603355	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	8-08-00	ND (0.0285)	--	0.835	1.5	ND (0.217)	--	ND (0.756)	--
603355	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	8-08-00	ND (0.0282)	--	0.743	0.362	0.0981	0.103	ND (0.708)	--
603357	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	8-08-00	ND (0.0251)	--	0.737	0.392	ND (0.187)	--	ND (0.62)	--
603357	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	8-08-00	ND (0.0265)	--	0.878	0.453	ND (0.19)	--	ND (0.651)	--
603357	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	8-08-00	ND (0.0282)	--	0.757	0.41	ND (0.204)	--	ND (0.7)	--
603357	TA2-2-FINAL-SDW-370N-4050E-1.0	1.0–1.5	8-08-00	ND (0.0257)	--	0.87	1.14	ND (0.193)	--	ND (0.672)	--
603357	TA2-2-FINAL-SDW-375N-4000E-1.0	1.0–1.5	8-08-00	ND (0.0269)	--	0.685	0.324	ND (0.195)	--	ND (0.657)	--
603357	TA2-2-FINAL-SDW-375N-4000E-D	1.0–1.5	8-08-00	ND (0.0251)	--	0.789	0.765	ND (0.191)	--	ND (0.647)	--
603357	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	8-08-00	ND (0.026)	--	0.722	0.367	ND (0.193)	--	ND (0.679)	--
603357	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	8-08-00	ND (0.0253)	--	0.828	0.418	ND (0.191)	--	ND (0.665)	--
603357	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	8-08-00	ND (0.0271)	--	ND (0.115)	--	0.116	0.164	ND (0.707)	--
603357	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	8-08-00	ND (0.0247)	--	ND (0.109)	--	ND (0.191)	--	ND (0.652)	--
603357	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	8-08-00	ND (0.0262)	--	0.673	0.373	ND (0.189)	--	ND (0.663)	--
603359	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	8-09-00	ND (0.0255)	--	0.798	0.374	0.114	0.161	ND (0.702)	--
603359	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0262)	--	0.812	0.421	ND (0.196)	--	ND (0.683)	--
603359	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0232)	--	0.702	0.325	ND (0.182)	--	ND (0.598)	--
603359	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0255)	--	0.501	0.301	ND (0.182)	--	ND (0.612)	--
603359	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	8-09-00	ND (0.0256)	--	0.647	0.304	ND (0.187)	--	ND (0.633)	--

Refer to footnotes at end of table.

Table 5.7.3-3 (Concluded)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–August 2000
(On-site Laboratory)

Sample Attributes				Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
				Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603359	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0246)	--	0.682	1.16	ND (0.19)	--	ND (0.656)	--
Background Soil Activities—North Area[d]				0.084[e]	--	1.54	--	0.18	--	1.3	--
Quality Control/Quality Assurance Samples (pCi/mL)											
603351	TA2-2-FINAL-EB1	NA	8-07-00	ND (0.0198)	--	ND (0.153)	--	ND (0.132)	--	ND (0.299)	--
603355	TA2-2-FINAL-EB2	NA	8-08-00	ND (0.0169)	--	ND (0.121)	--	ND (0.124)	--	ND (0.317)	--
603355	TA2-2-FINAL-EB3	NA	8-08-00	ND (0.0183)	--	ND (0.138)	--	ND (0.14)	--	ND (0.375)	--
603359	TA2-2-FINAL-EB4	NA	8-09-00	ND (0.017)	--	ND (0.114)	--	ND (0.133)	--	ND (0.358)	--
603359	TA2-2-FINAL-EB5	NA	8-09-00	ND (0.0187)	--	ND (0.114)	--	ND (0.129)	--	ND (0.331)	--

Note: Values in **bold** exceed background soil activities.

[a]Analysis request/chain-of-custody record.

[b]Sample naming scheme is provided in Table 5.6.2-1.

[c]Two standard deviations about the mean detected activity.

[d]From Dinwiddie September 1997.

[e]The more conservative, lower subsurface background activity is used as a benchmark for consistency with current risk screening assessment methodology.

ER = Environmental Restoration.
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/mL = Picocurie(s) per milliliter.
SWMU = Solid Waste Management Unit.
-- = Error not provided for nondetect results.

Table 5.7.3-4
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Tritium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes				Activity (pCi/L)	
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Result	Error[c]
600004	TA2-2-ACF1-0001-18-S	18–18.5	3-06-98	ND (99.1)	--
600007	TA2-2-ACF2-0001-15-S	15–15.5	3-12-98	**1,120**	135
600010	TA2-2-ACF3-0001-12-S	12–12.5	3-20-98	**1,000**	240
600041	TA2-2-ACF4-0001-12-S	12–12.5	3-25-98	**140,000**	745
600047	TA2-2-PTW1-0001-10-S	10–10.5	4-01-98	**482,000**	2,710
600062	TA2-2-PTW2-0001-12-S	12–12.5	4-09-98	**649,000**	1,730
600067	TA2-2-PTW3-0001-12-S	12–12.5	4-13-98	**21,100**	334
600072	TA2-2-PTW4-0001-15-S	15–15.5	4-20-98	**64,600**	1,310
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	8-07-00	**15,200**	688
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	8-07-00	**21,400**	834
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	8-07-00	**742**	200
603352	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	8-07-00	**618**	191
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	8-07-00	**46,700**	1,370
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	8-07-00	**43,900**	1,310
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	8-07-00	**21,200**	838
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	8-07-00	**13,400**	649
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	8-07-00	**8,720**	516
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	8-07-00	**1,230**	232
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	8-07-00	**271,000**	5,430
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	8-07-00	**17,700**	746
603352	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	8-07-00	**15,200**	694
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	8-07-00	**923,000**	24,300
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	8-07-00	**905**	217
603354	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	8-07-00	**15,000**	571
603356	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	8-08-00	**38,500**	1,040
603356	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	8-08-00	**30,500**	885
603356	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	8-08-00	**1,490**	232
603356	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	8-08-00	**1,780**	242
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	8-08-00	**9,860**	453
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	8-08-00	**36,200**	993
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	8-08-00	**91,500**	2,430
603356	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	8-08-00	**78,100**	2,080
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	8-08-00	**1,360**	238
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	1.0–1.5	8-08-00	ND (161)	--
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	8-08-00	ND (168)	--
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	8-08-00	**788**	211
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	8-08-00	356	198
603356	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	8-08-00	311	196
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	8-08-00	239	193
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	8-08-00	**3,000**	283
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	8-08-00	**571**	204
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	8-08-00	**1,070**	234

Refer to footnotes at end of table.

Table 5.7.3-4 (Concluded)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Tritium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes				Activity (pCi/L)	
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Result	Error[c]
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	8-08-00	**1,350**	261
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	8-08-00	**510**	236
603358	TA2-2-FINAL-SDW-370N-4050E-1.0	1.0–1.5	8-08-00	**827**	325
603358	TA2-2-FINAL-SDW-375N-4000E-1.0	1.0–1.5	8-08-00	**1,150**	244
603358	TA2-2-FINAL-SDW-375N-4000E-D	1.0–1.5	8-08-00	**2,330**	293
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	8-08-00	**1,400**	255
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	8-08-00	**29,400**	1,070
603358	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	8-08-00	**28,200**	902
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	8-08-00	**741**	240
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	8-08-00	**3,020**	325
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	8-09-00	209	163
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	8-09-00	**5,120**	403
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	8-09-00	**5,360**	409
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	8-09-00	**6,160**	439
603360	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	8-09-00	**5,960**	430
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	8-09-00	387	176
Background Soil Activity[d]				420	--
Quality Assurance/Quality Control Samples (pCi/L)					
603356	TA2-2-FINAL-EB1	NA	8-07-00	ND (225)	--
603356	TA2-2-FINAL-EB2	NA	8-08-00	ND (225)	--
603356	TA2-2-FINAL-EB3	NA	8-08-00	ND (227)	--
603360	TA2-2-FINAL-EB4	NA	8-09-00	ND (227 J)	--
603360	TA2-2-FINAL-EB5	NA	8-09-00	ND (229 J)	--

Note: Values in **bold** exceed background soil activity.
[a]Analysis request/chain-of-custody record.
[b]Sample naming scheme given in Table 5.6.2-1.
[c]Two standard deviations about the mean detected activity.
[d]From Tharp February 1999.
D = Soil sample duplicate.
EB = Equipment blank.
ER = Environmental Restoration.
ID = Identification.
J = Estimated value. See Data Validation report.
NA = Not applicable.
ND() = Not detected above the minimum detectable activity shown in parentheses.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not provided for nondetect results.

exceeded the 420 pCi/L SNL/NM-established background (Tharp February 1999) in 50 of the 58 samples analyzed by distillation at the off-site laboratory.

5.7.4 QA/QC Samples and Data Validation Results

QA/QC samples were collected at an approximate frequency of one per 10 field samples. These included duplicates, MS/MSD, equipment blanks, and trip blanks (the latter for VOC analysis only).

All laboratory data for excavated and confirmatory samples were reviewed and verified/validated according to "Data Verification/Validation Level 3-DV," in Attachment C of the Technical Operating Procedure 94-03, Rev. 0 (SNL/NM July 1994) or "Data Validation Procedure for Chemical and Radiochemical Data," in SNL/NM Environmental Restoration Project Administrative Operating Procedure (AOP) 00-03, Rev. 0 (SNL/NM December 1999). In addition, SNL/NM Department 7713 (RPSD Laboratory) reviewed all gamma spectroscopy results according to "Laboratory Data Review Guidelines," Procedure No. RPSD-02-11, Issue No. 2 (SNL/NM July 1996). Annex 5-E contains the data validation reports for the excavated and confirmatory soil samples. The data are acceptable for use in the SWMU 2 NFA proposal.

VOCs

Sixty-seven soil samples had one or more of the VOC analytes qualified "J" for values less than the reporting limit or uncertainties in the detection limit. Two soil samples were rejected, one sample had an acetone value rejected, and one acetone value was qualified for a missed holding time. Three trip blanks were rejected; three more had rejected acetone values and three were qualified for missed holding times.

SVOCs

Only one SVOC was reported. The detection of bis(2-ethylhexyl) phthalate was qualified "J" because the reported value was less than the laboratory reporting limit.

HE

None of the results for HE compounds were qualified.

Metals

No metal results were rejected for the excavated soil samples. Most of the barium, mercury, cadmium, and selenium results were qualified "J" for uncertainties in the laboratory reporting limit. Several arsenic, beryllium, selenium, and silver values were qualified as nondetects ("U") during the data validation process.

None of the confirmatory soil sample results were rejected. Many of the beryllium, cadmium, mercury, selenium, and silver results were qualified "J." Mercury was rejected in three of the five equipment blanks.

Radionuclides

No gamma spectroscopy results were qualified for excavated soil samples. Two tritium results were qualified "J".

No gamma spectroscopy results were qualified for the confirmatory soil samples. For tritium, two of the five equipment-blank nondetects were qualified "J."

5.8 Site Conceptual Model

The site conceptual model for SWMU 2 is based upon the residual COCs identified in the excavated soil and confirmatory soil samples. This section summarizes the nature and extent of contamination and the environmental fate of the COCs.

5.8.1 Nature and Extent of Contamination

As mentioned in Section 5.1, resampling of the excavated soil stockpiles confirmed the presence of low concentrations of PCBs. Additional characterization of the soil and excavation is currently being conducted and the results, including a revised risk assessment, will be presented in an addendum to this NFA proposal. The discussions that follow do not include the results from the latest sampling event.

The potential COCs at SWMU 2 were metals, VOCs, SVOCs, HE compounds, and radionuclides resulting from the disposal of classified materials at the site. Metal and radionuclide COCs were determined by comparing sample results to background concentrations established for the North Area Supergroup (Dinwiddie September 1997). Any metal or radionuclide found to exceed background in any sample was considered to be a potential COC for the site. Metal COCs included the eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus beryllium, nickel, and uranium (Table 5.8.1-1). The VOCs include 2-hexanone, acetone, ethyl benzene, methylene chloride, toluene, and xylene. The only SVOC was bis(2-ethylhexyl) phthalate. Radionuclides include uranium-235, uranium-238, thorium-232, cesium-137, and tritium.

Table 5.8.1-1 summarizes the distribution and simple statistics for COCs at SWMU 2, including the number of detections exceeding background and where VOCs and SVOCs were detected. Confirmatory samples were collected from the floor of the ACF and W-Pits and from the floor and sidewalls of the final SWMU 2 excavation. Samples were also collected from the excavated soil, which are planned for use as backfill pending the final SWMU 2 risk assessment.

Table 5.8.1-1
Summary of COCs for SWMU 2

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Metals	356 environmental	Arsenic	4.4	8.3	2.94	TA2-2-TRB3-SL16-000-S TA2-2-2LAY-DOWN-BIN-S TA2-2-3LAY-DOWN-BIN-N TA2-2-BORROW-1 TA2-2-BORROW-2 TA2-2-PTW3-0001-12-S TA2-2-PTW4-0001-15-S TA2-2-FINAL-SDW-550N-4150E-1.0
	368 environmental	Barium	200	8,100	253.21	134 samples
		Beryllium	0.80	4.20	0.44	TA2-2-TRC8-C/F-BIN-S TA2-2-TRD8-C/F-BIN-S TA2-2-3LAY-DOWN-BIN-S TA2-2-3LAY-DOWN-BIN-W TA2-2-8LAY-DOWN-BIN-WDU TA2-2-9LAY-DOWN-BIN-E
		Cadmium	0.9	740	13.13	201 samples
		Chromium	12.8	460	14.80	104 samples
		Lead	11.2	620	20.28	94 samples
		Mercury	<0.1	180	1.94	200 samples
		Nickel	25.4	400	16.16	15 samples
	354 environmental	Selenium	<1	250	1.38	29 samples
	355 environmental	Silver	<1	110	1.52	61 samples
	318 environmental	Uranium	2.3	4.50	1.11	TA2-2-TRA1-SL01-000-S TA2-2-3LAY-DOWN-BIN-E TA2-2-8LAY-DOWN-BIN-W TA2-2-9LAY-DOWN-BIN-E

Refer to footnotes at end of table.

Table 5.8.1-1 (Continued)
Summary of COCs for SWMU 2

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Volatile Organic Compounds	131 environmental	2-Hexanone	NA	14 J µg/kg	30.2 µg/kg	TA2-2-PW12-0001-SL8-S TA2-2-SLPE-SL16-000-S
		Acetone	NA	19 µg/kg	16.8 µg/kg	TA2-2-ACF2-0001-15-S TA2-2-PTW1-0001-10-S TA2-2-PW12-0001-SL7-S TA2-2-PW12-0001-SL8-S TA2-2-PTW2-0001-12-S TA2-2-PTW3-0001-12-S TA2-2-PTW3-0001-SL4-S TA2-2-SLPE-0001-SL9-S
		Ethyl benzene	NA	4.3 J µg/kg	6.2 µg/kg	TA2-2-ACF2-0001-SL4-S
		Methylene chloride	NA	7.3 µg/kg	3.6 µg/kg	TA2-2-ACF-2-001-15-S TA2-2-PTW1-0001-10-S TA2-2-TRE6-SL09-000-S TA2-2-TR2-EAST-FNCE-002-S TA2-2-TR2-P12A-SL6-DU TA2-2-TR2-P12A-SL6-S
		Toluene	NA	1 J µg/kg	3.2 µg/kg	TA2-2-ACF3-0001-12-S
	122 environmental	o-Xylene	NA	14 µg/kg	7.0 µg/kg	TA2-2-PW12-0001-SL8-S TA2-2-ACF2-0001-SL4-S
		p-, m-Xylenes	NA	21 µg/kg	10.9 µg/kg	TA2-2-PW12-0001-SL8-S TA2-2-ACF2-0001-SL4-S

Refer to footnotes at end of table.

Table 5.8.1-1 (Concluded)
Summary of COCs for SWMU 2

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Semivolatile Organic Compounds	9 environmental	bis(2-Ethylhexyl) phthalate	NA	207 J µg/kg	179 µg/kg	TA2-2-TRE6-SL09-000-S
Radionuclides	453 environmental	U-235	0.18 pCi/g	3.28 pCi/g	Not calculated[e]	17 samples
		U-238	1.3 pCi/g	208 pCi/g	Not calculated[e]	TA2-2-TRE1-0001-000-S TA2-2-TRE1-SL06-000-S TA2-2-TRE1-SL-13-000-S TA2-2-TRE2-SL07-000-S TA2-2-TRE3-SL07-000-S TA2-2-TRD3-SL03-000-S TA2-2-TRD3-SL06-000-S TA2-2-TRC9-C/F-BIN-S TA2-2-TRB3-SL-16-000-S TA2-2-P191-5C/F-BIN-S
		Th-232	1.54 pCi/g	3.58 pCi/g	Not calculated[e]	TA2-2-TRA2-SL02-000-S
		Cs-137	0.084 pCi/g	0.247 pCi/g	Not calculated[e]	TA2-2-TRC8-SL17-000-S TA2-2-TRC7-C6-BIN-S TA2-2-P298-C/F-BIN-S
	218 environmental	Tritium	420 pCi/L[f]	1,718,000 pCi/L	Not calculated[e]	180 samples
High Explosives	10 environmental	None	NA	NA	NA	None

[a]Number of samples includes duplicates and splits.
[b]From Dinwiddie September 1997.
[c]Average concentration includes all samples. For nondetect results, the method detection limit is used to calculate the average.
[d]Includes samples with nondetect results where the MDA or MDL exceeds the approved background limit; sample naming scheme is provided in Table 5.6.2-1.
[e]An average MDA is not calculated because of the variability in instrument counting error and the number of reported nondetect activities.
[f]From Tharp February 1999.

COC = Constituent of concern.
J = The reported value is greater than or equal to the MDL but is less than the practical quantitation limit.
MDA = Minimum detectable activity.
MDL = Method detection limit.
µg/kg = Microgram(s) per kilogram.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
SWMU = Solid Waste Management Unit.

5.8.2 Environmental Fate

The primary source for COCs was the disposal of classified materials in the landfill. Based upon the nature and extent of contamination at the site (Section 5.8.1), the excavation and excavated soil contains residual metals, VOCs, SVOCs, and radionuclides.

Because the VCM removed the primary contaminant source (weapon components and other material), only secondary sources of COCs remain in the form of residual metals, VOCs, SVOCs, and radionuclides in the subsurface of the excavation and pits and in the excavated soils that will be used as backfill. Since the backfilled excavation will be covered with at least 5 feet (1.5 meters) of imported clean fill, the secondary release mechanisms at SWMU 2 are dissolution of COCs and percolation through the soil, direct contact with soil (radionuclides only), VOC vapor emanations, dust emissions, and uptake of COCs by biota (Figure 5.8.2-1).

The depth to groundwater at the site is approximately 270 feet bgs for the shallow water-bearing zone and 520 feet bgs for the regional aquifer. The vadose zone is comprised of relatively impermeable carbonate-rich soil horizons and impermeable carbonate-cemented (caliche) horizons (SNL/NM March 1995). In addition, high-partitioning coefficients and low mobility in the transporting medium enhance dilution of the COC concentrations. As a result, the nature and extent of COCs as defined in this NFA proposal do not render groundwater a viable contaminant pathway. The pathways to receptors are soil, water, and air. Biota also provides a pathway through food chain transfers. Annex 5-F, Section V, provides additional discussion of the fate and transport of COCs at SWMU 2.

Surface-water is not considered a possible runoff mechanism since SWMU 2 is located well above the Tijeras Arroyo floodplain and over 1,400 feet away from the active channel. The arid climate makes it unlikely that rainfall or runoff could erode the site.

The current land use for SWMU 2 is industrial. The future land use is also industrial (DOE and USAF March 1996); therefore, the potential human receptor at the site is an industrial worker. For all applicable pathways, the exposure route for the industrial worker is dermal contact, external irradiation, and ingestion/inhalation. Ingestion of soil, external irradiation from soil, and ingestion/inhalation of air are considered the major exposure routes for the industrial worker. Because of the clean soil layer planned for the backfilled excavation, wildlife is considered the only potential ecological receptor at the site. Wildlife exposure can result from the ingestion of COCs through food chain transfers and the incidental ingestion of soil from the site. Annex 5-F, Section V, provides additional discussion of the exposure routes and receptors at SWMU 2.

5.9 Site Assessments

The site assessment process for SWMU 2 includes risk screening assessments followed by baseline risk assessments (as required) for both human health and ecological risk. This section briefly summarizes the site assessment results. Annex 5-F describes the assessment in detail.

5.9.1 Summary

The site assessment concludes that SWMU 2 does not have the potential to affect human health under an industrial land-use scenario. After considering the uncertainties associated with

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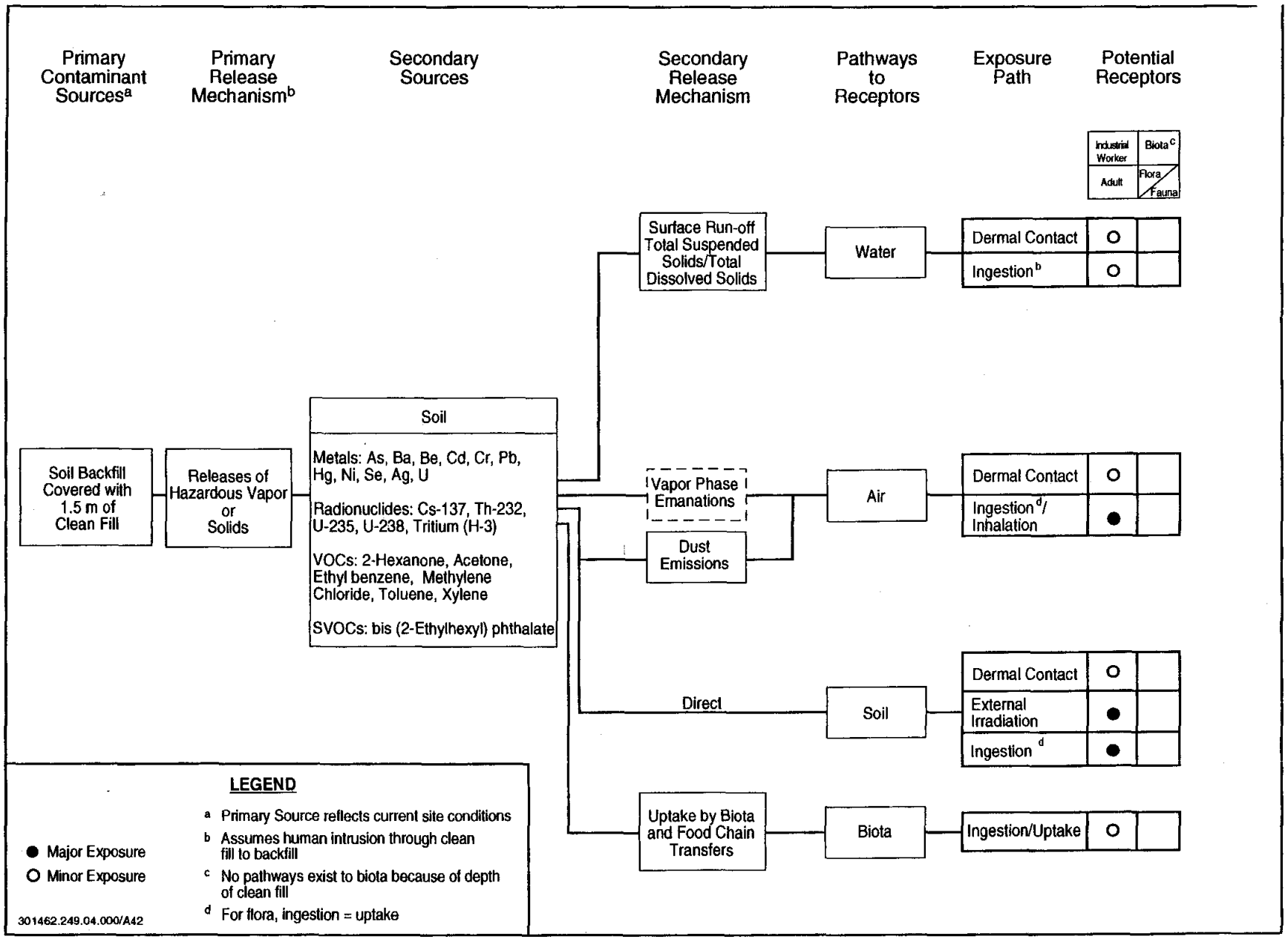

Figure 5.8.21

Conceptual Model Flow Diagram for SWMU 2, Classified Waste Landfill

the available data and the modeling assumptions, ecological risks associated with SWMU 2 were found to be low. Section 5.9.2 describes the site screening assessments and Annex 5-F provides details of the site assessment.

5.9.2 Screening Assessments

Risk screening assessments were performed for both human health risk and ecological risk for SWMU 2. This section briefly summarizes the risk screening assessments.

5.9.2.1 Human Health

SWMU 2 has been recommended for industrial land use (DOE and USAF March 1996). Annex 5-F provides a complete discussion of the risk assessment process, results, and uncertainties.

Because COCs are present in concentrations or activities greater than background levels at the site, it was necessary to perform a human health risk assessment analysis, which provides a quantitative evaluation of the potential adverse human health effects caused by constituents in the site's soil. This assessment included any detected organics and metals and radionuclides detected either above background levels and/or above MDAs. The risk assessment report (Annex 5-F) calculated the hazard index (HI) and excess cancer risk for an industrial land-use scenario. The excess cancer risk from nonradiological COCs and the radiological COCs is not additive (EPA 1989).

In summary, the HI calculated for SWMU 2 for nonradiological COCs is 2 for an industrial land-use scenario, which is greater than the numerical standard of 1.0 suggested by risk assessment guidance (EPA 1989). Incremental risk is determined by subtracting risk associated with background from potential nonradiological COC risk. The incremental HI is 2.36 for the industrial land-use scenario. Although the total and incremental HIs were above the NMED guideline, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site was adequately characterized, average concentrations were more representative of actual site conditions. When the upper 95 percent confidence limit of the mean concentration for cadmium and mercury were used in place of their respective maximum concentrations, the total and incremental HIs were reduced to 0.4 and 0.37, respectively. Both values were within NMED guidelines considering an industrial land-use scenario.

The excess cancer risk for SWMU 2 for nonradiological COCs is 5E-06 for an industrial land-use scenario. NMED Guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (NMED March 2000); thus, the excess cancer risk for this site is below the suggested acceptable risk value. The incremental excess cancer risk is 3.30E-06.

The incremental total effective dose equivalent (TEDE) for radionuclides for an industrial land-use scenario for SWMU 2 is 1.9E-2 millirems (mrem)/year (yr). This value is below the recommended dose limit of 15 mrem/yr, found in EPA's Office of Solid Waste and Emergency Response Directive No. 9200.4-18 (EPA 1997a) and reflected in a document entitled, "Sandia National Laboratories/New Mexico Environmental Restoration Project—RESRAD Input

Parameter Assumptions and Justification" (SNL/NM February 1998c). The incremental excess cancer risk for the radionuclides is 3.9E-7 for an industrial land-use scenario.

The residential land-use scenarios for this site are provided only for comparison in the risk assessment report (Annex 5-F). The report concludes that SWMU 2 does not have potential to affect human health under an industrial land-use scenario.

5.9.2.2 Ecological

An ecological screening assessment that corresponds with the screening procedures in the EPA's Ecological Risk Assessment Guidance for Superfund (EPA 1997b) was performed as set forth by the NMED Risk-Based Decision Tree (NMED March 1998).

The scoping assessment focuses primarily on the likelihood of exposure of biota at/or adjacent to the site to be exposed to constituents associated with site activities. COCs are present in the soils at SWMU 2 that exceed SNL/NM background screening values. However, all potentially contaminated soil at this site is planned for use as excavation backfill and will covered with an overlying cap of 1.5 meters (approximately 5 feet) of clean fill. Based upon information regarding the limits of biological activity in soils at KAFB (IT July 1998), this cap is expected to be of sufficient thickness to preclude contact between the COCs and biota. Therefore, no complete ecological pathways are expected to exist at this site. As a consequence, a screening assessment was not deemed necessary to predict the potential level of ecological risk associated with the site.

5.9.3 Baseline Risk Assessments

This section discusses the baseline risk assessments for human health and ecological risk.

5.9.3.1 Human Health

Because the human-health screening assessment summarized in Section 5.8.2.1 indicates that SWMU 2 does not have the potential to affect human health under either an industrial or a residential land-use scenario, a baseline human health risk assessment is not required for SWMU 2.

5.9.3.2 Ecological

Because the ecological screening assessment summarized in Section 5.8.2.2 indicates that SWMU 2 has incomplete ecological pathways, a baseline ecological risk assessment is not required for SWMU 2.

5.9.4 Other Applicable Assessments

A formal Surface-Water Assessment has not been conducted at SWMU 2 using the surface-water assessment guidance developed jointly by Los Alamos National Laboratory and the

NMED Surface Water Quality Bureau (LANL August 1998). Since the area surrounding SWMU 2 is flat and the site is over 1,400 feet from the active Tijeras Arroyo channel, the erosion potential is expected to be very low.

5.10 No Further Action Proposal

5.10.1 Rationale

Based upon VCM sampling data and the human health risk assessment analysis, an NFA is being recommended for SWMU 2 because no COCs are present at levels considered hazardous to human health for an industrial land-use scenario. Further soil characterization data and a revised final risk assessment will be submitted as an addendum to this NFA proposal as described in Section 5.0.

5.10.2 Criterion

Based upon the evidence provided above, SWMU 2 is proposed for an NFA decision in conformance with Criterion 5, which states that "The SWMU/AOC has been characterized or remediated in accordance with current applicable state or federal regulations and that available data indicate that contaminants pose an acceptable level of risk under current and projected future land use" (NMED March 1998).

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ANNEX 5-A
Landfill Remediation Process

5A.0 INTRODUCTION

The purpose of the Solid Waste Management Unit (SWMU) 2 Voluntary Corrective Measure (VCM) was to completely remediate the site, rendering it suitable for future industrial land use. Before the start of the VCM remediation, the SWMU 2 VCM Plan was submitted to the New Mexico Environment Department in December 1997 (SNL/NM December 1997). In addition, the plan was presented to the public at a meeting of the U.S. Department of Energy (DOE) Citizens' Advisory Board in November 1997. Site preparation activities were initiated in January 1998, and excavation commenced in early March 1998. Discussions of these and other aspects of the VCM are provided in succeeding sections.

5A.1 PROJECT PLANNING

5A.1.1 Permits

A Topsoil Disturbance Permit was obtained from the City of Albuquerque (COA) because the area to be disturbed exceeded the limit of 0.75 acre. A permit to proceed was secured from the COA per National Emission Standards for Hazardous Air Pollutants regulations. In accordance with the National Environmental Policy Act, a review of the potential impacts of the VCM remediation was filed with Sandia National Laboratories/New Mexico (SNL/NM) (SNL/NM August 1997). Miscellaneous SNL/NM-specific permits, such as a penetration/dig permit, radiation work permits, and a hot work/welding permit were obtained from the appropriate SNL/NM organizations.

5A.1.2 Plans

A set of planning documents was developed prior to the start of excavation activities in March 1998. These included Health and Safety, Security, Excavation, Operations, Waste Management, Sampling and Analysis, and Radiological Safety Plans. All of the documents underwent periodic reviews and updates as changing conditions warranted. Each of these is available for review in the SNL/NM Environmental Health and Safety Records Center.

In August 1997, to facilitate development of the various plans required for the project, a pre-planning meeting was held at which representatives of both DOE and SNL/NM provided input to specific aspects of the VCM. Thus, DOE and SNL/NM counterparts for classification, security, waste management, safety engineering, radiation protection, industrial hygiene, incident command, legal counsel, and other management/oversight organizations were involved in developing the project plans.

5A.1.3 Strategy

The principal VCM activities were (1) the excavation of all buried materials, (2) the separation and management of hazards; (3) segregation of materials into classified vs. non-classified and sorting by part type; (4) segregation of materials based on the potential for recycling and the further segregation of non-recyclable materials into waste categories (hazardous, radioactive,

mixed, or nonregulated solid waste) and disposal of same; (5) the demilitarization and disposition of classified materials; (6) confirmatory soil sampling; and (7) backfilling and revegetation of the excavation. A chronology of the excavation process through the verification sampling is summarized in Table 5A.1.3-1 below.

Table 5A.1.3-1
Chronology of VCM Progress at SWMU 2

VCM Activity	Date of Activity
Excavation of the ACF Pits (ACF-1 through ACF-5)	3/4/98–3/20/98, 6/23/98
Excavation of Western Pits (W-1 through W-4)	3/31/98–4/20/98
Excavation of Trench E (E-1 through E-8)	4/29/98–6/4/98
Excavation of Trench D (D-1 through D-8)	6/29/98–9/8/98
Excavation of Trench C (C-1 through C-9)	9/16/98–3/10/99
Excavation of Trench B (B-1 through B-3)	3/24/99–4/13/99
Excavation of Trench A (A-1 through A-3)	5/4/99–7/7/99
Excavation of Trench 1 (1-1 through 1-6)	8/18/99–10/20/99
Excavation of Trench 2 (2-1 through 2-12)	11/8/99–1/18/00
Excavation of Trench 3 (3-1 through 3-10)	7/29/99, 2/2/00–2/17/00
Excavation completed	2/17/00
Characterization of Excavated Soil	Ongoing through project
Waste Management	Ongoing through project
Verification Geophysical Survey	May–July 2000
Verification Soil Sampling	8/7/00–8/10/00

ACF = American Car Foundry.
VCM = Voluntary Correction Measure.
SWMU = Solid Waste Management Unit.

5A.2 SITE PREPARATION

Before any excavation activities could take place at the site, the work areas had to be defined and set up. In anticipation of this activity, several general site preparation activities were necessary. These are discussed in the succeeding sections.

5A.2.1 Utility Identification and Clearance

A dig permit was submitted to the SNL/NM Facilities Group to locate and mark all underground utilities, including gas, water, electricity, communications, and sewer. During the course of this activity, a 10-inch water line was found to be immediately adjacent to the proposed excavation and was directly in line with the western anomalies east of Building 919. The location of this line necessitated shutting off the water supply and cutting the line where it cut through the western anomalies.

5A.2.2 Soil Stockpile Areas

Because of the large volume of soil removed during the excavation, it was necessary to establish "clean" and "interim storage" soil stockpile areas for the project. Thus, an area was located east of the main Technical Area-II fence to stockpile soil characterized as appropriate for backfill; an interim storage area was located near the material handling building south of the landfill proper to maintain potentially contaminated soils within site boundaries.

5A.2.3 LAGS and Material Handling Building

A large temporary structure was erected on the south end of the site in January 1998 to house the Large Area Gamma Spectroscopy (LAGS) system. Further discussion of the LAGS setup is provided in Section 5.6.2.2. As the project progressed and it became clear that no large amounts of radioactively contaminated soil were being generated, the LAGS system was dismantled, and the material handling function was moved into the structure in January 1999.

5A.2.4 Screen Plant

The need to separate rock and small debris from the excavated soil to allow characterization prompted the installation of a screenplant that also sorted the rock and debris by size fraction. The size fraction separation allowed the rock and debris to be sorted again later to remove any remaining classified or hazardous items prior to using the rock for backfill.

5A.3 EXCAVATION PROCESS

The excavation strategy was based on the latest geophysical survey and available historical records. The ACF and the W-Pits were excavated first because the limited process knowledge available on those disposals gave no indication of any hazards associated with the contents. Because it was assumed from the historical records that the least-contaminated items were buried last (since they reportedly underwent a radiological and chemical screening prior to burial), the excavation proceeded from youngest trenches backward through time to the oldest disposals cells. The youngest trenches were located in the northern portion of the landfill (Trench E); thus, the excavation proceeded from north to south from Trench E to Trench 3 and from pit to pit within each trench. This accomplished the dual goals of excavating the less complicated areas (from a material management standpoint) first, thus allowing the excavation and material handling crews to refine their work flow processes prior to encountering more difficult areas.

Each pit was assigned an identifier to ease the tracking of materials and excavation progress. The original numbering scheme was adhered to, but was supplemented because of the additional, distinct pits identified through the geophysical surveys. Thus, as indicated in Table 5.1.4-1, five ACF Pits, four W-Pits, Trenches A through E, and Trenches 1 through 3 were labeled with individual pits identified in each.

Once materials were identified, classified databases were searched and subject experts were contacted to assist with determining proper hazard mitigation procedures and current level of security classification, and to review options for the ultimate disposition of components and

materials. Because the current classified weapons component databases do not specifically identify all the hazards associated with a particular item, project personnel compiled information gained from the material characterization effort to increase the future usability of such databases.

Approximately 50,000 cubic yards of soil were excavated from the landfill between March 1998 and February 2000, when the excavation was completed. Depth of the excavation ranged from 10 to 20 feet, with an average depth of approximately 12 feet. The north side of the excavation was used as an equipment ramp and was sloped to allow access.

The strategy for defining the vertical and lateral extent of each pit area was to continue excavating until:

- No visible debris remained,
- Metal detector surveys indicated that no metallic debris remained buried, and
- All fill material was removed down to natural deposits.

Measures to verify that the VCM was complete included the proceeding, plus the following:

- Geophysical surveys indicated no non-native materials remained buried, and
- Confirmatory soil sampling indicated only background or risk-based levels of constituents of concern (COCs) remained.

5A.3.1 Excavation

Because of the potential for unknown hazards in the landfill (radiological, chemical, and explosive), the overburden, which varied in thickness from 1.5 to 6 feet was carefully removed with an excavator from each disposal cell and separated. The overburden was expected to contain little or no contamination. The overburden soil was screened and sampled for chemical and radiological hazards, then set aside for use as backfill at the end of the project. No contaminated overburden or sloping material was identified during the excavation.

After removal of the overburden, the soil and debris was dug out pit by pit, with the excavator operator looking for compressed gas cylinders, unexploded ordnance, or other immediate hazards. Any items suspected of being an immediate threat to worker safety were investigated and rendered safe before further movement. The soil and debris were then moved out of the pit with a loader for further examination.

5A.3.2 Laydown Procedures

A more thorough examination and screening of the material excavated was conducted at the Laydown Area. Excavated materials were spread on the ground to an approximate depth of 6 inches.

The material was then closely surveyed for any items that posed an immediate hazard to personnel. First an explosives expert looked for potentially explosive items, then the soil and debris were checked for volatile organic compounds (VOCs) using a photoionization detector (PID), and radiation technicians performed surveys for loose and/or fixed contamination.

Thermal Environmental Instruments Inc. PIDs 580 EZ and 580B with 10.6 eV lamps were used for this project. The detectors were used to monitor for VOCs during laydown operations in the breathing zone and in direct contact with soil and debris. The PID monitoring results did not detect any organic vapors above background levels for soil surveyed during laydown operations for the entire excavation. A few rubber components and containers did indicate VOC emissions when unwrapped or opened.

The radiological instruments used to survey the debris and soil at laydown for radioactive material were selected to detect all radiological COCs except tritium. The instrumentation consisted of the following. Ludlum model 2221 ratemeters (coupled to both a Ludlum model 44-10 2x2 gamma scintillometer and a Bicron FIDLER gamma scintillometer) measured both gamma and low energy gamma emissions and x-rays; a Ludlum model 19 microR meter monitored dose rates and detected x-rays; and a Ludlum model 12 ratemeter coupled to a Ludlum model G-10-2 neutron probe measured neutron emissions.

After any hazards identified were safed and/or isolated, the other components were removed and placed in bins for further surveying, cleaning and sorting at another material handling area.

5A.3.3 Soil and Debris Screening

After the surveys and debris removal at the Laydown Area, the remaining material (soil, cobble, and small debris) was removed from the area using a loader and processed through the screenplant for separation by size. Additional hand sorting was performed to separate the debris from the cobble. The debris separated from the screened cobble was then sent to the material handling area for processing.

5A.3.4 Material Sorting and Segregation

At the material handling area, items were sorted by hand and checked a second time for radiological components or loose contamination and other hazards. They were then separated into process streams based on their type (thermal batteries, firing sets, neutron generators, capacitors, trainers, and so forth) and level of classification. The material was then submitted to another radiological survey area to be checked a third time for radioactive material prior to unrestricted release. The last survey was the official survey of record performed by SNL/NM Radiation Control Technicians. The items confirmed to be free of radiological contamination were sorted further into demilitarization, recycling, or disposal streams. Items not qualifying for unrestricted release or that could not be effectively decontaminated were segregated for disposal as radioactive waste. Items destined for demilitarization and/or recycling were separated from those destined for disposal as waste (e.g., soft waste - foam, paper, and plastics, glass, as well as hazardous waste items like thermal batteries and capacitors, etc.). Material that could not be recycled and was not regulated waste was disposed as solid waste.

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ANNEX 5-B
Landfill Debris Disposition

5B.1 MATERIAL HANDLING AND DISPOSITION

Approximately 1.5 million pounds of debris were removed from the landfill. All of this material required careful consideration as to security classification, recycle value, and waste categorization. The objective of the material handling and disposition phase of the project was to remove from classification or reapply as much of the unregulated landfill debris as possible. Disposition included extensive recycling efforts, rather than simply transferring the material to a permitted landfill.

Excavation and subsequent component identification indicated that approximately 90 percent of the landfill contents were still considered classified from a national security standpoint. Many of the classified components contained radioactive, hazardous, and/or explosive material, increasing the complexity of disposition. Because classified components have to be demilitarized (destroyed to prevent recovery of sensitive information) prior to final disposition, the demilitarization process dovetailed well with recycling. Approximately 70 percent (by weight) of the classified artifacts were processed to recover recyclable metals during the demilitarization process.

After items were checked for hazardous or radioactive contamination or internal components, they were separated based on their ability for reuse or recycle. The material exhumed during the excavation consisted of a wide variety of individual parts and assemblies from the many weapon systems Sandia National Laboratories/New Mexico (SNL/NM) was involved with in a design or test capacity. The parts ranged from very small components such as circuit boards, relays, diodes, actuators, magnetic coils, computer chips, condensers, capacitors, switches, transistors, cables and wiring, to complete electronic assemblies, metal shapes of all types, neutron generators, nose cones, radar sets, firing sets, artillery and mortar rounds, and penetrator tips, to dies weighing thousands of pounds. Both production versions and a variety of prototype models of components and assemblies from different weapon systems were disposed in the landfill. Complete weapon mock-ups (including those of the B-14, B-53, W-28, W-30, W-52, W-53, W-55, and W-56 weapon systems) that allowed testing of entire assemblies or for use in training were exhumed.

5B.1.1 Strategy

At the beginning of the project, it was believed that a large percentage of the artifacts removed from the landfill could be recycled or reapplied, either in part or as complete items. Thus, a strategy was developed to allow the identification of such items and establish the framework in which to accomplish this goal. Recycling or reapplication, coupled with demilitarization when necessary, was pursued as an option for several reasons:

- Recycling was preferable and more cost effective than simply reburying the material in a permitted landfill.
- Many items, being classified, required demilitarization (i.e., destroying a part to render it unrecognizable and unusable). To add the recycling step was natural, since the material would be ready for recycle.

- The cost to dispose of classified waste is an order of magnitude higher than the cost for unclassified waste. Thus, demilitarization with the intent to recycle became very attractive from a budget standpoint.

- There was no option available at the time for disposing of items as classified mixed waste. Thus, wherever possible, removing the radioactive or hazardous component to prevent an item from becoming mixed waste provided an avenue for disposal that would not otherwise exist.

Demilitarization and recycling was planned for the majority of items removed from the landfill. This was to apply wherever recycling was a viable option. Items with no recycle value (e.g., bags of powder, capacitors, thermal batteries, etc.) were managed throughout the process as waste. The management of waste material is discussed more fully in Section 5B.2.

5B.1.2 Material and Data Management and Tracking System

In order to facilitate tracking of materials removed from the landfill, and to track the analytical data associated with materials and soils, a material and data management system (MDMS) was developed. The database was used to track material as it was processed through the system of characterization surveys and disposition decisions.

As material was processed through the sorting and segregation process, it was assigned a unique identifier in the MDMS to track where the item was in the system, what surveys still needed to be performed, what the results of the surveys were, and where it was being stored. As a determination on final disposition was made for each item, this information was added to the MDMS.

The MDMS was also used to enter field-screening data for soil characterization, to track analysis request/chain-of-custody records, and which analyses were requested for each sample submitted, whether soil or waste characterization. Thus, it was possible to tie a particular analytical result to a particular item or group of items and determine whether characterization was complete and when the data could be expected to arrive.

Another feature of the MDMS was to keep track of the types of materials removed and their ultimate disposition so approximate numbers and weights of items for each disposal path could be tracked. For example, to determine the number of items and groups of items submitted in a particular month for recycling and the total weight of those artifacts required only a simple query to retrieve the information.

5B.1.3 Classification and Security

5B.1.3.1 Handling and Storage of Classified Items

In order to follow security requirements for classified material, all artifacts were assumed to be classified until proven otherwise.

5B.1.3.1.1 Staging of Classified Materials

Those items known to be classified, or not yet proven otherwise, were stored in locked and alarmed buildings and transportainers during non-work hours. Several different categories of items were identified in the site security plan which required separate storage if they were discovered during excavation. The following categories were set up for the storage of specific items:

- Special nuclear material
- Firearms (e.g., handguns, rifles, shotguns)
- Precious metals (in significant quantities)

Categories added after the start of the project included securing radioactively-contaminated classified material separately from other classified material.

5B.1.3.1.2 Identification of Classified Items

As items were removed from the excavation and processed through the various stages of handling and segregation, many items were categorized as to their classification level using databases developed by SNL/NM weapons groups. In those cases where no identifying marks were apparent or when serial numbers were missing or obscured, weapon experts were consulted to identify components and make classification determinations. This information was added to the project database for reference throughout the project.

5B.1.4 Demilitarization Process

The demilitarization process was established in accordance with U.S. Department of Energy (DOE) guidance (DOE June 1998). The process consisted of identifying the components and any associated hazards; sorting to remove unclassified material; separation to remove hazardous and/or radioactive items; disassembly to remove unclassified portions and access waste material; then shredding, sawing, rubblizing, or melting the remaining components prior to disposal as solid waste or metals recovery through recycle. The high-quality electronic components contained attractive quantities of precious metals and the weapon mock-ups and prototypes produced significant amounts of the more common metals.

After identification, and once their internal structures were understood, the more complex assemblies were dismantled to remove any radioactive parts or hazardous materials such as batteries, capacitors, lead-containing ceramics, beryllium, mercury switches, sealed radioactive sources, or asbestos prior to demilitarization.

If disassembly was not feasible or cost-effective, components were opened up or reduced in size by bandsaw, pneumatic chisel, chopsaw, oxy-acetylene torch, jackhammer, oxygen lance, or plasma torch. The weapon casings were generally not considered classified, so disassembly permitted significant volume reduction and grouping of similar components such as metal shapes, capacitors, batteries, or smaller assemblies requiring shredding. Approximately 30,000 pounds of aluminum, brass, copper, and stainless steel components were classified by their

shape and configuration; these were separated and melted in an induction furnace at SNL/NM, producing ingots that were sold to a recycler.

5B.1.5 High-Risk Material

Approximately 10 percent of the volume excavated consisted of unclassified material, primarily metal shapes or parts that were never classified or were no longer considered classified. The unclassified components, because they were associated with weapon systems are considered high-risk property if they are in good enough condition to be reused. High risk property must be rendered unusable for the original intended purpose, per DOE guidance (DOE June 1998). This is accomplished by crushing items with an excavator bucket or using a chopsaw, acetylene torch, jackhammer, or oxygen lance to cut them apart. The unclassified metals components resulting from the disassembly process have recoverable value and are easily recycled. The types of metal with recoverable value include stainless steels, aluminum, magnesium, copper, brass, cast iron, and carbon steel. Once this material was identified, separated from the classified components, and certified to be free of radioactive contamination, it was loaded into roll-off containers for disposition by a local metals recycling contractor.

5B.1.6 Recycling

Approximately 70 percent of the classified material removed from the landfill contained a variety of metals that could be recycled and reused. If the product of the demilitarization process was composed primarily of common metals, a local recycler purchased the material for a nominal fee. The common metals included mild steel, cast iron, cadmium, lead, stainless steel, magnesium, copper, titanium, aluminum, brass, tin, and zinc. These came from weapons casings, molds, and other weapon components, lead sheet and shapes, wire, cable, and tubing. As of May 2001, approximately 800,000 pounds of unclassified metal were sold to a local metal recycler. In addition, numerous nickel-cadmium batteries were recovered from the landfill. Approximately 50,000 pounds of nickel-cadmium batteries were recycled.

If the demilitarized material consisted primarily of electronic components, the resulting material was shipped to a smelter specializing in the extraction of precious metals such as gold, silver, platinum, tantalum, and palladium. The sale of these metals returned some nominal funding to SNL/NM to support the demilitarization process.

Classified material for which demilitarization processes were not available or which could not be readily identified were stored in a secure bunker in Manzano Base until disposition options were available.

5B.1.7 Materials Reapplication

Not all the classified weapon components from the landfill required demilitarization. Some weapon mock-ups or components were from weapon systems that have been removed from the U.S.'s nuclear stockpile. A number of the items were determined to have some historical value and were transferred to the classified weapons display at the Kirtland Air Force Base (KAFB) Defense Nuclear Weapons School. A few components were reapplied through a SNL/NM weapon systems training organization. A joint Los Alamos National Laboratory and SNL/NM

program preparing specialized response teams for explosive and nuclear incidents acquired some weapon mock-ups for training purposes. A few components or assemblies that were no longer classified but had some historical value and were still in good shape were released to the National Atomic Museum on KAFB for display. These were the most cost-effective disposition options but only accounted for a small fraction of the material excavated.

5B.2 WASTE HANDLING AND DISPOSITION

5B.2.1 Waste Management Overview

The objective of the waste management portion of the project was to characterize material with no recycle value for radiological or chemical contamination so it could be placed in the appropriate waste stream. For those materials that were hazardous (e.g., thermal batteries), the ability to demonstrate that they were not also radioactive averted disposal of the material as mixed radioactive and hazardous waste, a more complex waste stream. Demilitarization played a significant role in this arena, for there is currently no disposal option for classified mixed waste. Items that were found to have fixed or loose radioactive contamination or that contained radioactive sources that could not be separated from the component (less than 0.5 percent of all items removed) had to be characterized for disposal as radioactive waste.

5B.2.2 Waste Streams and Volumes

By-products of the disassembly and demilitarization effort were components, both classified and unclassified, with no recoverable value, containing hazardous and/or radioactive materials, that had to be categorized as waste. The major residual waste streams from disposition of the classified material from the landfill are briefly discussed below.

Various classified and unclassified waste types have been produced to date. These include Resource Conservation and Recovery Act (RCRA), RCRA/Toxic Substances Control Act (TSCA), radioactive, mixed hazardous and radioactive, and solid waste. Table 5B.2.2-1 summarizes the various types of wastes and recycled materials processed to date. Descriptions of the waste categories are given below.

5B.2.2.1 RCRA Hazardous Waste

The largest hazardous waste stream generated in the course of the project were expended thermal batteries developed at SNL/NM for nuclear weapons. Other forms of hazardous wastes included capacitors, silver-zinc batteries, mercury batteries, fibrous materials, mock high explosives (HE), soft waste, powders, liquid mercury, and mercury switches. The material, hazardous constituents, and approximate weights of each type of waste are summarized in Table 5B.2.2.1-1 and brief descriptions of each waste category are provided below. Approximately 177,000 pounds of unclassified hazardous waste was characterized and packaged for disposal. No classified hazardous wastes were generated.

Table 5B.2.2-1
Summary of Estimated Weights for Waste Materials

Classified Waste	Approximate Weight (pounds)
Low-level radioactive	2,000
Mixed hazardous and radioactive	8,000
Total	12,000
Unclassified Waste	
Low-level radioactive	20,000
RCRA hazardous	177,000
Mixed hazardous and radioactive	1,000
RCRA/TSCA	7,000
Solid	92,000
Total	297,000
GRAND TOTAL	307,000

RCRA = Resource Conservation and Recovery Act.
TSCA = Toxic Substances Control Act.

Table 5B.2.2.1-1
Summary of RCRA Hazardous Wastes

Waste	Hazardous Constituent(s)	Approximate Weight (pounds)
Thermal Batteries	Asbestos, barium, cadmium, chromium, lead	130,000
Capacitors	Lead	20,000
Silver-Zinc Batteries	Silver	6,000
Mercury Batteries	Mercury	5,000
Fibrous Materials	Phenols	5,000
Mock HE	Barium	4,000
Soft Waste	Cadmium, lead, mercury	5,000
Powders	Barium, cadmium, chromium, and lead	1,000
Hg and Hg Switches	Lead, mercury	1,000
Total		177,000

HE = High explosives.
Hg = Mercury.
RCRA = Resource Conservation and Recovery Act.

5B.2.2.1.1 Thermal Batteries

Approximately 130,000 pounds of thermal batteries representing 90 different models were excavated and managed as waste. Although thermal batteries were classified when disposed, all types found in the landfill are now unclassified.

A thermal battery is an electrochemical power supply with a fused salt electrolyte. The batteries are essentially inert at normal room temperature and are activated by supplying sufficient heat to melt the electrolyte. Under normal operation, heat is supplied internally by a pyrotechnic heat

source. The batteries are hazardous when disposed due to the presence of barium, cadmium, chromium, and/or lead. Each particular model may have some or all of these RCRA metals. Additionally, approximately 70 percent of the thermal batteries handled contain asbestos, a TSCA waste. The different metals present in different types, and the potential for asbestos required careful sorting of the batteries by type.

A handling process was developed to verify that all the thermal batteries were expended before disposal. Batteries were visually checked for physical breaches of the battery case. Because the internal components of the battery are compromised by water intrusion, any battery with a punctured outer case was considered inert. Any battery found with a "Fired" label was considered expended. SNL/NM performed extensive research and development of thermal batteries for 40 to 50 years. It was standard practice for the testing laboratory to mark expended batteries as "Fired".

For unbreached batteries, several methods were used to verify that they were expended. Batteries with intact connector pins were tested with a portable digital ohmmeter to check the resistance of the battery circuits. SNL/NM organizations provided expert technical assistance and guidance in testing the thermal batteries. Unbreached batteries with missing connector pins were sent to an SNL/NM X-ray facility. Each battery was X-rayed and an experienced X-ray and thermal battery technician inspected the films to verify that each battery was fired. A few unfired batteries were found but they were subsequently fired by the thermal battery technician in a controlled environment.

5B.2.2.1.2 Capacitors

Thirty-five different types of capacitors were excavated at Solid Waste Management Unit (SWMU) 2. Approximately 20,000 pounds of capacitors were processed. Capacitors are hazardous waste due to the presence of lead. Additionally, approximately 5 percent of the capacitors contained polychlorinated biphenyl (PCB) concentrations above the regulatory limit.

Capacitors were sorted according to model number. A photograph of each unique capacitor was taken to facilitate identification of different models as they were excavated. Each model number was then analyzed for PCBs. Intact capacitors were considered high risk property and had to be rendered unusable by puncturing the layers.

5B.2.2.1.3 Silver Zinc Batteries

Approximately 6,000 pounds of silver zinc batteries were excavated from the landfill. Silver and potassium hydroxide were the primary hazardous constituents. Additionally, the batteries contained an explosive squib that is fired, puncturing a diaphragm and allowing the potassium hydroxide electrolyte to mix in the cells and activate the battery. These batteries also were X-rayed to verify if they were expended. If the X-ray results were uncertain, the batteries were opened and destroyed to verify that they were inert.

5B.2.2.1.4 Mercury Batteries

Approximately 5,000 pounds of mercury (mercuric oxide) battery stacks and cells were excavated from the landfill. The primary hazard in these batteries is mercury.

5B.2.2.1.5 Fibrous Materials

Approximately 5,000 pounds of resin-coated fibrous materials in bags, boxes, and barrels were excavated from the landfill. Analysis revealed that the hazardous constituents were phenols. Additional analysis showed that these batteries did not contain asbestos and they were disposed as hazardous waste.

5B.2.2.1.6 Mock High Explosives

Approximately 4,000 pounds of mock HE were excavated from the landfill. Mock HE is a pink, solid, barium nitrate material used to simulate explosives in weapon assemblies. The material has many physical properties similar to those of high explosives but is not explosive. The material was categorized as a hazardous waste due to the high concentrations of barium. Mock HE was visually detected in materials excavated from the landfill or during dismantling of large assemblies, segregated, and packaged for disposal. Containers of accumulated mock HE were sampled for gamma spectroscopy and tritium analysis. Most of the mock HE found at SWMU 2 was considered hazardous waste only; however, a small percentage was managed as mixed waste due to tritium contamination.

5B.2.2.1.7 Soft Waste

Approximately 5,000 pounds of hazardous soft waste was generated. The term soft waste was given to material consisting of scrap paper, plastic sheeting, soft foam, rigid foam, flexible tubing, polyvinyl chloride, and wood removed from the landfill. Due to the heterogeneous nature of this type of material, each container was sampled for heavy metal contamination. Containers that did not exceed any regulatory limits were processed as low-level radioactive waste; containers that did prove to be hazardous waste were returned to SWMU 2. The soft wastes were removed from the drums, carefully surveyed and sorted to remove any radiologically-contaminated materials and then a SNL/NM Radiation Control Technician performed a radiological survey to verify that no radioactive contamination existed. The container was then processed as RCRA-hazardous waste.

5B.2.2.1.8 Powders

A small amount (approximately 1,000 pounds) of hazardous powders was recovered from the landfill. Powders were generally found in containers and therefore handled separately as they also had to be analyzed for ignitability. These powders contained cadmium, lead, barium, and/or chromium and were considered RCRA-hazardous.

5B.2.2.1.9 Mercury and Mercury Switches

Approximately 1,000 pounds of liquid mercury and mercury switches were recovered from the landfill. The majority of this waste was a particular model of mercury switch containing mercury and lead.

5B.2.2.2 Low-Level Radioactive Waste

Approximately 20,000 pounds of unclassified radioactive waste was produced during the SWMU 2 Voluntary Corrective Measure. The majority of this waste was radioactively-

contaminated metal, soft debris, and personnel protective equipment (PPE) with lesser amounts of other contaminated materials. Depleted uranium and tritium were the most common radioactive contaminants.

A lesser amount of classified radioactive waste was produced. The 2,000 pounds of classified radioactive waste was tritium-contaminated beryllium material.

5B.2.2.3 Mixed Hazardous and Radioactive Waste

Approximately 1,000 pounds of unclassified mixed waste were produced as a result of landfill activities. This waste consisted of electronic components containing lead, tritiated mock HE, and small quantities of contaminated capacitors and thermal battery fragments.

Approximately 8,000 pounds of classified neutron generators were retrieved from the landfill. Neutron generators are considered mixed hazardous and radioactive waste due to tritium and lead constituents. However treatment to separate the tritium component and demilitarization are available at SNL/NM in a permitted facility.

5B.2.2.4 RCRA/TSCA Wastes

Approximately 7,000 pounds of RCRA/TSCA mixed waste were produced. These wastes consisted of PCB-containing capacitors and small transformers.

5B.2.2.5 Solid Waste

Material that qualified as solid waste included PPE, magnetic tape containers, fabrics, wood, paper, cardboard, cement, foam, fiberboard, ceramics, plastics, and firearms. This material was unclassified or could be demilitarized and had no recyclable value. The waste stream was disposed as nonregulated or solid waste and was sent to the KAFB landfill. A total of approximately 92,000 pounds was released from the site and disposed of as solid waste.

5B.2.2.5.1 Electronic Media Tapes

Approximately 25,000 pounds of reels of magnetic computer tape were excavated from SWMU 2. It was assumed there might be classified information contained on the tapes. The tapes were surveyed for any chemical or radiological contamination then SNL/NM Mail Services shredded and disposed of the material as solid waste.

5B.2.2.5.2 Firearms

A small amount of disfigured firearms and related parts were found in the landfill. Included were handguns, rifles, shotguns, and automatic weapons. Approximately 300 pounds of assorted firearms and components were transferred to the Alcohol, Tobacco, and Firearms Agency to complete their destruction at an explosive test range.

5B.2.3 Waste Characterization

The objective of the waste characterization effort was to sufficiently characterize waste material to determine the appropriate waste category and to ensure that waste acceptance criteria for a particular disposal site were met. Characterization of waste generated during the landfill excavation was determined using process knowledge and/or sampling and analysis. In those cases where sufficient historical information was available about a given artifact, process knowledge could be used to characterize waste streams when one or more of the following conditions were present:

- A waste stream was difficult to sample because of its physical form.
- Sampling and analysis of a particular waste stream could have resulted in unacceptable risk of radiation or chemical exposure.
- The waste was too heterogeneous in composition to adequately characterize by sampling and analysis.

The majority of the waste streams generated were solid in nature. Minimal amounts of liquid wastes were generated and consisted of waste oil from heavy equipment and small volumes of capacitor and transformer oils emptied from components.

REFERENCES

DOE, see U.S. Department of Energy.

U.S. Department of Energy (DOE), June 1998. "Guidance on Demilitarization and Sanitization for Disposition of Nuclear Weapon Components and Related Materials," Office of the Deputy Assistant Secretary for Military Application and Stockpile Management, U.S. Department of Energy, Albuquerque, New Mexico.

ANNEX 5-C
X-Ray Fluorescence Results

Memorandum

To: File

CC: William Moats, NMED; Bill McDonald, NMED; Bob Galloway SNL Dept. 6133

From: Joe Pavletich, SNL Dept. 6134

Date: 09/07/01

Re: X-Ray Fluorescence (XRF) and Large-Area Gamma Spectroscopy (LAGS) Field-Screening Data Presentation in the SWMU 2 NFA Proposal

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I met with Will Moats of NMED on Thursday March 8, 2001 to request his guidance for presenting the copious amounts of XRF and LAGS field-screening data generated during the Classified Waste Landfill excavation. This data was primarily used to field-screen excavated soil for waste management purposes rather than for site characterization and were planned to be included as annexes in the NFA proposal to be submitted in 2001.

Since a major effort would have been required to regenerate and reproduce the LAGS data and minimum detectable activities (MDAs) typically included in NFA proposals, Mr. Moats agreed that a summary table of the LAGS results, using NDs instead of the MDAs, would be sufficient. Mr. Moats also agreed that a summary table and copies of the raw sheets would be sufficient for the XRF data.

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
March 1998–March 2000

ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
ACF3-001	03/23/1998	NA	874	0.2	33	19	ND	NA	NA	ND
ACF4-001	03/24/1998	NA	809	12	88	28	ND	NA	NA	ND
ACF4-002	03/24/1998	NA	860	11	89	20	ND	NA	NA	ND
ACF4-003	03/25/1998	NA	721	41	56	59	ND	NA	NA	69
ACF4-004	03/25/1998	NA	688	36	157	37	ND	NA	NA	ND
ACF4-005	03/25/1998	NA	673	43	118	38	ND	NA	NA	89
ACF4-006	03/25/1998	NA	522	27	68	33	ND	NA	NA	ND
ACF1-001	03/26/1998	NA	737	9	54	15	ND	NA	NA	ND
ACF1-002	03/27/1998	NA	742	14	48	18	ND	NA	NA	ND
ACF1-003	03/31/1998	NA	846	3	53	17	14	NA	NA	ND
ACF1-004	03/31/1998	NA	766	ND	59	4	ND	NA	NA	ND
PTW1-003	04/01/1998	NA	930	5	20	29	0.6	NA	NA	ND
PTW1-001	04/01/1998	NA	772	3.5	29	17	ND	NA	NA	ND
PTW1-002	04/01/1998	NA	814	6	10	19	ND	NA	NA	ND
PTW1/2-001	04/03/1998	NA	865	15	18	22	ND	NA	NA	ND
PTW1/2-002	04/03/1998	NA	823	5	44	9	ND	NA	NA	ND
PTW1/2-003	04/06/1998	NA	865	14	51	25	ND	NA	NA	ND
PTW1/2-004	04/06/1998	NA	892	12	60	30	ND	NA	NA	ND
PTW1/2-005	04/06/1998	NA	706	8	15	19	ND	NA	NA	ND
PTW1/2-006	04/06/1998	NA	716	12	36	22	ND	NA	NA	ND
PTW1/2-007	04/07/1998	NA	834	15	37	17	ND	NA	NA	ND
PTW1/2-008	04/07/1998	NA	814	13	40	5	ND	NA	NA	ND
PTW1/2-009	04/07/1998	NA	778	16	47	32	ND	NA	NA	ND
PTW1/2-010	04/08/1998	NA	712	10	36	26	ND	NA	NA	ND
ACF3-002	04/08/1998	NA	703	5	45	23	ND	NA	NA	ND
ACF3-003	04/09/1998	NA	505	7	24	23	ND	NA	NA	ND
ACF3-004	04/09/1998	NA	764	3	36	14	ND	NA	NA	ND
ACF2-003	04/10/1998	NA	789	ND	29	15	ND	NA	NA	ND
ACF2-001	04/10/1998	NA	679	2	18	16	ND	NA	NA	ND
ACF2-002	04/10/1998	NA	776	1	36	29	ND	NA	NA	ND
ACF2-004	04/13/1998	NA	685	ND	37	12	ND	NA	NA	ND
ACF2-005	04/13/1998	NA	783	2	37	11	ND	NA	NA	ND
ACF2-006	04/13/1998	NA	685	1	17	7	ND	NA	NA	ND
ACF2-007	04/13/1998	NA	778	1	32	23	ND	NA	NA	ND
PTW3-001	04/14/1998	NA	849	15	53	14	ND	NA	NA	ND
PTW3-002	04/14/1998	NA	819	15	66	20	ND	NA	NA	ND
PTW3-003	04/14/1998	NA	911	19	23	15	17	NA	NA	14
PTW3-004	04/14/1998	NA	788	27	24	11	13	NA	NA	ND
PTW3-005	04/14/1998	NA	847	21	27	ND	ND	NA	NA	ND
PTW3-006	04/14/1998	NA	889	28	64	29	ND	NA	NA	ND
PTW3-007	04/15/1998	NA	840	45	19	22	ND	NA	NA	ND
PTW3-008	04/15/1998	NA	878	40	40	33	ND	NA	NA	ND
PTW3-009	04/15/1998	NA	838	15	61	19	ND	NA	NA	ND
OVER-001	04/16/1998	NA	772	ND	5	10	ND	NA	NA	ND
OVER-002	04/16/1998	NA	799	ND	27	25	ND	NA	NA	ND
OVER-003	04/20/1998	NA	792	ND	38	24	ND	NA	NA	ND
OVER-004	04/20/1998	NA	768	1	28	4	11	NA	NA	ND
OVER-005	04/21/1998	NA	797	0.3	33	24	ND	NA	NA	ND
PTW4-001	04/21/1998	NA	900	12	20	31	ND	NA	NA	ND
PTW4-002	04/21/1998	NA	999	11	36	28	ND	NA	NA	ND
PTW4-003	04/21/1998	NA	1137	13	37	41	ND	NA	NA	ND
PTW4-009	04/22/1998	NA	922	8	26	34	ND	NA	NA	ND
PTW4-005	04/22/1998	NA	988	44	44	19	ND	NA	NA	ND
PTW4-011	04/22/1998	NA	1005	15	34	42	ND	NA	NA	ND
PTW4-010	04/22/1998	NA	1062	15	20	25	6	NA	NA	ND
PTW4-007	04/22/1998	NA	997	8	19	26	ND	NA	NA	ND
PTW4-006	04/22/1998	NA	964	4	46	25	ND	NA	NA	ND
PTW4-004	04/22/1998	NA	1092	14	39	37	ND	NA	NA	ND
PTW4-008	04/22/1998	NA	1887	6	16	16	ND	NA	NA	ND

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
March 1998–March 2000

ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
PTW4-012	04/23/1998	NA	848	15	31	34	ND	NA	NA	ND
PTW4-013	04/23/1998	NA	1043	19	52	33	ND	NA	NA	ND
PTW4-014	04/23/1998	NA	1029	15	34	28	ND	NA	NA	92
PTW4-015	04/23/1998	NA	1109	16	10	37	ND	NA	NA	23
PTW4-016	04/24/1998	NA	988	12	19	32	ND	NA	NA	ND
PTW4-017	04/24/1998	NA	887	11	39	25	ND	NA	NA	ND
OVW4-004	04/28/1998	NA	803	1.5	9	12	ND	NA	NA	ND
OVW4-005	04/28/1998	NA	1057	3	39	20	ND	NA	NA	ND
OVW4-001	04/28/1998	NA	776	ND	22	7	ND	NA	NA	ND
OVW4-002	04/28/1998	NA	781	ND	44	21	ND	NA	NA	ND
OVW4-003	04/28/1998	NA	763	0.4	22	5	3	NA	NA	ND
OVW4-006	04/28/1998	NA	786	5	37	10	ND	NA	NA	ND
OVW4-007	04/29/1998	NA	933	<1	14	17	ND	NA	NA	ND
OVW4-008	04/29/1998	NA	822	2	15	1	ND	NA	NA	ND
SLPE-002	04/30/1998	NA	811	ND	8	19	ND	NA	NA	ND
SLPE-006	04/30/1998	NA	763	ND	27	24	ND	NA	NA	ND
SLPE-005	04/30/1998	NA	886	ND	36	13	1	NA	NA	ND
SLPE-003	04/30/1998	NA	827	4	18	31	ND	NA	NA	ND
SLPE-001	04/30/1998	NA	894	1	26	17	<1	NA	NA	ND
SLPE-004	04/30/1998	NA	775	ND	12	20	ND	NA	NA	ND
TRE2-012	05/01/1998	NA	802	5	28	20	ND	NA	NA	ND
SLPE-012	05/04/1998	NA	776	1	17	11	ND	NA	NA	ND
SLPE-008	05/04/1998	NA	839	31	21	6	ND	NA	NA	ND
SLPE-012	05/04/1998	NA	864	3	21	13	ND	NA	NA	ND
SLPE-009	05/04/1998	NA	781	ND	26	11	9	NA	NA	ND
SLPE-011	05/04/1998	NA	836	1.4	35	22	ND	NA	NA	ND
SLPE-010	05/04/1998	NA	867	ND	33	16	ND	NA	NA	ND
SLPE-014	05/05/1998	NA	801	ND	21	11	ND	NA	NA	ND
TRE1-002	05/05/1998	NA	921	1.5	21	40	ND	NA	NA	ND
TRE1-001	05/05/1998	NA	960	ND	40	22	ND	NA	NA	ND
TRE1-003	05/05/1998	NA	955	7	19	ND	ND	NA	NA	ND
TRE1-004	05/05/1998	NA	963	1	21	25	ND	NA	NA	ND
TRE1-005	05/05/1998	NA	934	4	25	26	ND	NA	NA	ND
TRE1-006	05/05/1998	NA	900	17	36	23	ND	NA	NA	ND
TRE1-007	05/05/1998	NA	899	6	27	21	ND	NA	NA	ND
TRE1-013	05/06/1998	NA	891	3	37	20	21	NA	NA	ND
TRE1-008	05/06/1998	NA	816	7	18	12	ND	NA	NA	ND
TRE1-009	05/06/1998	NA	946	4	36	18	ND	NA	NA	ND
TRE1-010	05/06/1998	NA	893	3	31	21	ND	NA	NA	ND
TRE1-012	05/06/1998	NA	973	ND	16	27	ND	NA	NA	ND
TRE1-014	05/06/1998	NA	972	6	32	15	ND	NA	NA	ND
TRE1-011	05/06/1998	NA	952	ND	31	21	ND	NA	NA	ND
TRE1-015	05/07/1998	NA	965	3	7	19	ND	NA	NA	ND
TRE2-001	05/07/1998	NA	893	2	39	10	ND	NA	NA	ND
TRE2-003	05/07/1998	NA	807	4	37	ND	ND	NA	NA	ND
TRE2-005	05/07/1998	NA	921	ND	15	17	ND	NA	NA	ND
TRE2-002	05/07/1998	NA	923	3	13	24	ND	NA	NA	ND
TRE2-004	05/07/1998	NA	898	5	17	20	ND	NA	NA	ND
TRE2-006	05/08/1998	NA	898	4	36	15	ND	NA	NA	ND
TRE2-007	05/08/1998	NA	900	ND	57	22	ND	NA	NA	ND
TRE2-008	05/08/1998	NA	823	2	ND	14	ND	NA	NA	ND
TRE2-009	05/08/1998	NA	901	3	42	29	ND	NA	NA	ND
TRE2-010	05/08/1998	NA	897	2	36	23	ND	NA	NA	ND
TRE2-003	05/11/1998	NA	794	4	6	17	13	NA	NA	ND
TRE2-011	05/11/1998	NA	991	2	12	9	ND	NA	NA	ND
TRE2-013	05/11/1998	NA	899	8	31	12	ND	NA	NA	ND
TRE3-001	05/11/1998	NA	883	5	18	27	ND	NA	NA	ND
SLPE-016	05/12/1998	NA	967	2	17	19	4	NA	NA	ND
SLPE-017	05/12/1998	NA	889	ND	11	13	ND	NA	NA	ND

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
March 1998–March 2000

ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
SLPE-019	05/12/1998	NA	838	0.4	33	ND	ND	NA	NA	ND
SLPE-020	05/12/1998	NA	905	1.3	30	17	ND	NA	NA	ND
SLPE-015	05/12/1998	NA	601	4	7	15	ND	NA	NA	ND
SLPE-018	05/12/1998	NA	902	ND	7	22	ND	NA	NA	ND
SLPE-022	05/13/1998	NA	885	3	38	24	9	NA	NA	ND
SLPE-026	05/13/1998	NA	905	1	23	14	ND	NA	NA	ND
SLPE-025	05/13/1998	NA	941	4	24	17	ND	NA	NA	ND
SLPE-023	05/13/1998	NA	957	1	46	7	ND	NA	NA	ND
SLPE-021	05/13/1998	NA	910	4	20	18	ND	NA	NA	ND
SLPE-024	05/13/1998	NA	825	ND	1	19	ND	NA	NA	ND
SLPE-029	05/14/1998	NA	815	0.2	18	16	6	NA	NA	ND
SLPE-028	05/14/1998	NA	838	3	14	19	ND	NA	NA	ND
SLPE-033	05/14/1998	NA	815	0.2	25	18	3	NA	NA	ND
SLPE-027	05/14/1998	NA	780	2	15	20	ND	NA	NA	ND
SLPE-030	05/14/1998	NA	851	ND	30	14	ND	NA	NA	ND
SLPE-031	05/14/1998	NA	871	1	37	ND	ND	NA	NA	ND
SLPE-032	05/14/1998	NA	826	ND	52	8	ND	NA	NA	ND
SLPE-035	05/18/1998	NA	770	1	14	23	ND	NA	NA	ND
SLPE-036	05/18/1998	NA	846	ND	8	21	ND	NA	NA	ND
TRE3-004	05/18/1998	NA	1072	4	39	21	ND	NA	NA	ND
TRE3-005	05/18/1998	NA	1047	3	40	20	ND	NA	NA	ND
TRE3-006	05/18/1998	NA	1214	3	10	28	ND	NA	NA	ND
TRE3-007	05/18/1998	NA	1228	ND	46	22	ND	NA	NA	ND
SLPE-034	05/18/1998	NA	888	0.2	10	11	8	NA	NA	ND
TRE3-008	05/19/1998	NA	1089	2	8	26	ND	NA	NA	ND
TRE4-002	05/19/1998	NA	1155	5	25	25	ND	NA	NA	ND
TRE4-004	05/19/1998	NA	1188	4	7	28	ND	NA	NA	ND
TRE4-001	05/19/1998	NA	1052	6	26	21	ND	NA	NA	ND
TRE4-003	05/19/1998	NA	1085	5	6	12	ND	NA	NA	ND
TRE3-009	05/19/1998	NA	1136	ND	27	1	ND	NA	NA	ND
TRE3-010	05/19/1998	NA	1061	7	32	21	ND	NA	NA	ND
TRE4-005	05/20/1998	NA	1189	9	46	36	ND	NA	NA	ND
TRE4-007	05/20/1998	NA	1020	8	35	26	ND	NA	NA	ND
TRE4-011	05/20/1998	NA	1126	6	44	18	ND	NA	NA	ND
TRE4-009	05/20/1998	NA	1183	8	40	28	ND	NA	NA	ND
TRE4-006	05/20/1998	NA	1113	9	10	14	ND	NA	NA	ND
TRE4-012	05/20/1998	NA	1158	5	35	10	ND	NA	NA	ND
TRE4-010	05/20/1998	NA	992	11	16	27	22	NA	NA	ND
TRE4-013	05/21/1998	NA	1133	8	33	33	4	NA	NA	ND
TRE4-015	05/21/1998	NA	1042	4	33	22	ND	NA	NA	ND
TRE4-016	05/21/1998	NA	1055	8	17	20	ND	NA	NA	ND
TRE4-017	05/21/1998	NA	1052	12	13	19	11	NA	NA	ND
TRE4-018	05/21/1998	NA	1033	3	22	10	ND	NA	NA	ND
OVTE-001	05/21/1998	NA	686	ND	10	30	ND	NA	NA	ND
TRE4-014	05/21/1998	NA	1133	11	12	23	ND	NA	NA	ND
OVTE-005	05/22/1998	NA	767	ND	36	11	8	NA	NA	ND
OVTE-008	05/22/1998	NA	862	ND	14	17	ND	NA	NA	ND
TOVTE-006	05/22/1998	NA	889	1	26	26	3	NA	NA	ND
OVTE-002	05/22/1998	NA	759	ND	30	26	ND	NA	NA	ND
OVTE-003	05/22/1998	NA	794	4	44	14	10	NA	NA	ND
OVTE-004	05/22/1998	NA	828	0.4	24	21	ND	NA	NA	ND
OVTE-007	05/22/1998	NA	869	1	13	2	ND	NA	NA	ND
OVTE-009	05/27/1998	NA	940	1	27	13	ND	NA	NA	ND
TRE5-001	05/27/1998	NA	1016	ND	46	22	ND	NA	NA	ND
OVTE-011	05/27/1998	NA	860	1	3	21	ND	NA	NA	ND
OVTE-010	05/27/1998	NA	914	ND	21	10	ND	NA	NA	ND
OVTE-012	05/27/1998	NA	895	0.1	28	19	8	NA	NA	ND
TRE5-002	05/27/1998	NA	986	2	26	7	0.3	NA	NA	ND
TRE5-003	05/28/1998	NA	994	1	25	16	ND	NA	NA	ND

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
March 1998–March 2000

ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRE5-007	05/28/1998	NA	1120	4	15	21	ND	NA	NA	ND
TRE5-004	05/28/1998	NA	1106	2	18	26	ND	NA	NA	ND
TRE5-005	05/28/1998	NA	878	1	13	24	ND	NA	NA	ND
TRE5-006	05/28/1998	NA	920	4	26	15	ND	NA	NA	ND
TRE5-009	05/28/1998	NA	1056	5	ND	10	ND	NA	NA	ND
TRE5-008	05/28/1998	NA	1014	26	13	22	ND	NA	NA	ND
TRE6-ASH	05/28/1998	NA	ND	25	ND	3	14	NA	NA	13
TRE5-014	05/29/1998	NA	1132	1	20	23	ND	NA	NA	ND
TRE5-010	05/29/1998	NA	1015	5	45	9	4	NA	NA	ND
TRE5-013	05/29/1998	NA	1031	3	25	12	ND	NA	NA	ND
TRE5-012	05/29/1998	NA	1012	1	21	16	2	NA	NA	ND
TRE5-011	05/29/1998	NA	1024	6	8	13	ND	NA	NA	ND
TRE5-015	05/29/1998	NA	1051	ND	16	24	ND	NA	NA	ND
TRE5-001-DEB	05/29/1998	NA	214	6	4237	14962	ND	NA	NA	2150
TRE4-001-DEB	05/29/1998	NA	503	361	28244	58093	477	NA	NA	7985
TRE5-016	06/01/1998	NA	1012	4	45	7	ND	NA	NA	ND
TRE5-017	06/01/1998	NA	1346	2	17	8	ND	NA	NA	ND
TRE5-018	06/01/1998	NA	935	4	42	12	ND	NA	NA	ND
TRE5-019	06/01/1998	NA	761	1	22	11	11	NA	NA	ND
TRE6-001	06/01/1998	NA	934	4	40	ND	ND	NA	NA	ND
TRE6-002	06/01/1998	NA	898	4	35	17	7	NA	NA	ND
TRE6-003	06/01/1998	NA	849	2	7	15	ND	NA	NA	ND
TRE6-008	06/02/1998	NA	1029	2	19	8	ND	NA	NA	ND
TRE6-004	06/02/1998	NA	988	2	41	18	ND	NA	NA	ND
TRE6-005	06/02/1998	NA	733	3	12	12	ND	NA	NA	ND
TRE6-006	06/02/1998	NA	1060	1	21	19	ND	NA	NA	ND
TRE6-007	06/02/1998	NA	961	1	14	15	ND	NA	NA	ND
TRE6-009	06/02/1998	NA	1049	0.3	42	27	ND	NA	NA	ND
TRE6-010	06/03/1998	NA	956	4	8	1	ND	NA	NA	ND
TRE6-015	06/03/1998	NA	899	1	20	7	ND	NA	NA	ND
TRE6-014	06/03/1998	NA	972	3	49	14	ND	NA	NA	ND
TRE6-013	06/03/1998	NA	915	4	ND	16	ND	NA	NA	ND
TRE6-012	06/03/1998	NA	881	2	11	14	6	NA	NA	ND
TRE6-011	06/03/1998	NA	944	1	37	7	ND	NA	NA	ND
TRE6-021	06/04/1998	NA	965	1	16	12	ND	NA	NA	ND
TRE6-018	06/04/1998	NA	931	2	46	15	ND	NA	NA	ND
TRE6-017	06/04/1998	NA	956	2	25	17	ND	NA	NA	ND
TRE6-016	06/04/1998	NA	1082	0.3	24	18	ND	NA	NA	ND
TRE6-019	06/04/1998	NA	982	1	25	11	ND	NA	NA	ND
TRE6-020	06/04/1998	NA	1001	ND	17	24	ND	NA	NA	ND
TRE6-023	06/08/1998	NA	998	5	30	23	ND	NA	NA	ND
TRE6-024	06/08/1998	NA	888	ND	26	21	ND	NA	NA	ND
OVA5-001	06/08/1998	NA	933	2	24	14	ND	NA	NA	ND
OVA5-002	06/08/1998	NA	844	ND	17	15	10	NA	NA	ND
TRE6-022	06/08/1998	NA	867	0.3	11	26	ND	NA	NA	ND
OVA5-006	06/09/1998	NA	842	0.1	14	19	ND	NA	NA	ND
OVA5-003	06/09/1998	NA	927	ND	36	22	ND	NA	NA	ND
OVA5-004	06/09/1998	NA	1000	ND	21	12	ND	NA	NA	ND
OVA5-005	06/09/1998	NA	875	6	25	6	ND	NA	NA	ND
OVA5-007	06/09/1998	NA	883	ND	18	19	ND	NA	NA	5
OVA5-008	06/09/1998	NA	863	1	7	11	ND	NA	NA	ND
TRE7-003	06/10/1998	NA	978	2	45	26	1	NA	NA	ND
OVA5-010	06/10/1998	NA	776	ND	18	13	ND	NA	NA	ND
OVA5-009	06/10/1998	NA	1008	ND	24	8	ND	NA	NA	ND
OVA5-012	06/10/1998	NA	772	ND	17	10	ND	NA	NA	ND
OVA5-013	06/10/1998	NA	887	3	ND	31	ND	NA	NA	ND
TRE7-001	06/10/1998	NA	1032	1	19	6	ND	NA	NA	ND
OVA5-011	06/10/1998	NA	934	1	13	27	6	NA	NA	ND
TRE7-002	06/10/1998	NA	993	ND	29	16	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRE7-004	06/10/1998	NA	932	1	39	16	10	NA	NA	ND
TRE7-011	06/11/1998	NA	997	3	39	24	ND	NA	NA	ND
TRE7-006	06/11/1998	NA	863	2	11	119	ND	NA	NA	ND
TRE7-007	06/11/1998	NA	1062	0.4	25	26	ND	NA	NA	ND
TRE7-008	06/11/1998	NA	953	ND	23	18	ND	NA	NA	ND
TRE7-009	06/11/1998	NA	1030	1	17	22	ND	NA	NA	ND
TRE7-005	06/11/1998	NA	913	ND	28	19	ND	NA	NA	ND
TRE7-010	06/11/1998	NA	973	ND	31	14	ND	NA	NA	ND
TRE7-012	06/12/1998	NA	1019	2	11	18	ND	NA	NA	ND
TRE7-013	06/12/1998	NA	943	1	20	15	ND	NA	NA	ND
TRE7-014	06/12/1998	NA	947	3	17	17	ND	NA	NA	ND
TRE7-015	06/12/1998	NA	946	4	19	8	ND	NA	NA	ND
TRE7-016	06/12/1998	NA	972	1	29	21	ND	NA	NA	ND
TRE7-020	06/15/1998	NA	940	ND	7	9	ND	NA	NA	ND
TRE7-017	06/15/1998	NA	976	3	18	6	ND	NA	NA	ND
TRE7-019	06/15/1998	NA	968	ND	24	6	ND	NA	NA	ND
TRE7-021	06/15/1998	NA	1041	0.1	17	12	ND	NA	NA	ND
TRE7-022	06/15/1998	NA	1046	2	11	13	ND	NA	NA	ND
TRE7-018	06/15/1998	NA	978	3	2	29	ND	NA	NA	ND
TRE7-023	06/15/1998	NA	912	5	17	ND	ND	NA	NA	ND
TRE7-031	06/16/1998	NA	962	4	27	17	ND	NA	NA	ND
TRE7-029	06/16/1998	NA	969	ND	ND	18	ND	NA	NA	ND
TRE7-027	06/16/1998	NA	924	5	19	16	ND	NA	NA	ND
TRE7-030	06/16/1998	NA	942	ND	14	20	ND	NA	NA	ND
TRE7-032	06/16/1998	NA	948	1	28	8	ND	NA	NA	ND
TRE7-026	06/16/1998	NA	882	1	13	ND	ND	NA	NA	ND
TRE7-025	06/16/1998	NA	1027	2	32	5	1	NA	NA	ND
TRE7-028	06/16/1998	NA	694	0.2	17	11	3	NA	NA	ND
TRE7-024	06/16/1998	NA	900	2	39	28	ND	NA	NA	ND
TRE7-033	06/17/1998	NA	914	4	26	24	ND	NA	NA	ND
TRE7-034	06/17/1998	NA	922	1	20	26	ND	NA	NA	ND
TRE7-039	06/17/1998	NA	992	4	21	5	ND	NA	NA	ND
TRE7-035	06/17/1998	NA	1021	3	33	6	ND	NA	NA	ND
TRE7-036	06/17/1998	NA	945	ND	21	14	ND	NA	NA	ND
TRE7-036	06/17/1998	NA	945	ND	21	14	ND	NA	NA	ND
TRE7-040	06/17/1998	NA	880	3	39	12	ND	NA	NA	ND
TRE7-037	06/17/1998	NA	953	3	32	13	21	NA	NA	ND
TRE7-038	06/17/1998	NA	899	0.2	ND	18	ND	NA	NA	ND
TRE7-048	06/18/1998	NA	970	1	26	17	ND	NA	NA	ND
TRE7-047	06/18/1998	NA	929	ND	26	13	ND	NA	NA	ND
TRE7-046	06/18/1998	NA	1018	4	18	8	ND	NA	NA	ND
TRE7-045	06/18/1998	NA	984	3	19	23	ND	NA	NA	ND
TRE7-044	06/18/1998	NA	786	ND	28	17	ND	NA	NA	ND
TRE7-043	06/18/1998	NA	851	1	21	21	12	NA	NA	ND
TRE7-042	06/18/1998	NA	939	1	23	17	ND	NA	NA	ND
TRE7-041	06/18/1998	NA	946	1	12	10	ND	NA	NA	ND
TRE7-050	06/22/1998	NA	868	ND	23	17	ND	NA	NA	ND
TRE7-054	06/22/1998	NA	1028	5	11	20	9	NA	NA	ND
TRE7-055	06/22/1998	NA	1077	1	21	15	14	NA	NA	ND
TRE7-056	06/22/1998	NA	959	ND	12	13	ND	NA	NA	ND
TRE7-052	06/22/1998	NA	883	4	24	34	10	NA	NA	ND
TRE7-053	06/22/1998	NA	951	2	18	28	ND	NA	NA	ND
TRE7-049	06/22/1998	NA	868	ND	23	17	ND	NA	NA	ND
TRE7-051	06/22/1998	NA	907	1	37	19	ND	NA	NA	ND
TRE8-004	06/23/1998	NA	1019	ND	22	23	ND	NA	NA	ND
TRE8-005	06/23/1998	NA	900	ND	24	18	ND	NA	NA	ND
TRE8-003	06/23/1998	NA	1063	ND	27	13	ND	NA	NA	ND
TRE8-002	06/23/1998	NA	969	1	28	12	ND	NA	NA	ND
TRE8-001	06/23/1998	NA	952	5	20	8	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRE8-006	06/23/1998	NA	1069	ND	21	13	0.1	NA	NA	ND
TRE8-007	06/23/1998	NA	935	1	ND	13	ND	NA	NA	ND
TRE8-008	06/23/1998	NA	1058	ND	21	33	ND	NA	NA	ND
TRE8-012	06/24/1998	NA	1003	1	28	19	ND	NA	NA	ND
TRE8-011	06/24/1998	NA	1062	5	14	4	ND	NA	NA	ND
TRE8-010	06/24/1998	NA	1025	4	ND	12	ND	NA	NA	ND
TRE8-009	06/24/1998	NA	1059	ND	15	29	ND	NA	NA	ND
TRE8-013	06/24/1998	NA	1034	5	24	21	ND	NA	NA	ND
TRE8-014	06/24/1998	NA	1157	0.4	18	33	ND	NA	NA	ND
TRE8-015	06/24/1998	NA	991	5	5	29	ND	NA	NA	ND
TRE8-016	06/24/1998	NA	1004	ND	20	1	ND	NA	NA	ND
TRE8-017	06/24/1998	NA	1072	5	11	29	ND	NA	NA	ND
TRE8-018	06/24/1998	NA	1003	5	37	10	ND	NA	NA	ND
TRE8-019	06/24/1998	NA	1066	2	13	19	2	NA	NA	ND
TRE8-025	06/25/1998	NA	1026	ND	2	19	ND	NA	NA	ND
TRE8-024	06/25/1998	NA	982	ND	12	16	ND	NA	NA	ND
TRE8-023	06/25/1998	NA	1054	1	14	25	ND	NA	NA	ND
TRE8-021	06/25/1998	NA	944	1	33	23	ND	NA	NA	ND
TRE8-020	06/25/1998	NA	918	3	31	22	ND	NA	NA	ND
TRE8-022	06/25/1998	NA	1016	0.4	4	20	ND	NA	NA	ND
TRE8-027	06/25/1998	NA	1063	5	21	12	ND	NA	NA	ND
TRE8-026	06/25/1998	NA	1049	2	38	10	ND	NA	NA	ND
ACF5-001	06/26/1998	NA	1038	1	15	15	ND	NA	NA	ND
TRE8-028	06/26/1998	NA	983	1	42	24	ND	NA	NA	ND
TRE8-030	06/26/1998	NA	1003	1	26	18	ND	NA	NA	ND
ACF5-002	06/26/1998	NA	1002	2	36	16	ND	NA	NA	ND
TRE8-029	06/26/1998	NA	1002	6	19	21	ND	NA	NA	ND
ACF5-004	06/29/1998	NA	1059	2	11	5	ND	NA	NA	ND
ACF5-005	06/29/1998	NA	907	ND	19	16	ND	NA	NA	ND
ACF5-003	06/29/1998	NA	742	ND	29	6	ND	NA	NA	ND
ACF5-006	06/29/1998	NA	1066	3	15	15	15	NA	NA	ND
ACF5-007	06/29/1998	NA	1014	ND	13	17	ND	NA	NA	ND
ACF5-008	06/30/1998	NA	1024	2	39	24	ND	NA	NA	ND
ACF5-009	06/30/1998	NA	977	ND	30	20	ND	NA	NA	ND
OVD1-001	07/01/1998	NA	788	3	8	20	ND	NA	NA	ND
ACF5-010	07/01/1998	NA	1012	4	22	21	ND	NA	NA	ND
ACF5-011	07/01/1998	NA	1036	ND	22	16	ND	NA	NA	ND
OVD2-001	07/02/1998	NA	765	ND	29	15	ND	NA	NA	ND
TRD1-003	07/02/1998	NA	1004	3	33	21	ND	NA	NA	ND
TRD1-001	07/02/1998	NA	1069	3	33	16	ND	NA	NA	ND
OVD2-002	07/02/1998	NA	749	1	31	12	ND	NA	NA	ND
OVD1-002	07/02/1998	NA	862	1	19	1	ND	NA	NA	ND
TRD1-002	07/02/1998	NA	1045	9	32	16	ND	NA	NA	ND
TRD1-006	07/06/1998	NA	1021	7	21	21	ND	NA	NA	ND
TRD1-009	07/06/1998	NA	929	1	28	8	ND	NA	NA	ND
TRD1-007	07/06/1998	NA	998	ND	8	12	ND	NA	NA	ND
TRD1-005	07/06/1998	NA	1041	5	17	14	ND	NA	NA	ND
TRD1-004	07/06/1998	NA	884	1	28	4	ND	NA	NA	ND
TRD1-010	07/06/1998	NA	951	6	32	17	ND	NA	NA	ND
TRD1-008	07/06/1998	NA	1031	1	44	18	ND	NA	NA	ND
TRD1-013	07/07/1998	NA	1059	1	23	23	ND	NA	NA	ND
TRD1-012	07/07/1998	NA	1004	4	31	11	11	NA	NA	ND
TRD1-011	07/07/1998	NA	807	6	32	19	1	NA	NA	ND
TRD1-011-RE	07/07/1998	NA	1029	6	29	22	ND	NA	NA	ND
TRD2-002	07/08/1998	NA	940	4	27	21	ND	NA	NA	ND
TRD2-005	07/08/1998	NA	964	9	37	8	ND	NA	NA	ND
TRD2-004	07/08/1998	NA	983	0.2	30	6	ND	NA	NA	ND
TRD2-003	07/08/1998	NA	964	2	35	21	ND	NA	NA	ND
TRD2-001	07/08/1998	NA	1064	7	51	36	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRD2-006	07/09/1998	NA	944	ND	41	23	ND	NA	NA	ND
TRD2-011	07/09/1998	NA	1013	3	32	17	ND	NA	NA	ND
TRD2-010	07/09/1998	NA	1014	ND	28	25	ND	NA	NA	ND
TRD2-009	07/09/1998	NA	932	ND	18	15	ND	NA	NA	ND
TRD2-007	07/09/1998	NA	964	1	17	7	ND	NA	NA	ND
TRD2-008	07/09/1998	NA	1059	4	38	9	ND	NA	NA	ND
OVD3-002	07/10/1998	NA	716	2	30	22	ND	NA	NA	ND
OVD3-001	07/10/1998	NA	736	5	1	10	ND	NA	NA	ND
OVD3-001-RE	07/13/1998	NA	705	3	13	25	ND	NA	NA	ND
TRD3-004	07/15/1998	NA	1000	0.7	29	4	ND	NA	NA	ND
TRD3-003	07/15/1998	NA	1079	7	28	28	ND	NA	NA	ND
TRD3-002	07/15/1998	NA	1049	0.7	22	27	ND	NA	NA	ND
TRD3-001	07/15/1998	NA	1017	4	43	15	ND	NA	NA	ND
TRD3-010	07/16/1998	NA	1086	2	27	17	ND	NA	NA	ND
TRD3-008-RE	07/16/1998	NA	1004	5	29	14	ND	NA	NA	ND
TRD3-009	07/16/1998	NA	958	6	24	5	ND	NA	NA	ND
TRD3-008	07/16/1998	NA	988	3	26	21	19	NA	NA	ND
TRD3-005	07/16/1998	NA	799	8	31	12	ND	NA	NA	ND
TRD3-006	07/16/1998	NA	1074	3	54	24	ND	NA	NA	ND
TRD3-007	07/16/1998	NA	968	1	46	ND	ND	NA	NA	ND
TRD3-005-RE	07/16/1998	NA	901	5	29	23	ND	NA	NA	ND
TRD3-013	07/20/1998	NA	992	0.3	33	22	ND	NA	NA	ND
TRD3-012	07/20/1998	NA	881	7	34	4	ND	NA	NA	ND
TRD3-011	07/20/1998	NA	1025	2	24	13	ND	NA	NA	ND
TRD3-014	07/20/1998	NA	1006	9	10	23	ND	NA	NA	ND
TRD3-015	07/20/1998	NA	1062	3	10	ND	ND	NA	NA	ND
TRD3-012-RE	07/20/1998	NA	1062	5	47	16	4	NA	NA	ND
TRD4-002	07/28/1998	NA	894	ND	28	12	ND	NA	NA	ND
TRD4-005	07/28/1998	NA	996	ND	27	21	2	NA	NA	ND
TRD4-003	07/28/1998	NA	1028	8	33	ND	ND	NA	NA	10
TRD4-001	07/28/1998	NA	871	2	43	17	ND	NA	NA	ND
TRD4-004	07/28/1998	NA	905	4	29	105	ND	NA	NA	ND
TRD4-006	07/29/1998	NA	1007	10	63	12	ND	NA	NA	ND
TRD4-007	07/29/1998	NA	741	4	26	23	ND	NA	NA	ND
TRD4-007-RE	07/29/1998	NA	1008	2	28	13	ND	NA	NA	
TRD4-006-RE	07/29/1998	NA	987	5	19	28	ND	NA	NA	ND
TRD4-003-RE	07/29/1998	NA	978	2	31	8	ND	NA	NA	ND
TRD4-014	08/04/1998	NA	973	3	43	5	ND	NA	NA	ND
TRD4-012	08/04/1998	NA	935	4	31	21	ND	NA	NA	ND
TRD4-011	08/04/1998	NA	946	1	31	27	ND	NA	NA	ND
TRD4-010	08/04/1998	NA	951	6	14	15	ND	NA	NA	ND
TRD4-008	08/04/1998	NA	972	ND	23	7	ND	NA	NA	ND
TRD4-009	08/04/1998	NA	810	4	19	19	ND	NA	NA	ND
TRD5-001	08/05/1998	NA	928	0.3	19	4	ND	NA	NA	ND
TRD5-004	08/05/1998	NA	881	6	10	ND	ND	NA	NA	ND
TRD4-013	08/05/1998	NA	923	2	20	20	ND	NA	NA	ND
TRD4-015	08/05/1998	NA	902	0.1	5	3	ND	NA	NA	ND
TRD5-002-RE	08/05/1998	NA	981	ND	24	21	ND	NA	NA	ND
TRD5-003	08/05/1998	NA	976	2	19	23	ND	NA	NA	ND
TRD5-002	08/05/1998	NA	840	ND	28	17	ND	NA	NA	ND
TRD5-004-RE	08/06/1998	NA	875	ND	12	ND	2	NA	NA	ND
TRD6-002	08/06/1998	NA	1019	5	23	30	2	NA	NA	ND
TRD5-006	08/06/1998	NA	857	ND	36	8	ND	NA	NA	ND
TRD5-007	08/06/1998	NA	928	ND	24	20	ND	NA	NA	ND
TRD6-001-RE	08/06/1998	NA	952	7	19	25	ND	NA	NA	ND
TRD6-001	08/06/1998	NA	875	11	22	6	ND	NA	NA	ND
TRD5-006-RE	08/06/1998	NA	933	5	14	10	ND	NA	NA	ND
TRD5-005	08/06/1998	NA	949	2	30	25	ND	NA	NA	ND
TRD6-003	08/07/1998	NA	1113	4	37	22	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRD6-004	08/07/1998	NA	1182	5	33	19	2	NA	NA	ND
TRD6-005	08/07/1998	NA	1008	4	19	26	ND	NA	NA	ND
TRD6-006	08/07/1998	NA	1102	9	26	29	ND	NA	NA	ND
TRD6-006-RE	08/07/1998	NA	1026	3	26	28	ND	NA	NA	ND
TRD6-007	08/07/1998	NA	1090	5	43	17	ND	NA	NA	ND
TRD6-008	08/07/1998	NA	1095	3	30	7	ND	NA	NA	ND
TRD6-007-RE	08/07/1998	NA	1038	4	20	20	ND	NA	NA	ND
TRD6-009	08/07/1998	NA	1059	4	21	17	ND	NA	NA	ND
TRD6-010	08/07/1998	NA	1005	4	33	9	ND	NA	NA	ND
TRD6-014	08/10/1998	NA	1110	11	28	27	ND	NA	NA	ND
TRD6-011	08/10/1998	NA	1091	0.2	21	24	ND	NA	NA	ND
TRD6-013	08/10/1998	NA	1055	3	23	22	ND	NA	NA	ND
TRD6-015	08/10/1998	NA	1055	4	24	ND	ND	NA	NA	ND
TRD6-012	08/10/1998	NA	1039	8	18	13	ND	NA	NA	ND
TRD6-016-RE	08/11/1998	NA	1095	3	15	7	ND	NA	NA	ND
TRD6-016	08/11/1998	NA	1111	1	7	6	ND	NA	NA	ND
TRD6-018	08/11/1998	NA	1058	2	15	23	ND	NA	NA	ND
TRD6-019-RE	08/11/1998	NA	993	7	18	4	2	NA	NA	ND
TRD6-019	08/11/1998	NA	997	1	ND	19	ND	NA	NA	ND
TRD6-020	08/11/1998	NA	1146	1	24	10	ND	NA	NA	ND
TRD6-021	08/11/1998	NA	816	0	25	12	ND	NA	NA	ND
TRD6-017	08/11/1998	NA	1110	2	3	ND	ND	NA	NA	ND
TRD6-026	08/12/1998	NA	974	3	34	14	ND	NA	NA	ND
OVD4-001	08/12/1998	NA	682	1	18	15	ND	NA	NA	ND
TRD6-021-RE	08/12/1998	NA	1098	3	5	16	ND	NA	NA	ND
TRD6-022	08/12/1998	NA	1016	2	19	22	ND	NA	NA	ND
TRD6-023	08/12/1998	NA	854	4	14	16	ND	NA	NA	ND
TRD6-024	08/12/1998	NA	894	ND	33	13	ND	NA	NA	ND
TRD6-025	08/12/1998	NA	905	3	24	18	ND	NA	NA	ND
OVD4-003	08/13/1998	NA	736	ND	24	ND	ND	NA	NA	ND
OVD4-003-RE	08/13/1998	NA	699	3	16	25	ND	NA	NA	ND
OVD4-002	08/13/1998	NA	738	2	24	10	ND	NA	NA	ND
OVD7-004	08/21/1998	NA	683	0.1	19	17	ND	NA	NA	ND
TRD7-001	08/21/1998	NA	1000	3	4	23	2	NA	NA	ND
OVD7-002	08/21/1998	NA	922	5	ND	24	ND	NA	NA	ND
OVD7-001	08/21/1998	NA	784	3	ND	18	ND	NA	NA	ND
TRD7-002	08/21/1998	NA	980	ND	27	12	ND	NA	NA	ND
OVD7-003	08/21/1998	NA	734	2	31	ND	ND	NA	NA	ND
TRD7-003	08/26/1998	NA	943	9	34	18	3	NA	NA	ND
TRD7-004	08/26/1998	NA	995	4	13	64	4	NA	NA	ND
TRD7-005	08/26/1998	NA	922	7	26	20	ND	NA	NA	ND
TRD7-005-RE	08/26/1998	NA	933	3	24	18	ND	NA	NA	ND
TRD7-006	08/26/1998	NA	989	4	31	40	ND	NA	NA	ND
TRD7-006-RE	08/26/1998	NA	917	3	9	46	7	NA	NA	ND
TRD7-007	08/26/1998	NA	976	5	5	18	6	NA	NA	ND
TRD7-008	08/26/1998	NA	944	9	24	21	ND	NA	NA	ND
TRD7-004-RE	08/26/1998	NA	1008	4	49	44	ND	NA	NA	ND
TRD7-012	08/27/1998	NA	863	2	18	18	ND	NA	NA	ND
TRD7-014-RE	08/27/1998	NA	847	4	15	21	ND	NA	NA	ND
TRD7-014	08/27/1998	NA	796	6	27	27	ND	NA	NA	ND
TRD7-012-RE	08/27/1998	NA	895	0.9	11	20	ND	NA	NA	ND
TRD7-011	08/27/1998	NA	997	2	12	30	ND	NA	NA	ND
TRD7-010	08/27/1998	NA	985	2	23	27	ND	NA	NA	ND
TRD7-009-RE	08/27/1998	NA	939	3	24	26	ND	NA	NA	ND
TRD7-009	08/27/1998	NA	859	2	25	14	ND	NA	NA	ND
TRD7-013	08/27/1998	NA	914	3	5	11	ND	NA	NA	ND
TRD7-015	08/31/1998	NA	940	3	28	23	ND	NA	NA	ND
TRD7-016	08/31/1998	NA	957	4	8	10	ND	NA	NA	ND
OVD8-001	08/31/1998	NA	808	ND	29	8	ND	NA	NA	ND

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
OVD8-002	08/31/1998	NA	886	ND	17	23	ND	NA	NA	ND
TRD7-021	09/01/1998	NA	859	3	29	19	ND	NA	NA	ND
TRD7-018	09/01/1998	NA	880	4	16	28	ND	NA	NA	ND
TRD7-019	09/01/1998	NA	933	3	24	12	ND	NA	NA	4
TRD7-020	09/01/1998	NA	992	8	38	26	ND	NA	NA	ND
TRD7-020-RE	09/01/1998	NA	962	ND	18	4	ND	NA	NA	ND
TRD7-017	09/01/1998	NA	947	5	4	32	ND	NA	NA	ND
TRD7-018-RE	09/01/1998	NA	827	1	31	24	ND	NA	NA	ND
TRD7-022	09/02/1998	NA	921	ND	0.1	22	ND	NA	NA	ND
TRD7-022-RE	09/02/1998	NA	941	ND	22	28	ND	NA	NA	ND
TRD7-023	09/02/1998	NA	917	7	27	24	ND	NA	NA	ND
TRD7-024	09/02/1998	NA	1014	7	16	29	ND	NA	NA	ND
TRD7-023-RE	09/02/1998	NA	1104	5	23	18	ND	NA	NA	ND
TRD7-024-RE	09/02/1998	NA	1019	5	22	15	ND	NA	NA	ND
TRD7-003-RE	09/02/1998	NA	922	7	27	18	0.2	NA	NA	ND
SLPE-037	09/10/1998	NA	811	0.5	36	19	ND	NA	NA	ND
SLPE-042	09/10/1998	NA	726	ND	31	17	ND	NA	NA	ND
SLPE-041	09/10/1998	NA	774	ND	40	14	ND	NA	NA	ND
SLPE-040	09/10/1998	NA	836	ND	26	17	0.3	NA	NA	ND
SLPE-038	09/10/1998	NA	771	ND	42	11	ND	NA	NA	ND
SLPE-039	09/10/1998	NA	827	4	46	8	ND	NA	NA	ND
TRD8-002-RE	09/14/1998	NA	1232	14	12	23	ND	NA	NA	ND
TRD8-007	09/14/1998	NA	1173	16	8	19	ND	NA	NA	ND
TRD8-004	09/14/1998	NA	1196	17	32	12	ND	NA	NA	ND
TRD8-001-RE	09/14/1998	NA	1102	18	18	27	ND	NA	NA	ND
TRD8-001	09/14/1998	NA	1094	25	19	27	ND	NA	NA	ND
TRD8-002	09/14/1998	NA	1142	17	33	31	ND	NA	NA	ND
TRD8-003	09/14/1998	NA	1151	14	35	18	ND	NA	NA	ND
TRD8-004-RE	09/14/1998	NA	1246	23	22	26	3	NA	NA	ND
TRD8-005	09/14/1998	NA	1351	21	16	39	5	NA	NA	ND
TRD8-005-RE	09/14/1998	NA	1248	17	39	20	ND	NA	NA	ND
TRD8-003-RE	09/14/1998	NA	1191	19	28	21	ND	NA	NA	ND
TRD8-006	09/14/1998	NA	1504	21	37	25	ND	NA	NA	ND
TRD8-011	09/15/1998	NA	1468	11	46	29	2	NA	NA	ND
TRD8-009	09/15/1998	NA	1257	24	39	9	0.8	NA	NA	ND
TRD8-010	09/15/1998	NA	1285	17	22	32	1	NA	NA	ND
TRD8-008	09/15/1998	NA	1125	18	35	24	ND	NA	NA	ND
TRD8-012	09/15/1998	NA	1202	29	12	18	ND	NA	NA	ND
TRD8-013	09/16/1998	NA	1159	13	27	20	ND	NA	NA	ND
TRD8-103-RE	09/16/1998	NA	1092	17	28	38	ND	NA	NA	ND
TRD8-014	09/16/1998	NA	1074	15	35	25	ND	NA	NA	ND
TRD8-015	09/16/1998	NA	1124	24	24	24	ND	NA	NA	ND
TRD8-016	09/16/1998	NA	958	246	49	29	ND	NA	NA	74
TRD8-016-RE	09/16/1998	NA	949	76	13	17	ND	NA	NA	6
TRD8-019	09/17/1998	NA	1000	20	19	12	2	NA	NA	ND
TRD8-017	09/17/1998	NA	950	31	25	20	ND	NA	NA	ND
TRD8-020	09/17/1998	NA	1014	19	36	16	ND	NA	NA	ND
TRD8-018	09/17/1998	NA	1056	28	32	16	ND	NA	NA	ND
TRD8-016-RE2	09/17/1998	NA	1009	85	43	17	ND	NA	NA	27
TRD8-025	09/18/1998	NA	1009	22	18	27	ND	NA	NA	ND
TRD8-024	09/18/1998	NA	987	15	37	22	ND	NA	NA	ND
TRD8-023	09/18/1998	NA	1045	25	31	32	ND	NA	NA	ND
TRD8-022	09/18/1998	NA	958	17	25	18	2	NA	NA	ND
TRD8-021	09/18/1998	NA	1137	23	18	26	ND	NA	NA	ND
TRD8-024-RE	09/18/1998	NA	943	15	48	6	ND	NA	NA	ND
TRD8-030	09/22/1998	NA	1028	24	28	13	ND	NA	NA	ND
TRD8-026	09/22/1998	NA	968	22	14	23	ND	NA	NA	ND
TRD8-029	09/22/1998	NA	890	24	27	32	ND	NA	NA	ND
TRD8-028	09/22/1998	NA	925	21	26	23	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRD8-027	09/22/1998	NA	976	27	22	12	ND	NA	NA	ND
TRD8-034	09/23/1998	NA	867	14	22	4	4	NA	NA	ND
TRD8-032	09/23/1998	NA	958	27	45	12	ND	NA	NA	ND
TRD8-032-RE	09/23/1998	NA	960	25	28	22	ND	NA	NA	ND
TRD8-033	09/23/1998	NA	1033	29	30	22	ND	NA	NA	138
TRD8-033-RE	09/23/1998	NA	985	34	11	18	ND	NA	NA	142
TRD8-035	09/23/1998	NA	854	26	13	10	ND	NA	NA	ND
TRD8-036	09/23/1998	NA	728	21	34	14	6	NA	NA	ND
TRD8-031	09/23/1998	NA	941	22	28	82	ND	NA	NA	ND
TRD8-037	09/24/1998	NA	983	28	31	17	ND	NA	NA	ND
TRD8-038	09/24/1998	NA	1000	22	30	28	3	NA	NA	ND
TRD8-040	09/29/1998	NA	1035	32	32	25	4	NA	NA	ND
TRD8-039	09/29/1998	NA	995	23	18	10	ND	NA	NA	ND
TRD8-040-RE	10/14/1998	NA	892	22	23	31	ND	NA	NA	12
TRD8-039-RE	10/14/1998	NA	811	16	13	16	ND	NA	NA	3
TRD8-044-RE	10/15/1998	NA	811	15	20	25	ND	NA	NA	ND
TRD8-041	10/15/1998	NA	813	21	24	26	ND	NA	NA	ND
TRD8-043	10/15/1998	NA	786	15	17	24	ND	NA	NA	ND
TRD8-042	10/15/1998	NA	1250	17	28	33	ND	NA	NA	ND
TRD8-045	10/15/1998	NA	1092	23	33	6	2	NA	NA	165
TRD8-044	10/15/1998	NA	916	40	20	8	11	NA	NA	ND
TRD8-045-RE	10/15/1998	NA	1205	17	15	18	ND	NA	NA	53
TRD8-046	10/15/1998	NA	1057	13	31	22	ND	NA	NA	ND
TRD8-046-RE	10/15/1998	NA	977	15	37	24	ND	NA	NA	ND
TRD8-047	10/15/1998	NA	875	17	36	29	ND	NA	NA	ND
TRC9-001-RE	10/19/1998	NA	841	11	37	159	0.3	NA	NA	ND
TRD8-048	10/19/1998	NA	1021	26	29	6	0.2	NA	NA	ND
TRD8-049	10/19/1998	NA	776	14	34	25	ND	NA	NA	ND
TRD8-049-RE	10/19/1998	NA	774	13	38	27	2	NA	NA	ND
SLPE-043	10/19/1998	NA	764	1.3	14	27	ND	NA	NA	ND
SLPE-043	10/19/1998	NA	729	0.4	17	12	0.4	NA	NA	ND
SLPE-045	10/19/1998	NA	743	1	23	1	ND	NA	NA	ND
TRC9-001	10/19/1998	NA	817	26	24	206	ND	NA	NA	ND
TRC9-002	10/19/1998	NA	812	6	18	5	ND	NA	NA	ND
TRC9-002-RE	10/19/1998	NA	773	8	20	8	ND	NA	NA	ND
TRC9-004	10/20/1998	NA	935	9	36	7	11	NA	NA	ND
TRC9-003	10/20/1998	NA	807	9	48	11	ND	NA	NA	ND
TRC9-005	10/20/1998	NA	786	8	32	31	ND	NA	NA	ND
TRC9-006	10/20/1998	NA	896	7	39	16	ND	NA	NA	ND
TRC9-004-RE	10/20/1998	NA	978	16	31	15	5	NA	NA	ND
TRC9-009	10/21/1998	NA	835	9	48	27	ND	NA	NA	ND
TRC9-010	10/21/1998	NA	819	7	50	23	ND	NA	NA	ND
TRC9-008	10/21/1998	NA	791	8	34	33	0	NA	NA	ND
TRC9-007	10/21/1998	NA	774	12	14	25	ND	NA	NA	ND
TRC9-011	10/22/1998	NA	786	7	24	21	ND	NA	NA	ND
TRC9-013	10/22/1998	NA	753	11	33	22	ND	NA	NA	3
TRC9-015	10/22/1998	NA	860	7	36	15	ND	NA	NA	ND
TRC9-013-RE	10/22/1998	NA	796	13	15	15	4	NA	NA	ND
TRC9-012	10/22/1998	NA	763	6	34	11	ND	NA	NA	ND
TRC9-014	10/22/1998	NA	883	6	40	29	6	NA	NA	ND
TRC9-019-RE	10/26/1998	NA	785	13	27	7	3	NA	NA	ND
TRC9-019	10/26/1998	NA	811	20	38	20	ND	NA	NA	ND
TRC9-018	10/26/1998	NA	825	10	34	31	0.1	NA	NA	ND
TRC9-020	10/26/1998	NA	886	9	38	16	ND	NA	NA	ND
TRC9-016	10/26/1998	NA	870	12	18	32	ND	NA	NA	ND
TRC9-017	10/26/1998	NA	804	11	38	20	ND	NA	NA	3
TRC9-023	10/27/1998	NA	749	5	37	21	ND	NA	NA	ND
TRC9-24	10/27/1998	NA	794	10	48	7	ND	NA	NA	ND
TRC9-021	10/27/1998	NA	904	3	29	8	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRC9-022	10/27/1998	NA	823	7	41	23	10	NA	NA	ND
TRC9-024	10/27/1998	NA	794	10	48	7	ND	NA	NA	ND
TRC9-022-RE	10/27/1998	NA	781	7	27	28	ND	NA	NA	ND
TRC9-024-RE	10/27/1998	NA	727	6	22	21	ND	NA	NA	ND
TRC9-029	10/28/1998	NA	792	8	44	26	ND	NA	NA	ND
TRC9-030	10/28/1998	NA	798	10	31	1	ND	NA	NA	ND
TRC9-025	10/28/1998	NA	744	4	11	33	ND	NA	NA	ND
TRC9-027	10/28/1998	NA	791	5	30	25	ND	NA	NA	ND
TRC9-026	10/28/1998	NA	661	6	42	9	ND	NA	NA	ND
TRC9-032	10/29/1998	NA	736	9	19	17	ND	NA	NA	ND
TRC9-028	10/29/1998	NA	696	7	34	18	ND	NA	NA	ND
TRC9-033	10/29/1998	NA	936	11	29	16	ND	NA	NA	ND
TRC9-036-RE	10/29/1998	NA	897	4	34	6	5	NA	NA	ND
TRC9-034	10/29/1998	NA	860	9	13	15	ND	NA	NA	ND
TRC9-030-RE	10/29/1998	NA	850	9	42	22	ND	NA	NA	ND
TRC9-031	10/29/1998	NA	806	6	28	13	ND	NA	NA	ND
TRC9-035	10/29/1998	NA	816	2	20	20	ND	NA	NA	ND
TRC9-036	10/29/1998	NA	817	5	32	11	3	NA	NA	ND
TRC9-038	11/02/1998	NA	791	4	13	16	ND	NA	NA	ND
TRC038	11/02/1998	NA	791	4	13	16	ND	NA	NA	ND
TRC9-040	11/02/1998	NA	804	4	21	18	ND	NA	NA	ND
TRC9-041	11/02/1998	NA	788	6	24	17	ND	NA	NA	ND
TRC9-037-RE	11/02/1998	NA	790	6	36	21	ND	NA	NA	ND
TRC9-037	11/02/1998	NA	832	9	25	8	2	NA	NA	ND
TRC9-039	11/02/1998	NA	769	6	37	29	4	NA	NA	ND
TRC9-042-RE	11/02/1998	NA	795	5	30	23	1	NA	NA	ND
TRC9-042	11/02/1998	NA	765	6	18	16	9	NA	NA	ND
TRC9-043	11/03/1998	NA	751	9	14	8	ND	NA	NA	ND
TRC9-044	11/03/1998	NA	765	4	28	15	ND	NA	NA	ND
TRC9-043-RE	11/03/1998	NA	726	4	32	10	ND	NA	NA	ND
TRC9-045-RE	11/04/1998	NA	804	4	23	7	ND	NA	NA	ND
TRC9-047	11/04/1998	NA	747	8	19	10	ND	NA	NA	ND
TRC9-048	11/04/1998	NA	846	8	22	17	ND	NA	NA	ND
TRC9-049	11/04/1998	NA	823	7	34	21	ND	NA	NA	ND
TRC9-046	11/04/1998	NA	766	5	34	4	ND	NA	NA	ND
TRC9-045	11/04/1998	NA	792	8	38	ND	ND	NA	NA	ND
TRC9-052	11/05/1998	NA	796	3	24	12	ND	NA	NA	ND
TRC9-051	11/05/1998	NA	730	6	12	15	1	NA	NA	ND
TRC9-050	11/05/1998	NA	775	9	34	22	ND	NA	NA	ND
TRC9-053	11/09/1998	NA	749	5	40	14	ND	NA	NA	ND
TRC9-057	11/09/1998	NA	815	3	34	7	9	NA	NA	ND
TRC9-057-RE	11/09/1998	NA	864	2	19	30	2	NA	NA	ND
TRC9-058-RE	11/09/1998	NA	791	ND	20	37	ND	NA	NA	ND
TRC9-059	11/09/1998	NA	785	7	18	20	5	NA	NA	ND
TRC9-059-RE	11/09/1998	NA	798	3	33	ND	ND	NA	NA	ND
TRC9-060	11/09/1998	NA	785	3	41	21	ND	NA	NA	ND
TRC9-058	11/09/1998	NA	695	6	14	18	ND	NA	NA	ND
TRC9-056	11/09/1998	NA	723	2	25	14	ND	NA	NA	ND
TRC9-055	11/09/1998	NA	741	5	21	7	ND	NA	NA	ND
TRC9-054	11/09/1998	NA	909	3	33	17	ND	NA	NA	ND
TRC9-061-RE	11/10/1998	NA	823	7	39	21	ND	NA	NA	ND
TRC9-061	11/10/1998	NA	764	4	43	6	ND	NA	NA	ND
TRC9-062-RE	11/10/1998	NA	718	2	21	ND	ND	NA	NA	ND
TRC9-062	11/10/1998	NA	741	3	19	8	6	NA	NA	ND
TRC9-067	11/11/1998	NA	855	3	39	27	ND	NA	NA	ND
TRC9-066	11/11/1998	NA	798	10	36	28	ND	NA	NA	ND
TRC9-063	11/11/1998	NA	760	2	45	10	ND	NA	NA	ND
TRC9-065	11/11/1998	NA	832	0	26	6	ND	NA	NA	ND
TRC9-063-RE	11/11/1998	NA	852	0	9	22	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRC9-064	11/11/1998	NA	786	2	29	18	ND	NA	NA	ND
TRC9-068	11/11/1998	NA	843	7	27	25	ND	NA	NA	ND
TRC9-073	11/12/1998	NA	970	2	39	2	ND	NA	NA	ND
TRC9-072-RE	11/12/1998	NA	807	9	39	23	ND	NA	NA	ND
TRC9-074	11/12/1998	NA	787	5	28	16	ND	NA	NA	ND
TRC9-071	11/12/1998	NA	763	7	77	19	ND	NA	NA	ND
TRC9-070	11/12/1998	NA	971	6	28	14	ND	NA	NA	ND
TRC9-069	11/12/1998	NA	825	4	36	16	ND	NA	NA	ND
TRC9-071-RE	11/12/1998	NA	736	3	48	2	ND	NA	NA	ND
TRC9-072	11/12/1998	NA	684	7	21	24	ND	NA	NA	ND
TRC9-076	11/16/1998	NA	817	2	20	29	ND	NA	NA	ND
TRC9-077	11/16/1998	NA	877	5	30	13	ND	NA	NA	ND
TRC9-075	11/16/1998	NA	849	8	38	13	5	NA	NA	ND
TRC9-078	11/16/1998	NA	844	1	33	21	ND	NA	NA	ND
TRC9-079	11/16/1998	NA	893	2	43	ND	ND	NA	NA	ND
TRC9-084	11/17/1998	NA	784	2	36	30	ND	NA	NA	ND
TRC9-083	11/17/1998	NA	872	32	31	10	ND	NA	NA	ND
TRC9-081	11/17/1998	NA	764	6	13	20	3	NA	NA	ND
TRC9-082	11/17/1998	NA	862	7	40	20	ND	NA	NA	ND
TRC9-083-RE	11/17/1998	NA	871	37	14	6	ND	NA	NA	ND
TRC9-080	11/17/1998	NA	947	7	40	18	3	NA	NA	ND
TRC8-002	11/18/1998	NA	731	17	39	22	ND	NA	NA	2
TRC8-0001-RE	11/18/1998	NA	826	18	21	18	ND	NA	NA	31
TRC9-086	11/18/1998	NA	782	7	40	24	ND	NA	NA	ND
TRC9-087	11/18/1998	NA	860	11	44	30	7	NA	NA	ND
TRC9-086	11/18/1998	NA	782	7	40	24	ND	NA	NA	ND
TRC8-001-RE	11/18/1998	NA	826	18	21	18	ND	NA	NA	31
TRC9-085	11/18/1998	NA	731	5	14	7	ND	NA	NA	ND
TRC8-001	11/18/1998	NA	744	16	25	35	ND	NA	NA	22
TRC8-003	11/18/1998	NA	851	12	31	14	ND	NA	NA	ND
OVC8-001	11/18/1998	NA	739	ND	9	5	ND	NA	NA	ND
TRC8-004-RE	11/19/1998	NA	817	30	27	32	ND	NA	NA	5
TRC8-007	11/19/1998	NA	830	16	43	16	3	NA	NA	11
TRC8-008-RE	11/19/1998	NA	787	17	53	27	ND	NA	NA	71
TRC8-004	11/19/1998	NA	780	33	27	28	ND	NA	NA	ND
TRC8-008	11/19/1998	NA	858	21	33	30	ND	NA	NA	6
TRC8-005-RE	11/19/1998	NA	881	17	28	17	0.2	NA	NA	ND
TRC8-009	11/19/1998	NA	830	20	32	29	5	NA	NA	ND
TRC8-006	11/19/1998	NA	837	15	25	28	ND	NA	NA	ND
TRC8-005	11/19/1998	NA	801	19	48	18	ND	NA	NA	ND
TRC8-008-RE1	11/19/1998	NA	858	14	17	13	ND	NA	NA	29
TRC8-011	11/23/1998	NA	834	20	57	30	ND	NA	NA	55
TRC8-012	11/23/1998	NA	739	15	50	28	ND	NA	NA	ND
TRC8-009-RE	11/23/1998	NA	836	16	34	36	ND	NA	NA	ND
TRC8-009-RE1	11/23/1998	NA	818	21	37	17	ND	NA	NA	45
TRC8-010	11/23/1998	NA	953	13	27	28	ND	NA	NA	ND
TRC8-016	11/24/1998	NA	784	11	36	9	3	NA	NA	ND
TRC8-020	11/24/1998	NA	690	8	30	6	ND	NA	NA	ND
TRC8-019	11/24/1998	NA	656	8	28	6	ND	NA	NA	ND
TRC8-017	11/24/1998	NA	810	14	41	31	ND	NA	NA	ND
TRC8-014	11/24/1998	NA	895	13	21	49	ND	NA	NA	ND
TRC-018	11/24/1998	NA	732	13	32	9	ND	NA	NA	ND
TRC8-015	11/24/1998	NA	870	18	53	20	ND	NA	NA	ND
TRC8-013	11/24/1998	NA	844	18	24	33	4.5	NA	NA	4.0
TRC7-001	11/25/1998	NA	809	8	25	3	ND	NA	NA	ND
TRC7-002	11/25/1998	NA	758	3	33	3	3	NA	NA	ND
TRC7-003	11/25/1998	NA	789	8	35	5	ND	NA	NA	ND
TRC7-004	11/30/1998	NA	876	5	22	23	ND	NA	NA	ND
TRC7-009	11/30/1998	NA	741	10	50	ND	ND	NA	NA	ND

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRC7-008	11/30/1998	NA	836	8	27	14	ND	NA	NA	ND
TRC7-007	11/30/1998	NA	773	3	35	3	3	NA	NA	ND
TRC7-005	11/30/1998	NA	1015	8	21	15	ND	NA	NA	ND
TRC7-006	11/30/1998	NA	819	14	38	9	ND	NA	NA	ND
TRC7-016	12/01/1998	NA	720	1	18	25	ND	NA	NA	ND
TRC7-014	12/01/1998	NA	864	2	42	11	ND	NA	NA	ND
TRC7-017	12/01/1998	NA	729	5	30	18	ND	NA	NA	ND
TRC7-013	12/01/1998	NA	851	7	32	19	ND	NA	NA	ND
TRC7-015	12/01/1998	NA	805	ND	23	10	ND	NA	NA	ND
TRC7-012	12/01/1998	NA	838	6	47	22	ND	NA	NA	ND
TRC7-011	12/01/1998	NA	893	6	33	13	ND	NA	NA	ND
TRC7-010	12/01/1998	NA	892	6	34	16	ND	NA	NA	ND
TRC7-023	12/02/1998	NA	855	4	49	66	ND	NA	NA	ND
TRC7-019	12/02/1998	NA	740	3	48	23	ND	NA	NA	ND
TRC7-020	12/02/1998	NA	982	4	31	15	ND	NA	NA	ND
TRC7-018	12/02/1998	NA	753	4	43	5	ND	NA	NA	ND
TRC7-021	12/02/1998	NA	852	7	22	12	ND	NA	NA	ND
TRC7-022	12/02/1998	NA	836	3	17	19	ND	NA	NA	ND
TRC6-001	01/13/1999	NA	784	1	55	ND	ND	NA	NA	ND
TRC6-002	01/13/1999	NA	787	7	19	8	ND	NA	NA	ND
TRC6-003	01/13/1999	NA	880	5	41	22	ND	NA	NA	ND
TRC6-004	01/13/1999	NA	860	3	14	24	ND	NA	NA	ND
TRC6-006	01/14/1999	NA	911	2	37	16	ND	NA	NA	ND
TRC6-007	01/14/1999	NA	780	3	33	22	ND	NA	NA	ND
TRC6-005	01/14/1999	NA	760	4	30	21	ND	NA	NA	ND
TRC5-001	01/28/1999	NA	714	5	32	18	ND	NA	NA	ND
TRC5-002	01/28/1999	NA	707	4	25	14	ND	NA	NA	ND
TRC5-003	01/28/1999	NA	762	4	35	18	ND	NA	NA	ND
TRC5-005	02/01/1999	NA	750	ND	34	13	ND	NA	NA	ND
TRC5-004	02/01/1999	NA	775	5	34	14	ND	NA	NA	ND
TRC5-009	02/02/1999	NA	743	4	34	15	ND	NA	NA	ND
TRC5-008	02/02/1999	NA	869	3	33	10	ND	NA	NA	ND
TRC5-007	02/02/1999	NA	829	1	38	8	ND	NA	NA	ND
TRC5-006	02/02/1999	NA	734	9	32	25	ND	NA	NA	ND
TRC5-011	02/03/1999	NA	833	9	26	9	ND	NA	NA	ND
TRC5-010	02/03/1999	NA	855	4	32	22	ND	NA	NA	ND
TRC5-012	02/04/1999	NA	788	11	44	22	ND	NA	NA	ND
TRC5-013	02/04/1999	NA	842	6	35	14	ND	NA	NA	ND
TRC4-001	03/09/1999	NA	815	0	21	13	4	NA	NA	ND
TRC4-002	03/09/1999	NA	830	3	18	11	ND	NA	NA	ND
TRC4-006	03/10/1999	NA	809	2	8	7	ND	NA	NA	ND
TRC4-007	03/10/1999	NA	803	6	19	13	ND	NA	NA	ND
TRC4-005	03/10/1999	NA	835	3	24	6	ND	NA	NA	ND
TRC4-004	03/10/1999	NA	810	2	18	11	ND	NA	NA	ND
TRC4-003	03/10/1999	NA	849	1	29	8	ND	NA	NA	ND
TRC4-008	03/10/1999	NA	843	2	27	6	ND	NA	NA	ND
TRC3-001	03/11/1999	NA	871	6	36	20	ND	NA	NA	ND
TRC3-002	03/11/1999	NA	733	3	54	21	ND	NA	NA	ND
TRC3-003	03/11/1999	NA	870	9	45	22	2	NA	NA	ND
TRC3-004	03/15/1999	NA	757	3	47	11	ND	NA	NA	ND
TRC3-009	03/16/1999	NA	757	6	32	19	0.2	NA	NA	ND
TRC3-008	03/16/1999	NA	723	3	31	6	ND	NA	NA	ND
TRC3-007	03/16/1999	NA	821	2	30	12	ND	NA	NA	ND
TRC3-006	03/16/1999	NA	807	ND	29	8	ND	NA	NA	ND
TRC3-005	03/16/1999	NA	660	4	11	14	ND	NA	NA	ND
TRC3-010	03/23/1999	NA	771	2	20	21	ND	NA	NA	ND
TRC3-011	03/23/1999	NA	802	6	33	22	ND	NA	NA	ND
TRC3-014	03/25/1999	NA	753	3	30	10	ND	NA	NA	ND
TRC3-016	03/25/1999	NA	750	7	39	22	ND	NA	NA	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRC3-015	03/25/1999	NA	755	5	17	18	ND	NA	NA	ND
TRC3-012	03/25/1999	NA	840	5	38	22	ND	NA	NA	ND
TRC2-004	04/08/1999	NA	839	5	40	9	ND	NA	NA	ND
TRC2-007	04/08/1999	NA	817	2	29	13	ND	NA	NA	ND
TRC2-001	04/08/1999	NA	800	8	45	17	ND	NA	NA	ND
TRC2-002	04/08/1999	NA	821	3	27	12	ND	NA	NA	ND
TRC2-003	04/08/1999	NA	764	5	27	27	1	NA	NA	ND
TRC2-005	04/08/1999	NA	860	7	46	16	ND	NA	NA	ND
TRC2-008	04/08/1999	NA	797	7	22	ND	ND	NA	NA	ND
TRC2-006	04/08/1999	NA	820	4	20	2	2	NA	NA	ND
TRC1-001	04/12/1999	NA	850	1	23	18	2	NA	NA	ND
TRC1-005	04/12/1999	NA	896	5	11	17	ND	NA	NA	ND
TRC1-004	04/12/1999	NA	839	4	31	6	1	NA	NA	ND
TRC1-003	04/12/1999	NA	866	13	15	25	ND	NA	NA	ND
TRC1-002	04/12/1999	NA	810	2	51	3	ND	NA	NA	ND
TRC1-006	04/13/1999	NA	879	ND	32	16	ND	NA	NA	ND
TRC1-007	04/13/1999	NA	819	3	24	18	ND	NA	NA	ND
TRC1-008	04/13/1999	NA	829	2	25	18	1	NA	NA	ND
TRB1-004	04/14/1999	NA	844	7	19	3	ND	NA	NA	ND
TRB1-002	04/14/1999	NA	821	4	29	14	3	NA	NA	ND
TRB1-001	04/14/1999	NA	832	5	23	20	ND	NA	NA	ND
TRB1-003	04/14/1999	NA	875	ND	33	ND	ND	NA	NA	ND
OVB1-001	04/15/1999	NA	657	3	26	20	1	NA	NA	ND
TRB1-005	04/15/1999	NA	840	10	18	12	ND	NA	NA	ND
OVB1-002	04/15/1999	NA	647	1	8	12	0	NA	NA	ND
TRB1-008	04/19/1999	NA	785	4	13	14	ND	NA	NA	ND
TRB1-006	04/19/1999	NA	780	7	47	12	ND	NA	NA	ND
TRB1-007	04/19/1999	NA	803	7	29	12	ND	NA	NA	ND
TRB1-009	04/19/1999	NA	770	0	38	18	ND	NA	NA	ND
TRB1-010	04/20/1999	NA	818	0.3	36	15	0.5	NA	NA	ND
TRB1-011	04/20/1999	NA	783	7	30	13	2	NA	NA	ND
TRB2-002	04/21/1999	NA	911	1	20	6	ND	NA	NA	ND
TRB2-001	04/21/1999	NA	986	7	34	17	ND	NA	NA	ND
OVB3-001	04/22/1999	NA	824	1	16	67	ND	NA	NA	ND
OVB2-001	04/22/1999	NA	804	ND	25	8	0.4	NA	NA	ND
TRB3-003	04/28/1999	NA	726	4	21	21	ND	NA	NA	ND
TRB3-004	04/28/1999	NA	661	3	29	15	ND	NA	NA	ND
TRB3-002	04/28/1999	NA	748	3	24	22	2	NA	NA	ND
TRB3-001	04/28/1999	NA	709	1	33	19	ND	NA	NA	ND
TRB3-006	05/03/1999	NA	716	5	18	28	ND	NA	NA	ND
TRB3-007	05/03/1999	NA	692	2	29	12	ND	NA	NA	ND
TRB3-008	05/03/1999	NA	693	11	28	21	ND	NA	NA	ND
TRB3-005	05/03/1999	NA	678	ND	37	10	ND	NA	NA	ND
TRB3-009	05/13/1999	NA	713	7	28	19	ND	NA	NA	ND
TRB3-010	05/13/1999	NA	763	9	36	7	ND	NA	NA	ND
TRB3-011	05/13/1999	NA	793	11	22	7	ND	NA	NA	ND
TRB3-012	05/13/1999	NA	853	0	15	14	ND	NA	NA	ND
TRB3-013	05/17/1999	NA	770	4	34	22	ND	NA	NA	ND
TRB3-014	05/17/1999	NA	802	17	20	6	ND	NA	NA	ND
TRB3-017	06/02/1999	NA	773	10	33	9	ND	NA	NA	ND
TRB3-015	06/02/1999	NA	733	6	34	20	ND	NA	NA	ND
TRB3-016RE	06/02/1999	NA	962	11	13	20	ND	NA	NA	ND
TRB3-016	06/02/1999	NA	859	19	11	16	ND	NA	NA	ND
TRA3-004	06/10/1999	NA	694	8	45	13	ND	NA	NA	ND
TRA3-002RE	06/10/1999	NA	742	15	28	8	ND	NA	NA	ND
TRA3-001	06/10/1999	NA	729	5	18	27	ND	NA	NA	ND
TRA3-002	06/10/1999	NA	717	29	49	15	ND	NA	NA	ND
TRA3-003	06/10/1999	NA	764	6	22	14	ND	NA	NA	ND
TRA3-005	06/10/1999	NA	760	12	25	23	ND	NA	NA	ND

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TRA3-010	06/21/1999	NA	816	7	17	8	ND	NA	NA	ND
TRA3-011	06/21/1999	NA	850	9	29	3	ND	NA	NA	ND
TRA3-008	06/21/1999	NA	796	4	32	12	ND	NA	NA	ND
TRA3-007RE	06/21/1999	NA	716	12	14	18	ND	NA	NA	ND
TRA3-007	06/21/1999	NA	743	19	42	19	ND	NA	NA	ND
TRA3-006	06/21/1999	NA	748	9	32	23	ND	NA	NA	ND
TRA3-009	06/21/1999	NA	821	7	47	16	ND	NA	NA	ND
TRA3-016	06/28/1999	NA	780	7	14	21	ND	NA	NA	ND
TRA3-014RE	06/28/1999	NA	759	7	12	19	ND	NA	NA	ND
TRA3-014	06/28/1999	NA	774	15	40	21	ND	NA	NA	ND
TRA3-013	06/28/1999	NA	741	10	30	23	ND	NA	NA	ND
TRA3-012	06/28/1999	NA	782	8	39	10	ND	NA	NA	ND
TRA3-015	06/28/1999	NA	748	8	25	9	ND	NA	NA	ND
TRS2-001	06/30/1999	NA	890	6	15	23	ND	NA	NA	ND
TRS2-002	06/30/1999	NA	720	4	29	18	2	NA	NA	ND
TRA2-006	07/07/1999	NA	953	1	22	9	ND	NA	NA	ND
TRA2-003	07/07/1999	NA	845	7	20	12	ND	NA	NA	ND
TRA2-005	07/07/1999	NA	766	4	18	11	ND	NA	NA	ND
TRA2-007	07/07/1999	NA	737	6	9	6	ND	NA	NA	ND
TRA2-004	07/07/1999	NA	904	7	7	19	ND	NA	NA	ND
OVA2-001	07/12/1999	NA	793	1	27	11	ND	NA	NA	ND
OVA3-001	07/12/1999	NA	748	ND	19	ND	1	NA	NA	ND
TRA1-001	07/20/1999	8	685	6	31	16	ND	ND	2	ND
TRA1-001RE	07/20/1999	ND	717	7	18	25	ND	ND	ND	ND
TRA1-002	07/20/1999	6	675	7	23	13	ND	3	3	ND
OVA1-002	07/28/1999	7	552	ND	28	ND	ND	ND	2	ND
TRA1-003	07/28/1999	0.4	643	7	16	15	ND	ND	ND	ND
OVA1-001	07/28/1999	ND	503	2	22	13	ND	ND	1	ND
TRA1-004	07/28/1999	4	626	6	5	16	ND	ND	ND	ND
OVA1-004	07/29/1999	4	609	ND	9	9	ND	ND	1.3	ND
TRA1-006	07/29/1999	ND	666	0.1	13	21	ND	ND	ND	ND
TRA1-005	07/29/1999	ND	ND	3	12	14	ND	2	ND	ND
SLPE-046	07/29/1999	ND	526	4	30	15	ND	ND	ND	ND
SLPE-045	07/29/1999	1.2	504	ND	33	18	ND	0.6	ND	ND
OVA1-003	07/29/1999	7	540	ND	14	10	ND	ND	ND	ND
OVA1-006	07/29/1999	2	555	0.1	15	10	ND	1	ND	ND
OVA1-005	07/29/1999	ND	543	ND	22	19	ND	1.0	3	ND
OVT3-P10-SL3	08/03/1999	4	505	1	18	4	ND	ND	0.3	ND
OVT3-P10-LS2	08/03/1999	0.4	510	ND	15	13	ND	ND	5	ND
OVT3-P10-SL1	08/03/1999	ND	528	ND	20	13	ND	0.1	3	ND
OVT2-P12-SL1	08/04/1999	6	576	1	23	3	ND	ND	ND	ND
OVT2-P12-SL2	08/04/1999	7	547	1	24	6	ND	0.2	ND	ND
TR3-P10-SL2	08/18/1999	4	442	6	25	4	ND	ND	ND	ND
TR3-P10-SL1	08/18/1999	2	433	4	21	13	ND	1	4	ND
TR2-P12-SL1	08/24/1999	4	498	7	17	12	ND	2	0.5	ND
TR2-P12-SL2	08/24/1999	3	498	3	13	1	ND	ND	1	ND
TR2-P12-SL3	08/24/1999	4	518	9	18	9	2	1	2	ND
TR2-P12-SL5	08/24/1999	6	476	7	23	5	ND	ND	1	ND
TR2-P12-SL4	08/24/1999	4	516	1	8	15	ND	1	ND	ND
TR2-P12-SL8	08/31/1999	ND	708	7	11	19	ND	ND	ND	ND
TR2-P12-SL7	08/31/1999	8	488	7	19	ND	ND	1.5	ND	ND
TR1-P6-SL9	09/08/1999	3	488	6	21	7	ND	ND	0.9	ND
TR1-P6-SL1	09/08/1999	5.4	573	5.8	13	5.1	ND	ND	1.1	ND
TR1-P6-SL3	09/08/1999	1.1	501	1.9	13	11.6	ND	0.2	ND	ND
TR1-P6-SL5	09/08/1999	0.9	482	7.7	5.8	13.7	ND	ND	0.7	ND
TR1-P6-SL6	09/08/1999	ND	472	6	28	14	ND	1.6	ND	ND
TR1-P6-SL6	09/08/1999	ND	472	6	28	14	ND	1.6	ND	ND
TR1-P6-SL8	09/08/1999	ND	504	12	18	15	ND	ND	ND	ND
TR1-P6-SL2	09/08/1999	4.1	483	8.4	2	3.7	ND	ND	2.3	ND

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ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TR1-P6-SL10	09/08/1999	1.5	477	9	14	15	ND	0.1	1.2	ND
TR1-P6-SL11	09/08/1999	ND	554	10	16	18	ND	1.4	1	ND
OVT1-P6-SL1	09/08/1999	2	471	ND	4	14	0.1	1.5	ND	ND
TR1-P6-SL7	09/08/1999	0.8	466	8	12	17	ND	ND	ND	ND
TR1-P6-SL4	09/08/1999	1.3	493	5.8	16	17.4	ND	ND	0.3	ND
TR1-P4-SL1	10/04/1999	ND	433	8	29	16	ND	3.7	ND	307
TR1-P4-SL1RE	10/04/1999	ND	444	10	5	17	ND	4	2	432
TR1-P4-SL2	10/04/1999	1	476	5	20	ND	ND	4	ND	232
TR1-P4-SL2RE	10/04/1999	4	434	7	25	1	ND	4	ND	361
TR1-P4-SL3	10/04/1999	1	484	6	8	10	ND	3	0.2	18
TR1-P4-SL1RE2	10/04/1999	3	448	11	19	11	ND	4	ND	447
OVT1-P4-SL1	10/04/1999	ND	458	ND	22	10	ND	0.9	ND	ND
TR1-P3-SL1	10/18/1999	2	419	16	24	12	1	ND	3	ND
OVT1-P3-SL1	10/18/1999	ND	461	ND	6	13	ND	ND	0	ND
OVT1-P3-SL2	10/18/1999	ND	483	3	8	11	ND	ND	0	ND
OVT1-P2-SL1	10/18/1999	1	454	ND	14	13	ND	ND	ND	ND
TR1-P4-SL1	10/18/1999	6	434	12	23	7	ND	3	0	132
TR1-P3-SL2	10/18/1999	3	480	18	11	5	ND	1	1	ND
TR1-P3-SL2RE	10/18/1999	2	479	13	16	10	ND	1	1	ND
OVT1-P2-SL2	10/18/1999	1	424	ND	12	17	ND	1	ND	ND
TR1-P2-SL1	10/19/1999	4	430	9	18	17	ND	0	8	ND
TR1-P2-SL2	10/19/1999	ND	553	4	21	17	7	1	2	ND
TR1-P2-SL3	10/20/1999	3	520	13	16	8	ND	2	2	ND
TR1-P2-SL4	10/20/1999	1	448	8	12	15	ND	2	ND	66
TR1-P2-SL6	10/20/1999	0	441	10	15	12	ND	ND	ND	ND
TR1-P2-SL7	10/20/1999	5	449	28	12	10	ND	ND	0	ND
TR1-P2-SL7RE	10/20/1999	4	461	38	14	6	ND	1	1	ND
TR1-P2-SL8	10/20/1999	8	522	13	28	2	ND	1	2	ND
TR1-P2-SL5	10/20/1999	3	513	10	15	15	ND	ND	0	ND
TRB3-SL16-N	10/26/1999	5	424	9	27	8	ND	1	2	ND
TRB3-SL16-E	10/27/1999	5	399	4	10	ND	ND	ND	5	ND
OVT1-P1-SL2	10/27/1999	4	428	2	19	5	ND	ND	ND	ND
OVT1-P1-SL1	10/27/1999	ND	471	1	5	9	ND	2	1	ND
TRC9-SL83-W	10/27/1999	1	557	4	9	7	ND	2	2	ND
TRC9-SL83-S	10/27/1999	2	497	2	22	16	ND	1	2	ND
TRC9-SL83-E	10/27/1999	3	502	4	10	9	ND	ND	2	ND
TRC9-SL83-N	10/27/1999	3	685	3	12	1	ND	ND	2	ND
TRB3-SL16-S	10/27/1999	1	467	4	15	13	ND	2	5	ND
TRB3-SL16-W	10/27/1999	4	424	2	20	1	ND	2	ND	ND
TR1-P1-SL2	10/28/1999	ND	511	5	23	20	ND	1	1	ND
TR1-P1-SL3	10/28/1999	6	535	8	12	ND	ND	2	ND	ND
TR1-P1-SL1	10/28/1999	ND	501	10	5	20	ND	1	ND	ND
TR1-P2-SL4	11/04/1999	ND	480	6	10	12	ND	ND	5	ND
TR1-P1-SL5	11/04/1999	4	524	7	24	12	ND	1	ND	ND
TR2-P10-SL2	11/15/1999	5	436	3	5	5	ND	ND	ND	ND
OVT2-P10-SL1	11/15/1999	3	435	ND	21	8	ND	ND	2	ND
TR2-P10-SL1	11/15/1999	5	487	3	16	4	ND	1	ND	ND
OVT2-P8-SL1	12/02/1999	2	586	3	20	16	ND	ND	ND	ND
TR2-P8-SL1	12/02/1999	1	586	9	13	11	ND	0	ND	ND
TR2-P8-SL2	12/21/1999	5	600	13	10	5	ND	ND	3	ND
TR2-P8-SL3	12/21/1999	5	527	10	16	8	ND	2	ND	ND
TR2-P9-SL2RE	01/03/2000	6	702	38	5	5	1	ND	1	6
OVT2-P6-SL1	01/03/2000	2	484	ND	16	10	ND	2	4	ND
TR2-P9-SL3	01/03/2000	2	496	15	33	10	ND	1	ND	ND
TR2-P9-SL2	01/03/2000	0	690	23	32	11	ND	2	ND	ND
TR2-P9-SL1	01/03/2000	2	518	10	23	13	ND	0	ND	ND
OVT2-P7-SL1	01/03/2000	ND	500	1	31	10	ND	1	1	ND
TR2-P8-SL1	01/06/2000	2	494	7	13	18	ND	3	13	ND
TR2-P8-SL2	01/06/2000	5	495	0.3	24	ND	ND	0.3	ND	ND

Summary of SWMU 2 Soil Sampling XRF Analytical Results (mg/kg)
March 1998–March 2000

ER Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Nickel
TR2-P7-SL1	01/06/2000	9	514	4	20	ND	ND	ND	2	ND
OVT2-P5/1-SL2	01/10/2000	5	447	ND	17	2	ND	ND	ND	ND
TR2-P7-SL2	01/10/2000	6	493	6	24	6	ND	1	0.3	ND
OVT2-P5/1-SL1	01/10/2000	2	501	7	9	14	ND	ND	4	ND
TR2-P6-SL1	01/11/2000	1	497	10	29	19	1	1	ND	ND
TR2-P6-SL2	01/11/2000	6	561	13	25	4	ND	ND	2	ND
TR2-P6-SL3	01/11/2000	2	488	17	9	15	ND	ND	0	ND
TR2-P6-SL4	01/11/2000	6	514	14	13	9	ND	2	ND	ND
TR2-P543-SL4-RE	02/04/2000	8	1018	18	42	45	ND	2	ND	ND
TR2-P543-SL4	02/04/2000	2	1028	18	38	208	ND	1	ND	ND
TR2-P543-SL1	02/04/2000	12	965	32	53	83	ND	4	ND	ND
TR2-P543-SL2	02/04/2000	3	886	17	40	23	0.3	ND	3	ND
TR2-P543-SL3	02/04/2000	15	961	9	48	43	ND	3	ND	ND
TR2-P543-SL5	02/08/2000	19	1129	20	45	37	3	ND	ND	ND
TR2-P543-SL5-RE	02/08/2000	0.2	1122	21	48	53	15	2	ND	ND
TR2-P2/1-SL1-RE	02/10/2000	9	980	49	49	44	ND	3	ND	ND
TR3-P/23-SL4	02/10/2000	12	988	5	12	16	ND	5	ND	ND
TR3-P2/3-SL3	02/10/2000	13	1004	11	36	2	ND	4	8	ND
TR3-P2/3-SL2	02/10/2000	8	923	13	36	13	ND	3	2	ND
TR3-P2/3-SL1	02/10/2000	11	889	9	17	5	ND	2	ND	ND
TR2-P2/1-SL4	02/10/2000	4	971	12	25	58	8	ND	1	ND
TR2-P2/1-SL2	02/10/2000	2	882	7	56	43	ND	ND	2	ND
TR2-P2/1-SL1	02/10/2000	ND	935	67	44	35	ND	ND	0	ND
TR2-P2/1-SL3	02/10/2000	6	929	6	29	44	ND	ND	4	ND
OVT3-P456-SL4	02/28/2000	7	873	ND	53	20	ND	1	0	ND
TR3-P456-SL1	03/01/2000	2	862	8	19	29	2	3	2	ND
TR3-P456-SL5	03/01/2000	4	960	15	19	19	ND	ND	5	ND
TR3-P456-SL6	03/01/2000	4	863	7	7	25	ND	1	ND	ND
TR3-P456-SL4	03/01/2000	10	921	1	28	21	ND	1	4	ND
OVT3-P789-SL2	03/01/2000	1	898	4	27	29	ND	3	ND	ND
TR3-P456-SL3	03/01/2000	11	934	8	31	9	ND	ND	6	ND
TR3-P456-SL2	03/01/2000	5	810	3	25	22	ND	ND	ND	ND
OVT3-P789-SL1	03/01/2000	7	817	2	29	7	ND	ND	ND	ND
TR3-P789-SL2-RE	03/06/2000	ND	869	18	63	33	ND	5	ND	ND
TR3-P789-SL5	03/06/2000	3	839	17	40	34	ND	ND	8	ND
TR3-P789-SL2	03/06/2000	5	897	20	29	34	ND	ND	0.4	ND
TR3-P789-SL1	03/06/2000	5	799	11	26	21	ND	2	ND	ND
TR3-P789-SL3-RE	03/06/2000	6	819	43	35	5	ND	3	6	ND
TR3-P789-SL4	03/06/2000	1	887	12	27	45	ND	2	5	ND
TR3-P789-SL3	03/06/2000	3	860	50	45	24	1	ND	5	ND

ER = Environmental Restoration.
ID = Identification.
mg/kg = Milligram(s) per kilogram.
NA = Not analyzed.
ND = Not detected.
SWMU = Solid Waste Management Unit.
XRF = X-ray fluorescence.

ANNEX 5-D
Large Area Gamma Spectroscopy Results

Memorandum

To: File

CC: William Moats, NMED; Bill McDonald, NMED; Bob Galloway SNL Dept. 6133

From: Joe Pavletich, SNL Dept. 6134

Date: 09/07/01

Re: X-Ray Fluorescence (XRF) and Large-Area Gamma Spectroscopy (LAGS) Field-Screening Data Presentation in the SWMU 2 NFA Proposal

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I met with Will Moats of NMED on Thursday March 8, 2001 to request his guidance for presenting the copious amounts of XRF and LAGS field-screening data generated during the Classified Waste Landfill excavation. This data was primarily used to field-screen excavated soil for waste management purposes rather than for site characterization and were planned to be included as annexes in the NFA proposal to be submitted in 2001.

Since a major effort would have been required to regenerate and reproduce the LAGS data and minimum detectable activities (MDAs) typically included in NFA proposals, Mr. Moats agreed that a summary table of the LAGS results, using NDs instead of the MDAs, would be sufficient. Mr. Moats also agreed that a summary table and copies of the raw sheets would be sufficient for the XRF data.

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll SLPE-0037	89003303	09/22/98	ND	ND	ND	8.40E-001	9.93E-001	ND	8.30E-001	1.07E+000	ND	ND	1.18E+000	6.54E-001	1.09E+000	8.74E-001
TAll TRD8-0035	89003347	10/01/98	ND	ND	ND	8.25E-001	9.78E-001	ND	7.62E-001	1.05E+000	ND	ND	1.21E+000	6.54E-001	ND	1.05E+000
TAll TRD8-0030	89003342	10/01/98	ND	ND	ND	8.88E-001	9.84E-001	ND	ND	6.79E-001	ND	ND	1.11E+000	6.25E-001	8.35E-001	9.15E-001
TAll TRD8-0031	89003343	10/01/98	ND	ND	ND	8.78E-001	9.47E-001	ND	8.11E-001	1.05E+000	8.41E-001	1.28E+000	1.11E+000	6.77E-001	ND	8.99E-001
TAll TRD8-0032	89003344	10/01/98	-2.19E+000	ND	ND	8.81E-001	9.15E-001	ND	8.17E-001	9.66E-001	ND	ND	1.15E+000	9.03E-001	ND	8.61E-001
TAll TRD8-0033	89003345	10/01/98	ND	ND	2.65E+000	8.92E-001	1.01E+000	ND	7.79E-001	622E-001	ND	8.64E-001	1.18E+000	8.25E-001	1.11E+000	9.23E-001
TAll TRD8-0034	89003346	10/01/98	ND	ND	ND	8.99E-001	9.37E-001	ND	ND	7.78E-001	ND	ND	1.13E+000	7.45E-001	9.49E-001	8.55E-001
TAll TRD8-0036	89003348	10/01/98	ND	ND	ND	8.74E-001	9.12E-001	ND	7.76E-001	ND	ND	ND	1.14E+000	8.19E-001	8.40E-001	1.05E+000
TAll TRD8-0041	89003353	10/05/98	ND	ND	ND	1.08E+000	1.06E+000	ND	8.80E-001	9.18E-001	ND	ND	1.27E+000	7.07E-001	1.04E+000	1.01E+000
TAll TRD8-0037	89003349	10/05/98	ND	ND	ND	8.20E-001	1.00E+000	ND	8.71E-001	7.67E-001	ND	ND	1.12E+000	6.57E-001	9.19E-001	9.12E-001
TAll TRD8-0038	89003350	10/05/98	ND	ND	ND	8.77E-001	1.04E+000	ND	7.30E-001	8.73E-001	ND	ND	1.12E+000	7.66E-001	1.39E+000	9.51E-001
TAll TRD8-0040	89003352	10/05/98	ND	ND	ND	1.12E+000	1.17E+000	ND	8.64E-001	8.49E-001	ND	ND	1.14E+000	7.30E-001	1.14E+000	9.49E-001
TAll TRD8-0039	89003351	10/05/98	ND	ND	ND	1.08E+000	1.11E+000	ND	8.90E-001	1.00E+000	ND	9.73E-001	1.19E+000	6.78E-001	1.06E+000	9.87E-001
TAll TRD8-0044	89003356	10/21/98	ND	ND	ND	9.82E-001	9.56E-001	ND	9.27E-001	1.02E+000	ND	ND	1.12E+000	6.91E-001	1.00E+000	9.42E-001
TAll SLPE-0044	89003363	10/21/98	ND	ND	1.68E+000	1.01E+000	1.08E+000	ND	1.05E+000	8.22E-001	9.55E-001	ND	1.21E+000	8.00E-001	1.06E+000	9.62E-001
TAll TRD8-0042	89003354	10/21/98	ND	ND	ND	1.03E+000	1.10E+000	ND	8.01E-001	9.29E-001	9.23E-001	ND	1.11E+000	7.03E-001	8.47E-001	8.23E-001
TAll TRD8-0046	89003358	10/21/98	ND	ND	ND	7.95E-001	8.96E-001	ND	1.09E+000	7.62E-001	ND	ND	1.18E+000	7.19E-001	ND	9.33E-001
TAll TRD8-0047	89003359	10/21/98	ND	ND	ND	8.75E-001	9.31E-001	ND	9.85E-001	1.04E+000	ND	ND	1.24E+000	8.06E-001	ND	9.48E-001
TAll TRD8-0048	89003360	10/21/98	ND	ND	ND	9.92E-001	1.04E+000	ND	9.79E-001	9.40E-001	ND	ND	1.26E+000	9.75E-001	1.14E+000	9.36E-001
TAll SLPE-0043	89003362	10/21/98	ND	ND	ND	1.10E+000	1.12E+000	ND	9.99E-001	1.11E+000	ND	ND	1.21E+000	9.84E-001	7.53E-001	8.87E-001
TAll TRD8-0043	89003355	10/21/98	ND	ND	ND	9.80E-001	9.74E-001	ND	9.05E-001	7.95E-001	ND	ND	1.14E+000	8.62E-001	1.06E+000	ND
TAll SLPE-0045	89003364	10/21/98	ND	ND	ND	9.62E-001	1.03E+000	ND	6.71E-001	8.80E-001	ND	ND	1.16E+000	6.63E-001	1.25E+000	8.35E-001
TAll TRC9-0001	89003365	10/21/98	ND	ND	1.83E+000	9.57E-001	1.01E+000	ND	7.53E-001	1.04E+000	ND	ND	1.20E+000	8.55E-001	1.09E+000	9.87E-001
TAll TRC9-0002	89003366	10/21/98	ND	ND	1.15E+000	8.82E-001	1.02E+000	ND	1.27E+000	9.32E-001	ND	ND	1.21E+000	8.80E-001	1.13E+000	9.72E-001
TAll TRD8-0049	89003361	10/21/98	ND	ND	ND	9.46E-001	1.03E+000	ND	9.45E-001	9.34E-001	ND	ND	1.16E+000	8.12E-001	9.45E-001	9.36E-001
TAll TRD8-0045	89003357	10/21/98	ND	ND	ND	8.46E-001	9.51E-001	ND	ND	8.59E-001	ND	ND	1.21E+000	7.52E-001	ND	1.00E+000
TAll TRC9-0010	89003375	10/29/98	ND	ND	2.84E+000	9.72E-001	9.77E-01	ND	8.02E-001	1.03E+000	ND	ND	1.18E+000	8.16E-001	1.01E+000	9.59E-001
TAll TRC9-0011	89003376	10/29/98	ND	ND	ND	9.64E-001	9.90E-001	ND	8.90E-001	1.04E+000	ND	ND	1.01E+000	9.09E-001	1.14E+000	8.82E-001
TAll TRC9-0012	89003377	10/29/98	ND	ND	ND	9.99E-001	9.81E-001	ND	7.51E-001	8.52E-001	1.02E+000	ND	1.11E+000	9.23E-001	1.11E+000	8.47E-001
TAll TRC9-0013	89003378	10/29/98	ND	ND	1.87E+000	9.00E-001	9.64E-001	ND	ND	7.47E-001	ND	ND	1.17E+000	9.05E-001	8.89E-001	9.93E-001
TAll TRC9-0014	89003379	10/29/98	ND	ND	ND	9.31E-001	9.57E-001	ND	7.53E-001	1.07E+000	ND	ND	1.23E+000	8.68E-001	9.09E-001	9.43E-001
TAll TRC9-0015	89003380	10/29/98	ND	ND	ND	9.59E-001	1.02E+000	ND	9.74E-001	8.79E-001	ND	ND	1.13E+000	9.27E-001	9.29E-001	8.77E-001
TAll TRC9-0008	89003373	10/29/98	ND	ND	ND	1.06E+000	9.74E-001	ND	1.11E+000	1.09E+000	9.68E-001	1.36E+000	1.19E+000	8.83E-001	ND	9.82E-001
TAll TRC9-0007	89003371	10/29/98	ND	ND	1.50E+000	1.05E+000	1.04E+000	ND	8.14E-001	9.24E-001	ND	7.72E-001	1.11E+000	8.86E-001	9.65E-001	9.82E-001
TAll TRC9-0006	89003370	10/29/98	ND	ND	ND	9.46E-001	1.05E+000	ND	8.87E-001	1.03E+000	9.36E-001	9.74E-001	1.21E+000	ND	1.08E+000	9.32E-001
TAll TRC9-0005	89003369	10/29/98	ND	ND	ND	9.30E-001	1.06E+000	ND	8.97E-001	9.92E-001	ND	ND	1.19E+000	ND	ND	1.06E+000
TAll TRC9-0004	89003368	10/29/98	ND	ND	ND	9.78E-001	9.73E-001	ND	9.25E-001	1.03E+000	9.30E-001	ND	1.21E+000	ND	1.07E+000	1.01E+000
TAll TRC9-0003	89003367	10/29/98	ND	ND	1.25E+000	9.46E-001	9.82E-001	ND	6.23E-001	1.05E+000	ND	ND	1.08E+000	6.94E-001	1.37E+000	8.72E-001
TAll TRC9-0009	89003374	10/29/98	ND	ND	ND	9.64E-001	9.91E-001	ND	8.71E-001	9.97E-001	ND	7.57E-001	1.14E+000	6.87E-001	9.75E-001	9.34E-001
TAll TRC9-0042	89004908	11/11/98	ND	ND	ND	9.16E-001	9.75E-001	ND	8.59E-001	1.00E+000	ND	1.10E+000	1.18E+000	7.93E-001	1.09E+000	9.13E-001

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAII SLPE-0037	89003303	09/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0035	89003347	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0030	89003342	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.01E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0031	89003343	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0032	89003344	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0033	89003345	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0034	89003346	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0036	89003348	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.01E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0041	89003353	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0037	89003349	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0038	89003350	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0040	89003352	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0039	89003351	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0044	89003356	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII SLPE-0044	89003363	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0042	89003354	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0046	89003358	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0047	89003359	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0048	89003360	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.17E-002	2.22E+001	ND	ND	ND	ND	ND	ND
TAII SLPE-0043	89003362	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0043	89003355	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII SLPE-0045	89003364	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0001	89003365	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0002	89003366	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0049	89003361	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0045	89003357	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0010	89003375	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0011	89003376	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0012	89003377	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0013	89003378	10/29/98	5.25E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0014	89003379	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0015	89003380	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.99E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0008	89003373	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0007	89003371	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0006	89003370	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0005	89003369	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0004	89003368	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0003	89003367	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0009	89003374	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAII TRC9-0042	89004906	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAII SLPE-0037	89003303	09/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0035	89003347	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0030	89003342	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0031	89003343	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0032	89003344	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0033	89003345	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0034	89003346	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0036	89003348	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0041	89003353	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0037	89003349	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0038	89003350	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0040	89003352	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0039	89003351	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0044	89003356	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0044	89003363	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0042	89003354	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0046	89003358	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0047	89003359	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0048	89003360	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0043	89003362	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0043	89003355	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0045	89003364	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0001	89003365	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0002	89003366	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0049	89003361	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0045	89003357	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0010	89003375	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0011	89003376	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0012	89003377	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0013	89003378	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0014	89003379	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0015	89003380	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0008	89003373	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0007	89003371	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0006	89003370	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0005	89003369	10/29/98	ND	ND	ND	ND	ND	ND	ND	3.72E-002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0004	89003368	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0003	89003367	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0009	89003374	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0042	89004908	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII SLPE-0037	89003303	09/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0035	89003347	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0030	89003342	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0031	89003343	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0032	89003344	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0033	89003345	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0034	89003346	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0036	89003348	10/01/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0041	89003353	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0037	89003349	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0038	89003350	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0040	89003352	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0039	89003351	10/05/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0044	89003356	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0044	89003363	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0042	89003354	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0046	89003358	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0047	89003359	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0048	89003360	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0043	89003362	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0043	89003355	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0045	89003364	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0001	89003365	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0002	89003366	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0049	89003361	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0045	89003357	10/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0010	89003375	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0011	89003376	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0012	89003377	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0013	89003378	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0014	89003379	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0015	89003380	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0008	89003373	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0007	89003371	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0006	89003370	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0005	89003369	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0004	89003368	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0003	89003367	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0009	89003374	10/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0042	89004908	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRC9-0041	89004907	11/11/98	ND	ND	1.22E+000	8.84E-001	9.58E-001	ND	ND	9.47E-001	9.69E-001	1.35E+000	1.12E+000	8.08E-001	8.58E-001	9.22E-001
TAll TRC9-0043	89004909	11/11/98	ND	ND	2.74E+000	9.31E-001	9.53E-001	ND	1.04E+000	1.01E+000	ND	ND	1.04E+000	8.30E-001	1.09E+000	8.54E-001
TAll TRC9-0044	89004910	11/11/98	ND	ND	1.99E+000	9.56E-001	9.77E-001	ND	8.94E-001	8.34E-001	ND	ND	1.19E+000	9.49E-001	1.38E+000	9.08E-001
TAll TRC9-0045	89004911	11/11/98	ND	ND	ND	9.03E-001	9.63E-001	ND	7.05E-001	1.04E+000	9.57E-001	8.93E-001	1.15E+000	8.47E-001	9.61E-001	9.47E-001
TAll TRC9-0046	89004912	11/11/98	ND	ND	2.54E+000	9.47E-001	1.05E+000	ND	9.39E-001	1.01E+000	9.14E-001	ND	1.07E+000	6.67E-001	1.16E+000	8.96E-001
TAll TRC9-0047	89004913	11/11/98	ND	ND	ND	9.39E-001	1.06E+000	ND	8.78E-001	6.64E-001	ND	ND	1.07E+000	7.96E-001	8.42E-001	8.88E-001
TAll TRC9-0048	89004914	11/11/98	ND	ND	ND	9.89E-001	9.92E-001	ND	9.33E-001	9.59E-001	9.74E-001	ND	1.16E+000	8.34E-001	1.17E+000	ND
TAll TRC9-0049	89004917	11/11/98	ND	ND	3.13E+000	8.58E-001	9.64E-001	ND	7.35E-001	7.79E-001	ND	ND	1.19E+000	7.19E-001	8.84E-001	8.66E-001
TAll TRC9-0040	89004906	11/11/98	ND	ND	1.61E+000	8.06E-001	9.09E-001	ND	9.23E-001	9.96E-001	ND	ND	1.06E+000	8.30E-001	1.19E+000	9.74E-001
TAll TRC9-0062	89004931	11/19/98	2.63E+000	ND	2.66E+000	8.60E-001	9.79E-001	ND	8.66E-001	8.33E-001	ND	ND	1.10E+000	7.11E-001	1.28E+000	8.75E-001
TAll TRC9-0058	89004927	11/19/98	ND	ND	1.75E+000	8.13E-001	9.58E-001	ND	1.01E+000	8.53E-001	ND	ND	1.13E+000	ND	9.31E-001	9.30E-001
TAll TRC9-0057	89004926	11/19/98	ND	ND	2.76E+000	8.04E-001	9.59E-001	ND	7.69E-001	1.02E+000	9.69E-001	ND	1.16E+000	8.31E-001	1.05E+000	9.23E-001
TAll TRC9-0056	89004925	11/19/98	ND	ND	2.84E+000	1.05E+000	1.32E+000	ND	6.80E-001	7.78E-001	ND	ND	1.15E+000	8.50E-001	1.11E+000	8.65E-001
TAll TRC9-0055	89004924	11/19/98	ND	ND	1.33E+000	1.33E+000	1.77E+000	ND	1.01E+000	8.48E-001	ND	8.16E-001	1.15E+000	8.94E-001	1.12E+000	1.03E+000
TAll TRC9-0054	89004923	11/19/98	ND	ND	ND	1.63E+000	1.81E+000	ND	8.40E-001	9.69E-001	9.82E-001	ND	1.11E+000	9.10E-001	1.15E+000	9.72E-001
TAll TRC9-0061	89004930	11/19/98	ND	ND	2.29E+000	8.86E-001	9.98E-001	ND	ND	9.65E-001	9.43E-001	ND	1.17E+000	8.94E-001	ND	9.53E-001
TAll TRC9-0059	89004928	11/19/98	ND	ND	ND	8.34E-001	9.47E-001	ND	1.02E+000	9.80E-001	ND	1.09E+000	1.24E+000	8.05E-001	ND	1.06E+000
TAll TRC9-0063	89004932	11/19/98	ND	ND	ND	9.85E-001	1.09E+000	ND	8.25E-001	ND	ND	ND	1.22E+000	ND	1.07E+000	9.98E-001
TAll TRC9-0064	89004933	11/19/98	ND	ND	ND	9.94E-001	1.10E+00	ND	9.83E-001	9.18E-001	ND	ND	1.19E+000	8.80E-001	9.51E-001	9.39E-001
TAll TRC9-0065	89004934	11/19/98	ND	ND	1.97E+000	ND	1.00E+000	ND	7.14E-001	1.02E+000	ND	ND	1.08E+000	6.14E-001	9.35E-001	9.07E-001
TAll TRC9-0066	89004935	11/19/98	ND	ND	2.60E+000	8.72E-001	9.55E-001	ND	8.33E-001	8.82E-001	ND	ND	1.05E+000	7.00E-001	1.06E+000	1.05E+000
TAll TRC9-0067	89004936	11/19/98	ND	ND	ND	8.90E-001	1.04E+000	ND	9.46E-001	8.98E-001	ND	ND	1.19E+000	6.80E-001	6.52E-001	1.03E+000
TAll TRC9-0068	89004937	11/19/98	ND	ND	ND	8.74E-001	9.61E-001	ND	7.38E-001	1.03E+000	ND	ND	1.17E+000	6.43E-001	1.11E+000	9.26E-001
TAll TRC9-0053	89004922	11/19/98	ND	ND	ND	9.33E-001	9.89E-001	ND	7.93E-001	9.87E-001	9.53E-001	8.40E-001	1.12E+000	8.83E-001	1.02E+000	8.80E-001
TAll TRC9-0060	89004929	11/19/98	ND	ND	ND	8.13E-001	9.14E-001	ND	8.74E-001	8.55E-001	ND	7.80E-001	1.22E+000	ND	1.14E+000	9.86E-001
TAll TRC9-0050	89004918	11/19/98	ND	ND	ND	9.75E-001	1.04E+000	ND	9.47E-001	1.03E+000	9.75E-001	ND	1.18E+000	7.91E-001	1.09E+000	8.35E-001
TAll TRC9-0051	89004919	11/19/98	ND	ND	1.40E+000	9.84E-001	1.07E+000	ND	7.84E-001	1.08E+000	9.52E-001	ND	1.13E+000	6.66E-001	1.02E+000	9.07E-001
TAll TRC9-0005RE	89004920	11/19/98	ND	ND	1.66E+000	9.61E-001	1.01E+000	ND	7.25E-001	9.03E-001	1.03E+000	ND	1.14E+000	8.19E-001	9.92E-001	8.60E-001
TAll TRC9-0052	89004921	11/19/98	ND	ND	ND	9.24E-001	9.73E-001	ND	8.12E-001	ND	8.35E-001	ND	1.09E+000	8.21E-001	7.70E-001	7.99E-001
TAll-TRD8-I692	89004916	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0017	89003382	11/2 /98	ND	ND	ND	1.01E+000	1.01E+000	ND	9.35E-001	9.07E-001	9.75E-001	8.38E-001	1.19E+000	8.28E-001	8.71E-001	8.73E-001
TAll TRC9-0027	89003392	11/2 /98	ND	ND	1.51E+000	8.92E-001	9.52E-001	ND	9.02E-001	9.14E-001	8.79E-001	ND	1.07E+000	6.93E-001	1.18E+000	9.48E-001
TAll TRC9-0032	89003397	11/2 /98	ND	ND	2.05E+000	1.02E+000	1.11E+000	ND	8.55E-001	9.79E-001	ND	8.90E-001	1.13E+000	8.32E-001	1.05E+000	8.49E-001
TAll TRC9-0031	89003396	11/2 /98	ND	ND	2.30E+000	1.06E+000	1.04E+000	ND	8.65E-001	9.74E-001	8.27E-001	ND	1.23E+000	7.52E-001	1.10E+000	9.31E-001
TAll TRC9-0030	89003395	11/2 /98	ND	ND	ND	ND	9.24E-001	ND	9.05E-001	9.75E-001	ND	ND	1.23E+000	707E-001	ND	9.37E-001
TAll TRC9-0029	89003394	11/2 /98	ND	ND	2.04E+000	9.40E-001	9.39E-001	ND	8.59E-001	8.93E-001	8.90E-001	ND	1.11E+000	8.62E-001	9.40E-001	8.48E-001
TAll TRC9-0016	89003381	11/2 /98	ND	ND	1.93E+000	8.75E-001	1.05E+000	ND	ND	9.64E-001	1.03E+000	ND	1.15E+000	8.26E-001	8.92E-001	9.57E-001
TAll TRC9-0018	89003383	11/2 /98	ND	ND	1.68E+000	9.83E-001	1.01E+000	ND	9.58E-001	1.19E+000	9.32E-001	ND	1.14E+000	ND	1.08E+000	9.27E-001
TAll TRC9-0019	89003384	11/2 /98	ND	ND	ND	9.26E-001	1.06E+000	ND	9.61E-001	9.45E-001	ND	9.40E-001	1.19E+000	8.85E-001	8.49E-001	1.01E+000
TAll TRC9-0020	89003385	11/2 /98	ND	ND	2.64E+000	9.18E-001	9.77E-001	ND	ND	ND	ND	ND	1.13E+000	9.37E-001	1.07E+000	9.06E-001

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll TRC9-0041	89004907	11/11/98	7.22E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0043	89004909	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0044	89004910	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.01E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0045	89004911	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.98E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0046	89004912	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.97E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0047	89004913	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0048	89004914	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0049	89004917	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0040	89004906	11/11/98	5.31E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0062	89004931	11/19/98	5.86E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.95E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0058	89004927	11/19/98	3.92E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0057	89004926	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0056	89004925	11/19/98	7.26E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0055	89004924	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0054	89004923	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0061	89004930	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.01E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0059	89004928	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0063	89004932	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0064	89004933	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.99E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0065	89004934	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0066	89004935	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0067	89004936	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0068	89004937	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0053	89004922	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0060	89004929	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0050	89004918	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0051	89004919	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0005RE	89004920	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0052	89004921	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll-TRD8-I692	89004916	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.88E+003	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0017	89003382	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0027	89003392	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0032	89003397	11/2/98	4.29E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0031	89003396	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0030	89003395	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0029	89003394	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0016	89003381	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0018	89003383	11/2/98	5.49E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0019	89003384	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0020	89003385	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRC9-0041	89004907	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0043	89004909	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0044	89004910	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0045	89004911	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0046	89004912	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0047	89004913	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0048	89004914	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0049	89004917	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0040	89004906	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0062	89004931	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0058	89004927	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0057	89004926	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0056	89004925	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0055	89004924	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0054	89004923	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0061	89004930	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0059	89004928	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0063	89004932	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0064	89004933	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0065	89004934	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0066	89004935	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0067	89004936	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0068	89004937	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0053	89004922	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0060	89004929	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0050	89004918	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0051	89004919	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0005RE	89004920	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0052	89004921	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll-TRD8-I692	89004916	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0017	89003382	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0027	89003392	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0032	89003397	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0031	89003396	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0030	89003395	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0029	89003394	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0016	89003381	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0018	89003383	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0019	89003384	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0020	89003385	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAll TRC9-0041	89004907	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0043	89004909	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0044	89004910	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0045	89004911	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0046	89004912	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0047	89004913	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0048	89004914	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0049	89004917	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0040	89004906	11/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0062	89004931	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0058	89004927	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0057	89004926	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0056	89004925	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0055	89004924	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0054	89004923	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0061	89004930	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0059	89004928	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0063	89004932	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0064	89004933	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0065	89004934	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0066	89004935	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0067	89004936	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0068	89004937	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0053	89004922	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0060	89004929	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0050	89004918	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0051	89004919	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0005RE	89004920	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0052	89004921	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll-TRC9-I692	89004916	11/19/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0017	89003382	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0027	89003392	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0032	89003397	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0031	89003396	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0030	89003395	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0029	89003394	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0016	89003381	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0018	89003383	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0019	89003384	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0020	89003385	11/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRC9-0021	89003386	11/2 /98	ND	ND	1.26E+000	9.42E-001	1.02E+000	ND	8.77E-001	1.03E+000	ND	ND	1.17E+000	8.25E-001	8.79E-001	9.20E-001
TAll TRC9-0022	89003387	11/2 /98	ND	ND	2.51E+000	8.78E-001	9.86E-001	ND	7.77E-001	8.86E-001	ND	ND	1.14E+000	9.00E-001	9.89E-001	9.42E-001
TAll TRC9-0023	89003388	11/2 /98	ND	ND	1.76E+000	9.01E-001	1.05E+000	ND	8.07E-001	7.97E-001	ND	1.36E+000	1.10E+000	6.82E-001	9.46E-001	9.59E-001
TAll TRC9-0024	89003389	11/2 /98	ND	ND	1.86E+000	9.05E-001	1.13E+000	ND	8.55E-001	ND	ND	ND	1.23E+000	ND	9.42E-001	8.49E-001
TAll TRC9-0025	89003390	11/2 /98	ND	ND	2.28E+000	8.66E-001	1.00E+000	ND	9.21E-001	8.55E-001	1.03E+000	1.46E+000	1.09E+000	7.46E-001	1.04E+000	1.02E+000
TAll TRC9-0026	89003391	11/2 /98	ND	ND	ND	9.51E-001	1.00E+000	ND	8.55E-001	8.80E-001	9.45E-001	1.03E+000	1.19E+000	8.79E-001	1.06E+000	9.39E-001
TAll TRC9-0028	89003393	11/2 /98	ND	ND	1.47E+000	8.65E-001	9.15E-001	ND	8.66E-001	8.69E-001	1.02E+000	ND	1.17E+000	7.09E-001	1.16E+000	9.15E-001
TAll TRC9-0038	89004904	11/9 /98	ND	ND	1.81E+000	9.55E-001	1.07E+000	ND	8.45E-001	8.32E-001	ND	1.10E+000	1.13E+000	6.69E-001	ND	9.55E-001
TAll TRC9-0033	89003398	11/9 /98	ND	ND	3.39E+000	9.28E-001	9.24E-001	ND	9.81E-001	1.03E+000	9.05E-001	ND	1.18E+000	8.61E-001	7.87E-001	9.27E-001
TAll TRC9-0039	89004905	11/9 /98	ND	ND	ND	1.00E+000	1.09E+000	ND	7.69E-001	9.58E-001	ND	ND	1.17E+000	7.85E-001	ND	901E-001
TAll TRC9-0036	89004902	11/9 /98	ND	ND	NA	9.44E-001	9.16E-001	ND	8.85E-001	9.13E-001	ND	ND	1.13E+000	7.82E-001	8.93E-001	9.28E-001
TAll TRC9-0037	89004903	11/9 /98	ND	ND	1.69E+000	1.14E+000	1.23E+000	ND	9.22E-001	9.61E-001	8.98E-001	8.37E-001	1.15E+000	8.17E-001	1.15E+000	9.51E-001
TAll TRC9-0035	89004901	11/9 /98	ND	ND	2.54E+000	8.40E-001	9.47E-001	ND	1.21E+000	1.07E+000	ND	ND	1.17E+000	6.90E-001	1.44E+000	9.79E-001
TAll TRC9-0034	89003399	11/9 /98	ND	ND	ND	9.06E-001	9.50E-001	ND	6.85E-001	8.86E-001	ND	ND	1.11E+000	8.79E-001	8.98E-001	8.67E-001
TAll TRC7-0008	89004988	12/02/98	ND	ND	2.53E+000	9.53E-001	9.66E-001	ND	5.80E-001	9.33E-001	ND	8.00E-001	1.15E+000	8.73E-001	ND	1.01E+000
TAll TRC7-0007	89004987	12/02/98	ND	ND	2.86E+000	9.01E-001	9.46E-001	ND	8.52E-001	8.16E-001	1.06E+000	ND	1.24E+000	8.07E-001	1.33E+000	9.27E-001
TAll TRC7-0010	89004990	12/02/98	ND	ND	ND	9.35E-001	1.00E+000	ND	8.08E-001	9.25E-001	9.08E-001	ND	1.17E+000	9.34E-001	9.59E-001	8.92E-001
TAll TRC7-0002	89004982	12/02/98	ND	ND	2.31E+000	9.65E-001	1.04E+000	ND	9.12E-001	8.63E-001	9.01E-001	ND	1.14E+000	8.48E-001	1.06E+000	9.68E-001
TAll TRC7-0009	89004989	12/02/98	ND	ND	2.71E+000	9.73E-001	9.89E-001	ND	7.67E-001	9.51E-001	ND	9.26E-001	1.29E+000	7.93E-001	1.11E+000	9.56E-001
TAll TRC7-0001	89004981	12/02/98	ND	ND	ND	9.44E-001	9.70E-001	ND	1.20E+000	9.05E-001	8.96E-001	1.02E+000	1.20E+000	8.81E-001	1.16E+000	9.56E-001
TAll TRC7-0003	89004983	12/02/98	ND	ND	2.52E+000	8.94E-001	9.95E-001	ND	7.12E-001	8.15E-001	9.33E-001	1.06E+000	1.06E+000	8.61E-001	1.05E+000	9.10E-001
TAll TRC7-0005	89004985	12/02/98	ND	ND	2.62E+000	9.38E-001	9.38E-001	ND	8.63E-001	9.51E-001	9.00E-001	ND	1.24E+000	8.67E-001	7.51E-001	9.04E-001
TAll TRC7-0004	89004984	12/02/98	ND	ND	ND	9.03E-001	1.02E+000	ND	9.39E-001	9.33E-001	ND	ND	1.09E+000	8.61E-001	9.20E-001	8.90E-001
TAll TRC7-0006	89004986	12/02/98	ND	ND	ND	9.61E-001	1.01E+000	ND	8.90E-001	8.71E-001	ND	ND	1.09E+000	8.50E-001	7.89E-001	9.36E-001
TAll ACF3-0001	89000601	3 /23/98	ND	ND	2.90E+000	9.08E-001	1.00E+000	ND	9.30E-001	1.02E+000	1.06E+000	8.65E-001	1.19E+000	9.91E-001	1.14E+000	1.07E+000
TAll ACF4-0002	89000603	3 /24/98	ND	ND	1.65E+000	9.19E-001	1.03E+000	ND	9.74E-001	1.06E+000	1.01E+000	1.41E+000	1.36E+000	9.41E-001	1.22E+000	ND
TAll ACF4-0001	89000602	3 /24/98	ND	ND	1.92E+000	9.28E-001	9.95E-001	ND	1.03E+000	ND	1.07E+000	ND	1.33E+000	9.21E-001	ND	1.01E+000
TAll ACF4-0003	89000604	3 /25/98	ND	ND	ND	9.65E-001	9.87E-001	ND	9.85E-001	1.03E+000	1.03E+000	ND	1.17E+000	7.88E-001	1.03E+000	ND
TAll ACF4-0004	89000605	3 /25/98	ND	ND	ND	9.22E-001	1.02E+000	ND	9.51E-001	1.10E+000	1.01E+000	ND	1.22E+000	7.71E-001	9.13E-001	9.86E-001
TAll ACF4-0006	89000607	3 /26/98	ND	ND	2.19E+000	8.73E-001	9.30E-001	ND	1.04E+000	1.10E+000	ND	1.28E+000	1.19E+000	7.54E-001	9.96E-001	9.05E-001
TAll ACF4-0005	89000606	3 /26/98	ND	ND	ND	8.49E-001	9.39E-001	ND	9.41E-001	1.17E+000	1.10E+000	ND	1.32E+000	9.89E-000	1.11E+000	1.02E+000
TAll ACF1-0001	89000608	3 /26/98	ND	ND	2.62E+000	9.07E-001	1.06E+000	ND	9.15E-001	1.11E+000	ND	ND	1.32E+000	1.06E+000	1.38E+000	1.02E+000
TAll ACF1-0002	89000609	3 /30/98	ND	ND	ND	9.68E-001	9.91E-001	ND	9.75E-001	9.29E-001	1.11E+000	1.08E+000	1.27E+000	1.01E+000	1.33E+000	1.090E+000
TAll ACF1-0003	89000610	4 /1 /98	ND	ND	ND	9.31E-001	9.85E-001	ND	1.03E+000	1.11E+000	1.09E+000	ND	1.20E+000	9.96E-001	1.24E+000	1.07E+000
TAll ACF1-0004	89000611	4 /1 /98	ND	ND	ND	1.06E+000	1.01E+000	ND	9.04E-001	1.02E+00	1.13E+000	1.22E+000	1.18E+000	9.77E-001	1.50E+000	1.12E+000
TAll PTW1W2-0010	89000624	4 /10/98	ND	ND	3.14E+000	9.38E-001	9.92E-001	ND	8.02E-001	1.11E+000	1.00E+000	ND	1.13E+000	9.42E-001	ND	9.61E-001
TAll ACF3-0002	89000625	4 /10/98	ND	ND	ND	9.87E-001	9.55E-001	ND	9.28E-001	1.04E+000	ND	1.05E+000	1.28E+000	9.88E-001	1.10E+000	1.04E+000
TAll ACF3-0003	89000626	4 /10/98	ND	ND	2.24E+000	1.00E+000	ND	ND	1.02E+000	1.05E+000	ND	8.18E-001	1.36E+000	9.91E-001	1.32E+000	1.08E+000
TAll ACF2-0004	89000636	4 /13/98	ND	ND	3.24E+000	9.93E-001	9.56E-001	ND	9.66E-001	1.03E+000	1.08E+000	1.08E+000	1.35E+000	9.41E-001	1.24E+000	1.01E+000
TAll ACF2-0005	89000637	4 /13/98	ND	ND	3.06E+00	ND	9.84E-001	ND	9.89E-001	1.13E+000	1.02E+000	1.21E+000	1.22E+000	1.04E+000	9.97E-001	1.04E+000

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll TRC9-0021	89003386	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.169E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0022	89003387	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0023	89003388	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0024	89003389	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0025	89003390	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0026	89003391	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0028	89003393	11/2 /98	7.89E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0038	89004904	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.96E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0033	89003398	11/9 /98	4.18E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0039	89004905	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0036	89004902	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.97E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0037	89004903	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0035	89004901	11/9 /98	7.32E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRC9-0034	89003399	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.98E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0008	89004988	12/02/98	4.22E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.70E-002	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0007	89004987	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79E-002	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0010	89004990	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0002	89004982	12/02/98	8.68E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0009	89004989	12/02/98	4.15E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0001	89004981	12/02/98	2.71E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E-002	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0003	89004983	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.95E-002	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0005	89004985	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0004	89004984	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.57E-002	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRC7-0006	89004986	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll ACF3-0001	89000601	3 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.66E-002	2.15E+001	ND	ND	ND	ND	ND	ND
TAll ACF4-0002	89000603	3 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.13E-002	2.25E+001	ND	ND	ND	ND	ND	ND
TAll ACF4-0001	89000602	3 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.65E-002	2.06E+001	ND	ND	ND	ND	ND	ND
TAll ACF4-0003	89000604	3 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.49E-002	2.14E+001	ND	ND	ND	ND	ND	ND
TAll ACF4-0004	89000605	3 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.33E-002	2.15E+001	ND	ND	ND	ND	ND	ND
TAll ACF4-0006	89000607	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.52E-002	2.27E+001	ND	ND	ND	ND	ND	ND
TAll ACF4-0005	89000606	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.43E-002	2.23E+001	ND	ND	ND	ND	ND	ND
TAll ACF1-0001	89000608	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.28E-002	2.29E+001	ND	ND	ND	ND	ND	ND
TAll ACF1-0002	89000609	3 /30/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.43E-002	2.19E+001	ND	ND	ND	ND	ND	ND
TAll ACF1-0003	89000610	4 /1 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.35E-002	2.08E+001	ND	ND	ND	ND	ND	ND
TAll ACF1-0004	89000611	4 /1 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.48E-002	2.18E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0010	89000624	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll ACF3-0002	89000625	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.35E+001	ND	ND	ND	ND	ND	ND
TAll ACF3-0003	89000626	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll ACF2-0004	89000636	4 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.15E-002	2.19E+001	ND	ND	ND	ND	ND	ND
TAll ACF2-0005	89000637	4 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.83E-002	2.25E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRC9-0021	89003386	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0022	89003387	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0023	89003388	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0024	89003389	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0025	89003390	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0026	89003391	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0028	89003393	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0038	89004904	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0033	89003398	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0039	89004905	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0036	89004902	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0037	89004903	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0035	89004901	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC9-0034	89003399	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0008	89004988	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0007	89004987	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0010	89004990	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0002	89004982	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0009	89004989	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0001	89004981	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0003	89004983	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0005	89004985	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0004	89004984	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRC7-0006	89004986	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF3-0001	89000601	3 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF4-0002	89000603	3 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF4-0001	89000602	3 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF4-0003	89000604	3 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF4-0004	89000605	3 /25/98	2.33E-001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF4-0006	89000607	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF4-0005	89000606	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF1-0001	89000608	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF1-0002	89000609	3 /30/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF1-0003	89000610	4 /1 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF1-0004	89000611	4 /1 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0010	89000624	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF3-0002	89000625	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF3-0003	89000626	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF2-0004	89000636	4 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF2-0005	89000637	4 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII TRC9-0021	89003386	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0022	89003387	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0023	89003388	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0024	89003389	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0025	89003390	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0026	89003391	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0028	89003393	11/2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0038	89004904	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0033	89003398	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0039	89004905	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0036	89004902	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0037	89004903	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0035	89004901	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC9-0034	89003399	11/9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0008	89004988	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0007	89004987	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0010	89004990	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0002	89004982	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0009	89004989	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0001	89004981	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0003	89004983	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0005	89004985	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0004	89004984	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRC7-0006	89004986	12/02/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF3-0001	89000601	3 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF4-0002	89000603	3 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF4-0001	89000602	3 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF4-0003	89000604	3 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF4-0004	89000605	3 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF4-0006	89000607	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF4-0005	89000606	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF1-0001	89000608	3 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF1-0002	89000609	3 /30/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF1-0003	89000610	4 /1 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF1-0004	89000611	4 /1 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0010	89000624	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF3-0002	89000625	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF3-0003	89000626	4 /10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF2-0004	89000636	4 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF2-0005	89000637	4 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAII ACF2-0001	89000632	4/13/98	ND	ND	2.98E+000	1.05E+000	1.14E+000	ND	1.01E+000	1.21E+000	1.09E+000	1.11E+000	1.39E+000	1.02E+000	1.33E+000	1.16E+000
TAII ACF2-0003	89000635	4/13/98	ND	ND	1.82E+000	9.44E-001	1.09E+000	ND	1.12E+000	1.09E+000	1.08E+000	9.99E-001	1.27E+000	9.78E-001	1.20E+000	1.12E+000
TAII ACF3-0004	89000628	4/14/98	ND	ND	3.14E+000	9.34E-001	9.65E-001	ND	9.46E-001	9.80E-001	9.32E-001	1.25E+000	1.19E+000	9.83E-001	1.14E+000	1.06E+000
TAII PTW3-0001	89000640	4/16/98	ND	ND	ND	9.37E-001	1.07E+000	ND	1.14E+000	1.11E+000	1.01E+000	1.19E+000	1.26E+000	ND	1.25E+000	1.08E+000
TAII PTW3-0003	89000642	4/16/98	ND	ND	1.97E+000	8.76E-001	9.79E-001	ND	8.96E-001	1.09E+000	1.03E+000	ND	1.21E+000	1.09E+000	9.80E-001	1.10E+000
TAII PTW3-0004	89000643	4/16/98	ND	ND	ND	8.70E-001	9.99E-001	ND	8.79E-001	1.11E+000	1.06E+000	ND	1.19E+000	1.02E+000	1.21E+000	1.09E+000
TAII PTW3-0005	89000644	4/16/98	ND	ND	2.81E+000	9.21E-001	9.35E-001	ND	1.11E+000	1.17E+000	1.13E+000	ND	1.34E+000	8.57E-001	1.22E+000	1.04E+000
TAII PTW3-0006	89000645	4/16/98	ND	ND	2.58E+000	9.08E-001	1.03E+000	ND	1.21E+000	1.15E+000	1.00E+000	ND	1.26E+000	9.76E-001	1.23E+000	1.07E+000
TAII PTW3-0007	89000646	4/16/98	ND	ND	1.61E+000	8.52E-001	1.01E+000	ND	9.78E-001	ND	1.01E+000	9.51E-001	1.20E+000	1.04E+000	1.25E+000	1.10E+000
TAII PTW3-0008	89000647	4/16/98	ND	ND	2.20E+000	9.32E-001	9.61E-001	ND	9.00E-001	9.94E-001	9.89E-001	ND	1.41E+000	ND	1.40E+000	1.14E+000
TAII PTW3-0009	89000649	4/16/98	ND	ND	1.73E+000	9.40E-001	1.06E+000	ND	1.03E+000	1.21E+000	1.08E+000	ND	1.39E+000	9.81E-001	1.18E+000	1.06E+000
TAII PTW3-0002	89000641	4/16/98	ND	ND	ND	1.06E+000	1.08E+000	ND	1.01E+000	1.08E+000	1.03E+000	1.45E+000	1.45E+000	1.05E+000	1.48E+000	1.04E+000
TAII ACF2-0007	89000639	4/16/98	ND	ND	ND	9.46E-001	9.86E-001	ND	ND	1.08E+000	1.04E+000	ND	1.25E+000	ND	1.14E+000	ND
TAII ACF2-0006	89000638	4/16/98	ND	ND	ND	9.01E-001	9.59E-001	ND	1.09E+000	1.11E+000	1.06E+000	8.85E-001	1.21E+000	8.02E-001	1.16E+000	1.08E+000
TAII ACF2-0002	89000634	4/16/98	ND	ND	ND	9.02E-001	1.02E+000	ND	8.94E-001	1.15E+000	ND	ND	1.24E+000	7.62E-001	1.10E+000	1.07E+000
TAII PTW1-0001	89000612	4/2/98	ND	ND	1.85E+000	9.47E-001	1.02E+000	ND	1.11E+000	1.12E+000	1.00E+000	8.70E-001	1.26E+000	1.02E+000	1.09E+000	1.09E+000
TAII PTW1-0003	89000614	4/2/98	ND	ND	1.24E+000	9.00E-001	ND	ND	8.68E-001	9.61E-001	9.44E-001	1.14E+000	1.32E+000	9.28E-001	1.33E+000	1.09E+000
TAII PTW1-0002	89000613	4/2/98	ND	ND	1.93E+000	9.10E-001	9.36E-001	ND	8.22E-001	1.06E+000	1.00E+000	ND	1.19E+000	9.62E-001	9.56E-001	9.51E-001
TAII OVER-0003	89000657	4/20/98	ND	ND	2.34E+000	8.00E-001	8.83E-001	ND	1.04E+000	1.03E+000	9.58E-001	7.79E-001	1.25E+000	9.48E-001	1.13E+000	ND
TAII OVER-0002	89000655	4/20/98	ND	ND	2.54E+000	8.01E-001	9.23E-001	ND	9.97E-001	1.13E+000	9.76E-001	1.66E+000	1.24E+000	9.18E-001	7.70E-001	1.12E+000
TAII OVER-0001	89000653	4/20/98	ND	ND	ND	9.31E-001	9.20E-001	ND	9.14E-001	1.04E+000	1.04E+000	1.12E+000	1.23E+000	8.98E-001	9.25E-001	9.36E-001
TAII PTW4-0015	89000678	4/24/98	ND	ND	1.28E+000	9.40E-001	ND	ND	ND	9.72E-001	ND	ND	1.13E+000	7.84E-001	1.14E+000	9.81E-001
TAII PTW4-0003	89000665	4/24/98	ND	ND	ND	9.08E-001	9.21E-001	ND	9.62E-001	1.05E+000	1.09E+000	ND	1.28E+000	9.76E-001	1.02E+000	1.07E+000
TAII PTW4-0016	89000679	4/24/98	ND	ND	2.51E+000	1.01E+000	1.06E+000	ND	9.70E-001	1.10E+000	9.73E-001	ND	1.29E+000	8.85E-001	1.21E+000	1.04E+000
TAII OVER-0004	89000658	4/24/98	ND	ND	2.03E+000	9.88E-001	1.00E+000	ND	ND	1.03E+000	9.89E-001	ND	1.20E+000	9.67E-001	1.20E+000	1.00E+000
TAII OVER-0005	89000659	4/24/98	ND	ND	1.51E+000	9.07E-001	1.02E+000	ND	8.79E-001	1.02E+000	ND	7.28E-001	1.30E+000	9.96E-001	1.44E+000	1.04E+000
TAII PTW4-0017	89000680	4/24/98	ND	ND	2.19E+000	9.73E-001	9.89E-001	ND	1.08E+000	1.08E+000	ND	9.77E-001	1.24E+000	ND	1.29E+000	9.84E-001
TAII PTW4-0002	89000663	4/24/98	ND	ND	2.13E+00	8.88E-001	9.46E-001	ND	ND	9.29E-001	9.64E-001	ND	1.27E+000	9.80E-001	1.31E+000	9.75E-001
TAII PTW4-0004	89000666	4/24/98	ND	ND	1.55E+000	9.75E-001	1.01E+000	ND	1.07E+000	1.15E+000	9.59E-001	1.13E+000	1.25E+000	9.79E-001	1.09E+000	1.02E+000
TAII PTW4-0001	89000661	4/24/98	ND	ND	ND	8.94E-001	9.85E-001	ND	1.08E+000	1.08E+000	1.04E+000	1.20E+000	1.22E+000	1.00E+000	1.16E+000	1.03E+00
TAII PTW4-0012	89000675	4/28/98	ND	ND	2.68E+000	9.81E-001	1.05+000	ND	1.03E+000	9.92E-001	1.05E+000	ND	1.26E+000	9.41E-001	1.15E+000	1.00E+000
TAII PTW4-0013	89000676	4/28/98	ND	ND	2.42E+000	9.45E-001	9.84E-001	ND	9.43E-001	1.09E+000	1.16E+000	1.08E+000	1.27E+000	8.00E-001	9.24E-001	9.63E-001
TAII PTW4-0009	89000671	4/28/98	ND	ND	2.46E+000	9.33E-001	9.56E-001	ND	9.33E-001	1.11E+000	ND	ND	1.31E+000	8.49E-001	1.23E+000	1.06E+000
TAII PTW4-0011	89000673	4/28/98	ND	ND	2.79E+000	8.38E-001	9.21E-001	ND	8.38E-001	ND	ND	1.24E+000	1.19E+000	8.92E-001	1.24E+000	1.14E+000
TAII PTW4-0014	89000677	4/28/98	ND	ND	ND	9.08E-001	9.61E-001	ND	8.55E-001	9.70E-001	1.00E+000	1.85E+000	1.28E+000	1.00E+000	1.58E+000	9.50E-001
TAII PTW4-0010	89000672	4/28/98	ND	ND	ND	9.28E-001	9.87E-001	ND	1.00E+000	1.04E+000	1.12E+000	1.60E+000	1.32E+000	9.11E-001	1.23E+000	1.07E+000
TAII PTW4-0005	89000667	4/28/98	ND	ND	2.44E+000	8.88E-001	9.99E-001	ND	1.10E+000	1.08E+000	ND	ND	1.31E+000	9.23E-001	1.08E+000	1.03E+000
TAII PTW4-0006	89000668	4/28/98	ND	ND	ND	9.45E-001	9.66E-001	ND	8.61E-001	1.14E+000	ND	ND	1.41E+000	8.26E-001	1.89E+000	1.10E+000
TAII PTW4-0007	89000699	4/28/98	ND	ND	2.72E+000	9.85E-001	1.02E+000	ND	9.14E-001	9.63E-001	9.67E-001	1.15E+000	1.28E+000	9.36E-001	1.12E+000	1.06E+000
TAII PTW4-0008	89000670	4/28/98	ND	ND	2.85E+000	9.22E-001	1.02E+000	ND	8.45E-001	1.01E+000	1.07E+000	7.52E-001	1.23E+000	9.72E-001	1.19E+000	1.11E+000

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll ACF2-0001	89000632	4/13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.30E-002	2.10E+001	ND	ND	ND	ND	ND	ND
TAll ACF2-0003	89000635	4/13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.66E-002	2.17E+001	ND	ND	ND	ND	ND	ND
TAll ACF3-0004	89000628	4/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.27E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0001	89000640	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.29E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0003	89000642	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.29E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0004	89000643	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.39E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0005	89000644	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.34E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0006	89000645	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.36E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0007	89000646	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0008	89000647	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.36E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0009	89000649	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.28E-002	2.34E+001	ND	ND	ND	ND	ND	ND
TAll PTW3-0002	89000641	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33E+001	ND	ND	ND	ND	ND	ND
TAll ACF2-0007	89000639	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.38E-002	2.23E+001	ND	ND	ND	ND	ND	ND
TAll ACF2-0006	89000638	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.23E-002	2.19E+001	ND	ND	ND	ND	ND	ND
TAll ACF2-0002	89000634	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.40E-002	2.12E+001	ND	ND	ND	ND	ND	ND
TAll PTW1-0001	89000612	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.78E-002	2.04E+001	ND	ND	ND	ND	ND	ND
TAll PTW1-0003	89000614	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll PTW1-0002	89000613	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll OVER-0003	89000657	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.31E+001	ND	ND	ND	ND	ND	ND
TAll OVER-0002	89000655	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.34E+001	ND	ND	ND	ND	ND	ND
TAll OVER-0001	89000653	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0015	89000678	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0003	89000665	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79E-002	2.30E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0016	89000679	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.32E+001	ND	ND	ND	ND	ND	ND
TAll OVER-0004	89000658	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33E+001	ND	ND	ND	ND	ND	ND
TAll OVER-0005	89000659	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.25E-002	2.24E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0017	89000680	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.26E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0002	89000663	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0004	89000666	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.33E-002	2.18E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0001	89000661	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.36E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0012	89000675	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.30E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0013	89000676	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.26E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0009	89000671	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0011	89000673	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.13E-002	2.26E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0014	89000677	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.38E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0010	89000672	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.28E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0005	89000667	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0006	89000668	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.26E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0007	89000699	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.35E-002	2.30E+001	ND	ND	ND	ND	ND	ND
TAll PTW4-0008	89000670	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.29E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAII ACF2-0001	89000632	4/13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF2-0003	89000635	4/13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF3-0004	89000628	4/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0001	89000640	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0003	89000642	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0004	89000643	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0005	89000644	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0006	89000645	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0007	89000646	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0008	89000647	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0009	89000649	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW3-0002	89000641	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF2-0007	89000639	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF2-0006	89000638	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF2-0002	89000634	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1-0001	89000612	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1-0003	89000614	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1-0002	89000613	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVER-0003	89000657	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVER-0002	89000655	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVER-0001	89000653	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0015	89000678	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0003	89000665	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0016	89000679	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVER-0004	89000658	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVER-0005	89000659	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0017	89000680	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0002	89000663	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0004	89000666	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0001	89000661	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0012	89000675	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0013	89000676	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0009	89000671	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0011	89000673	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0014	89000677	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0010	89000672	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0005	89000667	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0006	89000668	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0007	89000699	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW4-0008	89000670	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAll ACF2-0001	89000632	4/13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF2-0003	89000635	4/13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF3-0004	89000628	4/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0001	89000640	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0003	89000642	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0004	89000643	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0005	89000644	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0006	89000645	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0007	89000646	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0008	89000647	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0009	89000649	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW3-0002	89000641	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF2-0007	89000639	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF2-0006	89000638	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF2-0002	89000634	4/16/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1-0001	89000612	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1-0003	89000614	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1-0002	89000613	4/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVER-0003	89000657	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVER-0002	89000655	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVER-0001	89000653	4/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0015	89000678	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0003	89000665	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0016	89000679	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVER-0004	89000658	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVER-0005	89000659	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0017	89000680	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0002	89000663	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0004	89000666	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0001	89000661	4/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0012	89000675	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0013	89000676	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0009	89000671	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0011	89000673	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0014	89000677	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0010	89000672	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0005	89000667	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0006	89000668	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0007	89000699	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW4-0008	89000670	4/28/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll OVW4-0006	89000692	4 /29/98	ND	ND	1.94E+000	9.52E-001	1.00E+000	ND	7.63E-001	9.81E-001	9.24E-001	ND	1.23E+000	1.05E+000	1.25E+000	1.13E+000
TAll OVW4-0005	89000690	4 /29/98	ND	ND	2.47E+000	9.27E-001	9.50E-001	ND	1.07E+000	1.04E+000	1.09E+000	9.93E-001	1.34E+000	8.99E-001	1.20E+000	1.05E+000
TAll OVW4-0004	89000689	4 /29/98	ND	ND	2.62E+000	8.81E-001	9.76E-001	ND	1.19E+000	1.05E+000	1.01E+000	1.18E+000	1.25E+000	8.91E-001	9.32E-001	9.44E-001
TAll OVW4-0003	89000688	4 /29/98	ND	ND	1.42E+000	9.01E-001	9.60E-001	ND	1.01E+000	9.82E-001	9.56E-001	ND	1.25E+000	9.82E-001	1.09E+000	9.97E-001
TAll OVW4-0002	89000687	4 /29/98	ND	ND	1.43E+000	8.74E-001	1.03E+000	ND	9.90E-001	1.01E+000	8.82E-001	ND	1.12E+000	9.12E-001	ND8.92E-001	9.69E-001
TAll OVW4-0001	89000686	4 /29/98	ND	ND	1.86E+000	ND	9.33E-001	ND	ND	1.02E+000	9.96E-001	ND	1.11E+000	8.61E-001	1.00E+000	1.05E+000
TAll OVW4-0008	89000697	4 /30/98	ND	ND	2.43E+000	9.68E-001	ND	ND	ND	ND	1.06E+000	1.12E+000	1.27E+000	9.26E-001	1.12E+000	1.05E+000
TAll PTW1W2	89000615	4 /6 /98	ND	ND	ND	8.76E-001	9.73E-001	ND	9.22E-001	9.74E-001	9.49E-001	ND	1.24E+000	7.58E-001	7.10E-001	1.04E+000
TAll PTW1W2-0002	89000616	4 /6 /98	ND	ND	1.87E+000	9.65E-001	1.06E+000	ND	9.52E-001	1.13E+000	ND	ND	1.33E+000	7.68E-001	1.29E+000	1.07E+000
TAll PTW1W2-0004	89000618	4 /6 /98	ND	ND	ND	9.93E-001	9.81E-001	ND	8.25E-001	ND	1.12E+000	1.17E+000	1.25E+000	9.11E-001	1.38E+000	1.02E+000
TAll PTW1W2-0003	89000617	4 /6 /98	ND	ND	ND	9.09E-001	1.12E+000	ND	1.02E+000	1.04E+000	1.07E+000	9.22E-001	1.26E+000	9.60E-001	1.19E+000	1.07E+000
TAll PTW1W2-0005	89000619	4 /8 /98	ND	ND	1.73E+000	8.89E-001	9.12E-001	ND	1.08E+000	9.67E-001	ND	9.37E-001	1.21E+000	7.22E-001	1.19E+000	ND
TAll PTW1W2-0006	89000620	4 /8 /98	ND	ND	1.93E+000	8.84E-001	9.43E-001	ND	1.09E+000	8.51E-001	ND	ND	1.23E+000	7.44E-001	1.23E+000	1.07E+000
TAll PTW1W2-0007	89000621	4 /8 /98	ND	ND	1.98E+000	8.72E-001	9.50E-001	ND	1.08E+000	1.04E+000	1.08E+000	1.29E+000	1.30E+000	9.41E-001	9.60E-001	1.03E+000
TAll PTW1W2-0008	89000622	4 /8 /98	ND	ND	ND	9.19E-001	9.82E-001	ND	ND	1.17E+000	ND	ND	1.18E+000	8.23E-001	1.03E+000	1.01E+000
TAll PTW1W2-0009	89000623	4 /8 /98	ND	ND	ND	9.63E-001	1.02E+000	ND	1.03E+000	1.10E+000	1.05E+000	ND	1.29E+000	9.49E-001	1.04E+000	1.12E+000
TAll TRE1-0010	89000825	5 /11/98	4.43E+000	ND	3.79E+000	9.03E-001	1.02E+000	ND	ND	1.02E+000	9.36E-001	1.03E+000	1.17E+000	7.70E-001	1.01E+000	1.00E+000
TAll TRE2-0005	89000835	5 /11/98	3.59E+000	ND	3.25E+000	8.21E-001	8.82E-001	ND	7.83E-001	9.38E-001	9.44E-001	ND	1.22E+000	7.60E-001	1.22E+000	8.83E-001
TAll TRE2-0002	89000832	5 /11/98	ND	ND	1.51E+000	8.55E-001	8.51E-001	ND	8.53E-001	9.98E-001	9.21E-001	1.13E+000	1.19E+000	8.77E-001	1.11E+000	1.03E+000
TAll TRE2-0007	89000837	5 /11/98	2.58E+000	ND	3.83E+000	8.93E-001	9.55E-001	ND	1.01E+000	1.01E+000	9.74E-001	1.02E+000	1.19E+000	9.17E-001	1.01E+000	9.33E-001
TAll TRE2-0008	89000838	5 /11/98	ND	ND	2.63E+000	8.97E-001	9.69E-001	ND	8.86E-001	9.63E-001	9.11E-001	ND	1.17E+000	9.44E-001	8.56E-001	9.39E-001
TAll TRE2-0009	89000839	5 /11/98	4.17E+000	ND	1.98E+000	8.49E-001	9.17E-001	ND	8.07E-001	9.80E-001	ND	8.58E-001	1.24E+000	9.01E-001	1.15E+000	9.14E-001
TAll TRE2-0010	89000841	5 /11/98	ND	ND	2.91E+000	8.87E-001	9.42E-001	ND	8.27E-001	8.11E-001	9.66E-001	9.65E-001	1.27E+000	8.78E-001	1.09E+000	9.32E-001
TAll TRE2-0006	89000836	5 /11/98	ND	ND	2.23E+000	9.45E-001	9.99E-001	ND	8.04E-001	8.73E-001	8.98E-001	8.36E-001	1.15E+000	8.25E-001	8.09E-001	9.05E-001
TAll TRE2-0003	89000833	5 /11/98	ND	ND	2.87E+000	8.21E-001	8.28E-001	ND	8.01E-001	1.01E+000	7.79E-001	ND	1.10E+000	8.60E-001	1.26E+000	9.63E-001
TAll TRE2-0004	89000834	5 /11/98	ND	ND	2.16E+000	7.93E-001	9.24E-001	ND	8.21E-001	7.81E-001	9.22E-001	1.05E+000	1.15E+000	8.91E-001	1.34E+000	8.99E-001
TAll TRE1-0012	89000827	5 /11/98	ND	ND	2.38E+000	8.95E-001	9.83E-001	ND	9.47E-001	9.85E-001	9.42E-001	1.21E+000	1.25E+000	8.24E-001	1.10E+000	9.63E-001
TAll TRE1-0013	89000828	5 /11/98	4.27E+000	ND	4.02E+000	8.10E-001	9.27E-001	ND	9.38E-001	ND	9.91E-001	ND	1.21E+000	9.44E-001	1.20E+000	1.02E+000
TAll TRE1-0014	89000829	5 /11/98	5.60E+000	ND	2.91E+000	9.42E-001	9.46E-001	ND	7.80E-001	9.30E-001	8.89E-001	9.27E-01	1.08E+000	9.22E-001	1.22E+000	9.04E-001
TAll TRE1-0015	89000830	5 /11/98	ND	ND	3.16E+000	9.32E-001	9.56E-001	ND	6.91E-001	1.06E+000	9.57E-001	1.03E+000	1.23E+000	9.55E-001	1.00E+000	ND
TAll TRE2-0001	89000831	5 /11/98	ND	ND	2.32E+000	8.00E-001	9.12E-001	ND	8.43E-001	9.85E-001	ND	1.49E+000	1.09E+000	7.90E-001	1.05E+000	9.02E-001
TAll TRE2-0012	89000843	5 /12/98	2.96E+000	ND	3.02E+000	8.29E-001	ND	ND	9.71E-001	8.88E-001	ND	ND	1.13E+000	8.57E-001	9.77E-001	9.55E-001
TAll TRE2-0011	89000842	5 /12/98	ND	ND	3.52E+000	8.81E-001	9.28E-001	ND	8.44E-001	9.32E-001	9.70E-001	ND	1.13E+000	7.50E-001	1.13E+000	1.05E+000
TAll TRE2-0013	89000844	5 /12/98	ND	ND	2.19E+000	8.74E-001	9.52E-001	ND	7.31E-001	9.54E-001	9.89E-001	ND	1.13E+000	8.70E-001	1.04E+000	1.03E+000
TAll TRE3-0002	89000846	5 /15/98	ND	ND	1.88E+000	8.62E-001	9.11E-001	ND	7.00E-001	8.01E-001	ND	1.32E+000	1.09E+000	8.59E-001	9.74E-001	9.41E-001
TAll TRE3-0003	89000847	5 /15/98	ND	ND	1.95E+000	8.45E-001	8.99E-001	ND	8.39E-001	9.25E-001	ND	ND	1.12E+000	8.30E-001	1.17E+000	8.88E-001
TAll TRE3-0001	89000845	5 /15/98	ND	ND	2.74E+000	8.57E-001	9.50E-001	ND	7.44E-001	8.6E-001	9.13E-001	ND	1.17E+000	ND	8.38E-001	9.35E-001
TAll SLPE-0024	89000858	5 /15/98	ND	ND	ND	8.32E-001	9.63E-001	ND	6.80E-001	1.05E+000	ND	1.15E+000	1.14E+000	8.66E-001	ND	9.72E-001
TAll SLPE-0026	89000860	5 /15/98	ND	ND	2.67E+000	8.54E-001	9.71E-001	ND	9.27E-001	9.47E-001	9.20E-001	ND	1.10E+000	8.42E-001	1.01E+000	9.09E-001
TAll SLPE-0015	89000848	5 /15/98	ND	ND	2.25E+000	9.21E-001	9.57E-001	ND	7.02E-001	7.95E-001	ND	9.93E-001	1.19E+000	8.35E-001	8.45E-001	8.79E-001

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll OVW4-0006	89000692	4 /29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll OVW4-0005	89000690	4 /29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.02E-002	2.21E+001	ND	ND	ND	ND	ND	ND
TAll OVW4-0004	89000689	4 /29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll OVW4-0003	89000688	4 /29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.32E-002	2.22E+001	ND	ND	ND	ND	ND	ND
TAll OVW4-0002	89000687	4 /29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.94E-002	2.11E+001	ND	ND	ND	ND	ND	ND
TAll OVW4-0001	89000686	4 /29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E+001	ND	ND	ND	ND	ND	ND
TAll OVW4-0008	89000697	4 /30/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2	89000615	4 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.24E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0002	89000616	4 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.77E-002	2.77E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0004	89000618	4 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0003	89000617	4 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.26E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0005	89000619	4 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.29E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0006	89000620	4 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E-002	2.21E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0007	89000621	4 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0008	89000622	4 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0009	89000623	4 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0010	89000825	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.24E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0005	89000835	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.00E-002	2.25E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0002	89000832	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0007	89000837	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0008	89000838	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0009	89000839	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.59E-002	2.21E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0010	89000841	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0006	89000836	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.29E-002	2.20E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0003	89000833	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0004	89000834	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0012	89000827	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0013	89000828	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.32E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0014	89000829	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0015	89000830	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.62E-002	2.32E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0001	89000831	5 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.24E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0012	89000843	5 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0011	89000842	5 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE2-0013	89000844	5 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.37E-002	2.17E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0002	89000846	5 /15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.94E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0003	89000847	5 /15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0001	89000845	5 /15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0024	89000858	5 /15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0026	89000860	5 /15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0015	89000848	5 /15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAII OVW4-0006	89000692	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVW4-0005	89000690	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVW4-0004	89000689	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVW4-0003	89000688	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVW4-0002	89000687	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVW4-0001	89000686	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVW4-0008	89000697	4/30/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2	89000615	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0002	89000616	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0004	89000618	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0003	89000617	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0005	89000619	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0006	89000620	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0007	89000621	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0008	89000622	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII PTW1W2-0009	89000623	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0010	89000825	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0005	89000835	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0002	89000832	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0007	89000837	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0008	89000838	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0009	89000839	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0010	89000841	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0006	89000836	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0003	89000833	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0004	89000834	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0012	89000827	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0013	89000828	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0014	89000829	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0015	89000830	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0001	89000831	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0012	89000843	5/12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0011	89000842	5/12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE2-0013	89000844	5/12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0002	89000846	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0003	89000847	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0001	89000845	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0024	89000858	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0026	89000860	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0015	89000848	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAll OVW4-0006	89000692	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVW4-0005	89000690	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVW4-0004	89000689	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVW4-0003	89000688	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVW4-0002	89000687	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVW4-0001	89000686	4/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVW4-0008	89000697	4/30/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2	89000615	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0002	89000616	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0004	89000618	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0003	89000617	4/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0005	89000619	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0006	89000620	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0007	89000621	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0008	89000622	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll PTW1W2-0009	89000623	4/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0010	89000825	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0005	89000835	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0002	89000832	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0007	89000837	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0008	89000838	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0009	89000839	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0010	89000841	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0006	89000836	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0003	89000833	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0004	89000834	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0012	89000827	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0013	89000828	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0014	89000829	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0015	89000830	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0001	89000831	5/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0012	89000843	5/12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0011	89000842	5/12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE2-0013	89000844	5/12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE3-0002	89000846	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE3-0003	89000847	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE3-0001	89000845	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0024	89000858	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0026	89000860	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0015	89000848	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAII SLPE-0025	89000859	5/15/98	ND	ND	9.21E-001	9.35E-001	9.82E-001	ND	8.60E-001	ND	ND	ND	1.12E+000	8.97E-001	7.81E-001	8.21E-001
TAII SLPE-0016	89000849	5/15/98	ND	ND	1.78E+000	9.75E-001	1.05E+000	ND	6.82E-001	9.97E-001	ND	1.22E+000	1.15E+000	9.50E-001	ND	1.20E+000
TAII SLPE-0023	89000857	5/15/98	ND	ND	2.17E+000	9.02E-001	8.96E-001	ND	9.15E-001	8.66E-001	8.75E-001	ND	1.21E+000	8.82E-001	1.23E+000	9.07E-001
TAII SLPE-0022	89000856	5/15/98	ND	ND	1.80E+000	9.65E-001	9.59E-001	ND	9.18E-001	9.57E-001	ND	ND	1.17E+000	8.82E-001	1.26E+000	ND
TAII SLPE-0021	89000855	5/15/98	ND	ND	1.46E+000	9.49E-001	9.80E-001	ND	8.64E-001	1.04E+000	8.59E-001	1.44E+000	1.12E+000	8.60E-001	1.27E+000	9.19E-001
TAII SLPE-0020	89000854	5/15/98	ND	ND	1.77E+000	9.25E-001	9.12E-001	ND	8.26E-001	1.03E+000	9.77E-001	1.18E+000	1.21E+000	8.66E-001	6.72E-001	9.84E-001
TAII SLPE-0019	89000852	5/15/98	ND	ND	ND	8.63E-001	9.32E-001	ND	7.62E-001	1.01E+000	9.97E-001	ND	1.18E+000	8.93E-001	1.19E+000	9.18E-001
TAII SLPE-0018	89000851	5/15/98	ND	ND	2.15E+000	8.14E-001	9.75E-001	ND	1.01E+000	8.31E-001	ND	ND	1.09E+000	9.71E-001	1.18E+000	9.80E-001
TAII SLPE-0017	89000850	5/15/98	ND	ND	2.42E+000	9.07E-001	1.00E+000	ND	8.85E-001	1.05E+000	1.05E+000	ND	1.14E+000	9.17E-001	1.11E+000	9.16E-001
TAII SLPE-0033	89000867	5/18/98	ND	ND	3.48E+000	8.54E-001	9.61E-001	ND	8.66E-001	9.20E-001	8.41E-001	9.41E-001	1.21E+000	7.51E-001	1.08E+000	1.02E+000
TAII SLPE-0027	89000861	5/18/98	ND	ND	2.52E+000	9.05E-001	9.27E-001	ND	7.80E-001	9.74E-001	9.43E-001	ND	1.07E+000	8.74E-001	9.15E-001	9.26E-001
TAII SLPE-0028	89000862	5/18/98	ND	ND	1.71E+000	8.85E-001	9.87E-001	ND	7.64E-001	1.03E+000	9.06E-001	8.49E-001	1.16E+000	8.66E-001	1.21E+000	9.39E-001
TAII SLPE-0029	89000863	5/18/98	ND	ND	1.96E+000	9.52E-001	9.35E-001	ND	9.61E-001	1.07E+000	ND	1.03E+000	1.23E+000	ND	1.04E+000	9.63E-001
TAII SLPE-0030	89000864	5/18/98	ND	ND	1.99E+000	9.44E-001	9.17E-001	ND	9.98E-001	9.50E-001	9.68E-001	8.11E-001	1.22E+000	8.50E-001	1.09E+000	ND
TAII SLPE-0031	89000865	5/18/98	ND	ND	1.99E+000	8.75E-001	9.03E-001	ND	7.57E-001	9.73E-001	1.02E+000	8.78E-001	1.20E+000	9.27E-001	9.82E-001	9.82E-001
TAII SLPE-0032	89000866	5/18/98	ND	ND	2.24E+000	ND	9.19E-001	ND	7.61E-001	8.41E-001	8.20E-001	ND	1.15E+000	8.84E-001	1.02E+000	8.94E-001
TAII TRE4-0001	89000879	5/20/98	ND	ND	1.88E+000	8.59E-001	9.12E-001	ND	1.00E+000	8.53E-001	8.82E-001	1.18E+000	1.10E+000	8.20E-001	9.48E-001	8.69E-001
TAII SLPE-0035	89000869	5/20/98	ND	ND	2.02E+000	9.83E-001	1.06E+000	ND	9.69E-001	9.71E-001	ND	9.69E-001	1.22E+000	9.37E-001	9.82E-001	1.01E+000
TAII TRE3-0004	89000871	5/20/98	2.76E+000	ND	2.50E+000	8.49E-001	9.58E-001	ND	8.48E-001	8.33E-001	ND	1.25E+000	1.11E+000	7.39E-001	8.03E-001	1.00E+00
TAII TRE3-0005	89000872	5/20/98	ND	ND	ND	8.41E-001	ND	ND	7.67E-001	8.62E-001	8.89E-001	1.05E+000	1.10E+000	8.43E-001	1.18E+000	1.01E+000
TAII TRE3-0006	89000873	5/20/98	ND	ND	2.11E+000	7.29E-001	8.90E-001	ND	7.95E-001	8.13E-001	8.87E-001	9.19E-001	1.11E+000	7.86E-001	9.83E-001	8.93E-001
TAII TRE3-0007	89000874	5/20/98	ND	ND	1.89E+000	8.03E-001	8.42E-001	ND	7.01E-001	9.41E-001	8.61E-001	9.36E-001	1.15E+000	7.99E-001	1.06E+000	ND
TAII TRE3-0008	89000876	5/20/98	ND	ND	2.22E+000	8.53E-001	9.25E-001	ND	8.32E-001	8.89E-001	8.77E-001	ND	1.13E+000	6.17E-001	1.14E+000	8.71E-001
TAII TRE3-0009	89000877	5/20/98	ND	ND	1.68E+000	8.96E-001	9.24E-001	ND	7.54E-001	8.97E-001	9.43E-001	ND	1.14E+000	8.33E-001	9.07E-001	9.37E-001
TAII TRE3-0010	89000878	5/20/98	ND	ND	1.41E+000	8.66E-001	8.88E-001	ND	9.31E-001	9.77E-001	ND	1.12E+000	1.22E+000	9.03E-001	7.06E-001	8.84E-001
TAII SLPE-0034	89000868	5/20/98	ND	ND	1.82E+000	8.96E-001	1.00E+000	ND	8.29E-001	9.79E-001	8.95E-001	1.54E+000	1.06E+000	8.49E-001	8.70E-001	9.14E-001
TAII SLPE-0036	89000870	5/20/98	ND	ND	ND	9.39E-001	9.63E-001	ND	ND	9.56E-001	1.03E+000	ND	1.14E+000	8.39E-001	1.19E+000	1.02E+000
TAII TRE4-0004	89000883	5/21/98	ND	ND	2.51E+000	8.62E-001	8.84E-001	ND	8.91E-001	8.47E-001	8.76E-001	7.89E-001	1.12E+000	8.11E-001	1.01E+000	8.72E-001
TAII TRE4-0003	89000882	5/21/98	ND	ND	2.32E+000	7.98E-001	8.76E-001	ND	8.02E-001	9.21E-001	ND	1.41E+000	1.09E+000	8.31E-001	1.08E+000	8.89E-0013
TAII TRE4-0007	89000886	5/26/98	ND	ND	ND	9.34E-001	9.23E-001	ND	7.41E-001	1.06E+000	8.52E-001	ND	1.11E+000	8.32E-001	8.93E-001	9.75E-001
TAII TRE4-0005	89000884	5/26/98	ND	ND	ND	9.27E-001	9.24E-001	ND	8.85E-001	8.49E-001	8.77E-001	ND	1.12E+000	8.16E-001	1.13E+000	9.00E-001
TAII TRE4-0006	89000885	5/26/98	ND	ND	2.00E+000	8.96E-001	9.59E-001	ND	7.57E-001	1.05E+000	9.61E-001	ND	1.12E+000	8.54E-001	7.36E-001	8.69E-001
TAII TRE4-0008	89000887	5/26/98	ND	ND	2.21E+000	8.68E-001	9.76E-001	ND	9.79E-001	8.33E-001	ND	ND	1.14E+000	8.51E-001	1.03E+000	8.90E-001
TAII TRE4-0010	89000889	5/26/98	ND	ND	ND	8.00E-001	8.36E-001	ND	8.97E-001	9.38E-001	9.63E-001	8.98E-001	1.14E+000	8.29E-001	1.19E+000	8.77E-001
TAII TRE4-0011	89000890	5/26/98	ND	ND	ND	8.27E-001	8.48E-001	ND	ND	1.02E+000	9.26E-001	8.79E-001	1.23E+000	8.74E-001	1.33E+000	9.18E-001
TAII TRE4-0012	89000891	5/26/98	ND	ND	2.58E+000	9.36E-001	9.43E-001	ND	ND	8.61E-001	ND	7.11E-001	1.16E+000	7.83E-001	1.01E+000	8.66E-001
TAII TRE4-0013	89000892	5/26/98	ND	ND	1.10E+000	9.51E-001	1.04E+000	ND	8.56E-001	1.13E+000	ND	ND	1.06E+000	7.58E-001	1.10E+000	8.87E-001
TAII TRE4-0002	89000881	5/26/98	ND	ND	1.85E+000	8.52E-001	8.80E-001	ND	8.96E-001	1.02E+000	9.53E-001	8.25E-001	1.12E+000	8.61E-001	1.24E+000	9.10E-001
TAII TRE4-0009	89000888	5/26/98	ND	ND	2.35E+000	7.97E-001	9.11E-001	ND	7.79E-001	8.70E-001	9.17E-001	8.30E-001	1.12E+000	8.40E-001	1.21E+000	9.09E-001
TAII OVTE-0008	89001806	5/27/98	ND	ND	ND	8.55E-001	9.38E-001	ND	9.26E-001	9.54E-001	1.03E+000	1.26E+000	1.10E+000	8.99E-001	1.05E+000	1.02E+000

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll SLPE-0025	89000859	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0016	89000849	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0023	89000857	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0022	89000856	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0021	89000855	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0020	89000854	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0019	89000852	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0018	89000851	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0017	89000850	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0033	89000867	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.31E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0027	89000861	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0028	89000862	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0029	89000863	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.31E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0030	89000864	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0031	89000865	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0032	89000866	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0001	89000879	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0035	89000869	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0004	89000871	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0005	89000872	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0006	89000873	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0007	89000874	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0008	89000876	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0009	89000877	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRE3-0010	89000878	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0034	89000868	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0036	89000870	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0004	89000883	5/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0003	89000882	5/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0007	89000886	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0005	89000884	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0006	89000885	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0008	89000887	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0010	89000889	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0011	89000890	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0012	89000891	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0013	89000892	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0002	89000881	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0009	89000888	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0008	89001806	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAII SLPE-0025	89000859	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0016	89000849	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0023	89000857	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0022	89000856	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0021	89000855	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0020	89000854	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0019	89000852	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0018	89000851	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0017	89000850	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0033	89000867	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0027	89000861	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0028	89000862	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0029	89000863	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0030	89000864	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0031	89000865	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0032	89000866	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0001	89000879	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0035	89000869	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0004	89000871	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0005	89000872	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0006	89000873	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0007	89000874	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0008	89000876	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0009	89000877	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0010	89000878	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0034	89000868	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0036	89000870	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0004	89000883	5/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0003	89000882	5/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0007	89000886	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0005	89000884	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0006	89000885	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0008	89000887	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0010	89000889	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0011	89000890	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0012	89000891	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0013	89000892	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0002	89000881	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0009	89000888	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0008	89001806	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII SLPE-0025	89000859	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0016	89000849	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0023	89000857	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0022	89000856	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0021	89000855	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0020	89000854	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0019	89000852	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0018	89000851	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0017	89000850	5/15/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0033	89000867	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0027	89000861	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0028	89000862	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0029	89000863	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0030	89000864	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0031	89000865	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0032	89000866	5/18/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0001	89000879	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0035	89000869	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0004	89000871	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0005	89000872	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0006	89000873	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0007	89000874	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0008	89000876	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0009	89000877	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE3-0010	89000878	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0034	89000868	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0036	89000870	5/20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0004	89000883	5/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0003	89000882	5/21/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0007	89000886	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0005	89000884	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0006	89000885	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0008	89000887	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0010	89000889	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0011	89000890	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0012	89000891	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0013	89000892	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0002	89000881	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0009	89000888	5/26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0008	89001806	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRE4-0015	89000894	5 /27/98	ND	ND	ND	8.65E-001	9.93E-001	ND	8.79E-001	1.08E+000	8.99E-001	ND	1.09E+000	ND	7.54E-001	9.49E-001
TAll TRE4-0016	89000895	5 /27/98	ND	ND	2.76E+000	8.58E-001	9.06E-001	ND	7.60E-001	9.90E-001	ND	ND	1.23E+000	7.95E-001	1.09E+000	9.52E-001
TAll TRE4-0017	89000896	5 /27/98	ND	ND	ND	8.25E-001	9.09E-001	ND	1.04E+000	8.98E-001	1.00E+000	1.08E+000	1.07E+000	8.40E-001	1.14E+000	8.80E-001
TAll TRE4-0018	89000897	5 /27/98	ND	ND	1.94E+000	8.33E-001	8.69E-001	ND	8.54E-001	9.34E-001	8.52E-001	ND	1.15E+000	7.21E-001	9.15E-001	ND
TAll OVTE-0001	89000898	5 /27/98	ND	ND	ND	8.75E-001	9.33E-001	ND	8.74E-001	1.02E+000	9.25E-001	7.90E-001	1.06E+000	9.08E-001	ND	9.13E-001
TAll OVTE-0002	89000899	5 /27/98	ND	ND	1.29E+000	8.27E-001	8.63E-001	ND	ND	1.05E+000	9.75E-001	1.0E+000	1.23E+000	ND	1.27E+000	8.96E-001
TAll OVTE-0003	89001801	5 /27/98	ND	ND	2.32E+000	1.01E+000	1.04E+000	ND	8.55E-001	9.18E-001	1.00E+000	1.10E+000	1.21E+000	8.78E-001	8.62E-001	9.82E-001
TAll OVTE-0004	89001802	5 /27/98	ND	ND	ND	9.34E-001	1.01E+000	ND	1.12E+000	1.07E+000	9.67E-001	ND	1.15E+000	8.74E-001	1.01E+000	9.70E-001
TAll OVTE-0005	89001803	5 /27/98	ND	ND	3.55E+000	7.60E-001	9.84E-001	ND	7.84E-001	9.95E-001	ND	9.60E-001	1.24E+000	9.64E-001	1.17E+000	1.01E+000
TAll OVTE-0006	89001804	5 /27/98	ND	ND	1.54E+000	8.23E-001	8.92E-001	ND	9.09E-001	1.06E+000	9.49E-001	ND	1.19E+000	9.80E-001	1.01E+000	1.05E+000
TAll TRE4-0014	89000893	5 /27/98	ND	ND	1.78E+000	9.59E-001	9.91E-001	ND	8.57E-001	9.92E-001	1.02E+000	ND	1.11E+000	8.43E-001	ND	9.41E-001E
TAll OVTE-0007	89001805	5 /27/98	ND	ND	1.54E+000	8.46E-001	9.47E-001	ND	8.28E-001	1.11E+000	8.86E-001	7.04E-001	1.15E+000	8.76E-001	1.19E+000	1.01E+000
TAll OVTE-0011	89001809	5 /29/98	ND	ND	2.07E+000	8.46E-001	9.15E-001	ND	7.62E-001	9.45E-001	9.74E-001	9.49E-001	1.21E+000	8.76E-001	1.10E+000	9.33E-001
TAll OVTE-0010	89001808	5 /29/98	ND	ND	2.39E+000	8.99E-001	9.03E-001	ND	8.32E-001	1.01E+000	ND	ND	1.12E+000	6.70E-001	1.24E+000	8.59E-001
TAll OVTE-0012	89001810	5 /29/98	ND	ND	2.27E+000	8.00E-001	8.44E-001	ND	8.08E-001	8.28E-001	9.17E-001	ND	1.10E+000	7.18E-001	9.85E-001	9.31E-001
TAll TRE5-0002	89001812	5 /29/98	ND	ND	2.34E+000	8.43E-001	9.02E-001	ND	7.90E-001	9.13E-001	9.46E-001	ND	1.17E+000	9.22E-001	1.23E+000	9.17E-001
TAll TRE5-0003	89001813	5 /29/98	ND	ND	1.91E+000	8.39E-001	9.06E-001	ND	8.62E-001	9.34E-001	9.40E-001	ND	1.15E+000	9.10E-001	1.23E+000	9.54E-001
TAll TRE5-0004	89001814	5 /29/98	ND	ND	1.60E+000	9.20E-001	9.97E-001	ND	1.05E+000	1.09E+000	9.60E-001	ND	1.12E+000	8.83E-001	1.11E+000	9.71E-001
TAll TRE5-0005	89001815	5 /29/98	ND	ND	ND	9.32E-001	1.04E+000	ND	8.40E-001	9.21E-001	9.53E-001	ND	1.17E+000	8.09E-001	6.84E-001	9.23E-001
TAll TRE5-0006	89001816	5 /29/98	ND	ND	ND	8.86E-001	9.53E-001	ND	7.82E-001	1.03E+000	ND	8.95E-001	1.12E+000	9.14E-001	1.06E+000	9.81E-001
TAll TRE5-0007	89001817	5 /29/98	ND	ND	2.14E+000	8.43E-001	9.70E-001	ND	8.85E-001	ND	9.44E-001	ND	1.11E+000	8.77E-001	9.67E-001	9.02E-001
TAll TRE5-0008	89001818	5 /29/98	ND	ND	1.52E+000	7.95E-001	8.80E-001	ND	7.73E-001	9.21E-001	ND	ND	1.09E+000	ND	1.07E+000	ND
TAll OVTE-0009	89001807	5 /29/98	ND	ND	1.87E+000	8.68E-001	9.42E-001	ND	8.52E-001	9.72E-001	9.45E-001	9.69E-001	1.18E+000	ND	9.46E-001	9.14E-001
TAll TRE5-0001	89001811	5 /29/98	ND	ND	1.85E+000	8.24E-001	8.96E-001	ND	7.97E-001	1.03E+000	9.19E-001	ND	1.20E+000	6.86E-001	1.31E+000	9.04E-001
TAll OVW4-0007	89000694	5 /5 /98	ND	ND	2.44E+000	9.40E-001	1.03E+000	ND	9.87E-001	1.15E+000	9.73E-001	1.02E+000	1.19E+000	9.39E-001	1.27E+000	9.85E-001
TAll SLPE-0010	89000810	5 /6 /98	ND	ND	2.10E+000	9.00E-001	9.41E-001	ND	7.67E-001	8.43E-001	ND	ND	1.15E+000	8.18E-001	8.63E-001	8.67E-001
TAll SLPE-0007	89000807	5 /6 /98	ND	ND	2.34E+000	1.01E+000	ND	ND	8.84E-001	1.04E+000	9.35E-001	ND	1.28E+000	8.75E-001	1.07E+000	9.57E-001
TAll SLPE-0006	89000806	5 /6 /98	2.22E+000	ND	2.96E+000	1.08E+000	1.11E+000	ND	6.53E-001	7.48E-001	8.32E-001	ND	1.04E+000	8.11E-001	9.98E-001	8.52E-001
TAll SLPE-0002	89000802	5 /6 /98	ND	ND	ND	9.72E-001	1.00E+000	ND	1.12E+000	8.54E-001	9.59E-001	ND	1.18E+000	9.30E-001	9.31E-001	9.38E-001
TAll SLPE-0005	89000805	5 /6 /98	ND	ND	ND	8.79E-001	9.59E-001	ND	6.21E-001	1.00E+000	ND	ND	1.16E+000	8.04E-001	1.18E+000	8.80E-001
TAll SLPE-0004	89000804	5 /6 /98	ND	ND	2.94E+000	9.16E-001	1.01E+000	ND	8.05E-001	8.40E-001	9.09E-001	ND	1.11E+000	8.82E-001	1.10E+000	1.00E+000
TAll SLPE-0003	89000803	5 /6 /98	ND	ND	1.70E+000	9.19E-001	9.62E-001	ND	9.64E-001	9.92E-001	1.06E+000	ND	1.16E+000	8.77E-001	ND	9.36E-001
TAll SLPE-0008	89000808	5 /6 /98	ND	ND	1.50E+000	9.16E-001	9.75E-001	ND	9.66E-001	9.96E-001	ND	ND	1.13E+000	8.90E-001	1.24E+000	9.73E-001
TAll SLPE-0009	89000809	5 /6 /98	ND	ND	1.56E+000	9.16E-001	8.75E-001	ND	7.48E-001	1.03E+000	8.71E-001	1.09E+000	1.16E+000	7.80E-001	1.21E+000	9.04E-001
TAll SLPE-0001	89000801	5 /6 /98	ND	ND	1.56E+000	9.63E-001	1.04E+000	ND	7.93E-001	8.88E-001	ND	6.73E-001	1.06E+000	8.94E-001	7.50E-001	9.14E-001
TAll SLPE-0011	89000811	5 /6 /98	ND	ND	1.81E+000	8.81E-001	9.31E-001	ND	6.92E-001	1.02E+000	8.53E-001	ND	1.14E+000	7.20E-001	1.12E+000	ND
TAll SLPE-0012	89000812	5 /7 /98	ND	ND	2.77E+000	8.27E-001	9.05E-001	ND	8.94E-001	1.02E+000	9.70E-001	ND	1.09E+000	8.55E-001	1.03E+000	9.10E-001
TAll SLPE-0013	89000813	5 /7 /98	ND	ND	1.58E+000	8.41E-001	9.30E-001	ND	7.02E-001	8.75E-001	ND	6.76E-001	1.04E+000	8.46E-001	9.00E-001	8.17E-001
TAll SLPE-0014	89000814	5 /7 /98	ND	ND	1.59E+000	9.56E-001	9.47E-001	ND	7.82E-001	9.57E-001	8.67E-001	ND	1.19E+000	9.28E-001	1.07E+000	9.86E-001
TAll TRE1-0005	89000819	5 /7 /98	ND	ND	4.48E+000	8.91E-001	9.23E-001	ND	8.87E-001	1.01E+000	ND	ND	1.14E+000	9.38E-001	9.87E-001	9.53E-001

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll TRE4-0015	89000894	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0016	89000895	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0017	89000896	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0018	89000897	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0001	89000898	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0002	89000899	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0003	89001801	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0004	89001802	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0005	89001803	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0006	89001804	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll TRE4-0014	89000893	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0007	89001805	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0011	89001809	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0010	89001808	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0012	89001810	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0002	89001812	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0003	89001813	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0004	89001814	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0005	89001815	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0006	89001816	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0007	89001817	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0008	89001818	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAll OVTE-0009	89001807	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE5-0001	89001811	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll OVW4-0007	89000694	5/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.28E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0010	89000810	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.34E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0007	89000807	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.28E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0006	89000806	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.93E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0002	89000802	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0005	89000805	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0004	89000804	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0003	89000803	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.24E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0008	89000808	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0009	89000809	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0001	89000801	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0011	89000811	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0012	89000812	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.25E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0013	89000813	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0014	89000814	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.07E-002	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0005	89000819	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.29E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRE4-0015	89000894	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE4-0016	89000895	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE4-0017	89000896	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE4-0018	89000897	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0001	89000898	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0002	89000899	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0003	89001801	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0004	89001802	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0005	89001803	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0006	89001804	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE4-0014	89000893	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0007	89001805	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0011	89001809	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0010	89001808	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0012	89001810	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0002	89001812	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0003	89001813	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0004	89001814	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0005	89001815	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0006	89001816	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0007	89001817	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0008	89001818	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVTE-0009	89001807	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0001	89001811	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVW4-0007	89000694	5/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0010	89000810	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0007	89000807	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0006	89000806	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0002	89000802	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0005	89000805	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0004	89000804	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0003	89000803	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0008	89000808	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0009	89000809	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0001	89000801	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0011	89000811	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0012	89000812	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0013	89000813	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0014	89000814	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0005	89000819	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII TRE4-0015	89000894	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0016	89000895	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0017	89000896	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0018	89000897	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0001	89000898	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0002	89000899	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0003	89001801	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0004	89001802	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0005	89001803	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0006	89001804	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE4-0014	89000893	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0007	89001805	5/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0011	89001809	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0010	89001808	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0012	89001810	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0002	89001812	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0003	89001813	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0004	89001814	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0005	89001815	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0006	89001816	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0007	89001817	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0008	89001818	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVTE-0009	89001807	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE5-0001	89001811	5/29/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVW4-0007	89000694	5/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0010	89000810	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0007	89000807	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0006	89000806	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0002	89000802	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0005	89000805	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0004	89000804	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0003	89000803	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0008	89000808	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0009	89000809	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0001	89000801	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0011	89000811	5/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0012	89000812	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0013	89000813	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0014	89000814	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0005	89000819	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRE1-0001	89000815	5 /7 /98	ND	ND	2.52E+000	8.85E-001	9.66E-001	ND	7.13E-001	8.60E-001	9.57E-001	ND	1.10E+000	9.10E-001	1.17E+000	ND
TAll TRE1-0002	89000816	5 /7 /98	5.70E+000	ND	3.69E+000	8.74E-001	9.86E-001	ND	7.61E-001	9.06E-001	9.86E-001	1.12E+000	1.23E+000	1.00E+000	1.07E+000	9.29E-001
TAll TRE1-0004	89000818	5 /7 /98	3.24E+000	ND	3.72E+000	8.74E-001	8.95E-001	ND	1.11E+000	9.58E-001	9.92E-001	7.43E-001	1.24E+000	ND	1.21E+000	1.06E+000
TAll TRE1-0003	89000817	5 /7 /98	4.00E+000	ND	4.56E+000	8.60E-001	ND	ND	ND	9.58E-001	8.07E-001	1.17E+000	1.18E+000	8.36E-001	1.04E+000	9.96E-001
TAll TRE1-0008	89000822	5 /8 /98	3.52E+000	ND	2.30E+000	ND	9.39E-001	ND	8.50E-001	9.59E-001	9.08E-001	9.06E-001	1.21E+000	7.96E-001	1.02E+000	1.00E+000
TAll TRE1-0007	89000821	5 /8 /98	5.39E+000	ND	3.42E+000	ND	1.01E+000	ND	1.06E+000	9.62E-001	9.78E-001	ND	1.13E+000	8.60E-001	1.23E+000	8.77E-001
TAll TRE1-0006	89000820	5 /8 /98	ND	ND	2.67E+000	8.99E-001	8.94E-001	ND	8.90E-001	9.78E-001	1.07E+000	8.71E-001	1.24E+000	9.82E-001	1.28E+000	1.12E+000
TAll TRE1-0011	89000826	5 /8 /98	5.65E+000	ND	3.40E+000	9.37E-001	9.80E-001	ND	9.85E-001	1.02E+000	8.83E-001	ND	1.14E+001	9.14E-001	8.53E-001	1.03E+000
TAll TRE1-0009	89000824	5 /8 /98	3.64E+000	ND	3.42E+000	8.50E-001	ND	ND	7.93E-001	1.05E+000	9.91E-001	ND	1.18E+000	9.22E-001	1.02E+000	1.08E+000
TAll OVA5-0007	89001860	6 /10/98	ND	ND	ND	8.34E-001	8.52E-001	ND	ND	9.75E-001	9.27E-001	ND	1.10E+000	8.20E-001	1.01E+000	8.81E-001
TAll TRE6-0024	89001853	6 /10/98	ND	ND	1.69E+000	8.86E-001	ND	ND	1.08E+000	1.02E+000	1.02E+000	ND	1.25E+000	7.80E-001	1.02E+000	9.12E-001
TAll OVA5-0013	89001866	6 /10/98	ND	ND	2.22E+000	8.96E-001	9.79E-001	ND	9.12E-001	1.03E+000	9.41E-001	1.20E+000	1.19E+000	9.10E-001	1.13E+000	9.25E-001
TAll OVA5-0012	89001865	6 /10/98	ND	ND	ND	9.22E-001	9.53E-001	ND	9.13E-001	1.08E+000	9.31E-001	ND	1.25E+000	8.74E-001	1.18E+000	ND
TAll OVA5-0011	89001864	6 /10/98	ND	ND	1.50E+000	9.16E-001	9.21E-001	ND	ND	8.83E-001	9.24E-001	ND	1.09E+000	8.97E-001	1.02E+000	9.34E-001
TAll OVA5-0010	89001863	6 /10/98	ND	ND	ND	8.72E-001	9.27E-001	1.64E+004	7.93E-001	9.63E-001	9.47E-001	9.03E-001	1.13E+000	8.76E-001	1.21E+000	9.36E-001
TAll OVA5-0009	89001862	6 /10/98	ND	ND	1.11E+000	8.20E-001	9.34E-001	ND	ND	9.46E-001	ND	1.40E+000	1.16E+000	8.73E-001	8.57E-001	9.15E-001
TAll TRE6-0006	89001859	6 /10/98	ND	ND	1.30E+000	8.76E-001	8.49E-001	ND	7.50E-001	1.07E+000	ND	ND	1.13E+000	7.99E-001	1.03E+000	9.31E-001
TAll OVA5-0001	89001854	6 /10/98	ND	ND	ND	8.93E-001	9.18E-001	ND	9.46E-001	8.21E-001	8.97E-001	ND	1.13E+000	8.32E-001	1.12E+000	ND
TAll OVA5-0002	89001855	6 /10/98	ND	ND	1.59E+000	8.64E-001	9.10E-001	ND	9.51E-001	1.03E+000	ND	8.64E-001	1.14E+000	8.50E-001	ND	9.43E-001
TAll OVA5-0005	89001858	6 /10/98	ND	ND	ND	8.81E-001	9.59E-001	ND	9.98E-001	1.03E+000	ND	1.17E+000	1.11E+000	8.93E-001	1.17E+000	1.02E+000
TAll OVA5-0008	89001861	6 /10/98	ND	ND	2.78E+000	8.95E-001	9.34E-001	ND	7.19E-001	9.41E-001	8.67E-001	ND	1.15E+000	ND	ND	9.18E-001
TAll OVA5-0003	89001856	6 /10/98	ND	ND	ND	8.20E-001	8.92E-001	ND	9.07E-001	9.63E-001	9.18E-001	ND	1.22E+000	8.76E-001	1.03E+000	ND
TAll OVA5-0004	89001857	6 /10/98	ND	ND	2.21E+000	9.65E-001	9.54E-001	ND	9.99E-001	9.78E-001	ND	1.15E+000	1.13E+000	8.77E-001	1.22E+000	8.83E-001
TAll TRE7-0004	89001870	6 /17/98	ND	ND	ND	7.91E-001	9.04E-001	ND	8.95E-001	9.42E-001	1.03E+000	9.81E-001	1.14E+000	8.01E-001	1.12E+000	8.56E-001
TAll TRE7-0014	89001882	6 /17/98	ND	ND	2.96E+000	9.29E-001	9.07E-001	ND	7.33E-001	8.58E-001	8.95E-001	ND	1.14E+000	8.84E-001	6.94E-001	9.69E-001
TAll TRE7-0013	89001881	6 /17/98	ND	ND	1.98E+000	8.71E-001	9.23E-001	ND	7.87E-001	1.00E+000	9.26E-001	1.19E+000	1.14E+000	8.48E-001	1.01E+000	ND
TAll TRE7-0006	89001872	6 /17/98	ND	ND	ND	8.56E-001	1.00E+000	ND	8.83E-001	8.89E-001	ND	1.29E+000	1.16E+000	9.55E-001	1.05E+000	9.83E-001
TAll TRE7-0012	890001879	6 /17/98	ND	ND	2.03E+000	8.78E-001	9.64E-001	ND	9.36E-001	9.32E-001	9.72E-001	ND	1.14E+000	8.64E-001	1.09E+000	1.02E+000
TAll TRE7-0011	89001877	6 /17/98	ND	ND	1.39E+000	8.73E-001	8.98E-001	ND	8.93E-001	9.41E-001	9.23E-001	ND	1.19E+000	8.60E-001	1.16E+000	9.44E-001
TAll TRE7-0010	89001876	6 /17/98	ND	ND	2.45E+000	ND	9.51E-001	ND	8.10E-001	1.01E+000	9.31E-001	9.85E-001	1.20E+000	8.87E-001	1.16E+000	9.44E-001
TAll TRE7-0008	89001874	6 /17/98	ND	ND	1.57E+000	8.82E-001	9.62E-001	ND	9.12E-001	9.40E-001	ND	ND	1.14E+000	8.51E-001	1.25E+000	ND
TAll TRE7-0003	89001869	6 /17/98	ND	ND	ND	8.31E-001	8.60E-001	ND	7.93E-001	ND	8.98E-001	1.07E+000	1.17E+000	9.54E-001	9.32E-001	9.98E-001
TAll TRE7-0007	89001873	6 /17/98	ND	ND	1.82E+000	8.62E-001	8.78E-001	ND	8.57E-001	1.02E+000	9.46E-001	1.44E+000	1.23E+000	7.32E-001	1.07E+000	9.71E-001
TAll TRE7-0005	89001871	6 /17/98	ND	ND	2.60E+000	1.03E+000	1.05E+000	ND	7.35E-001	8.72E-001	9.78E-001	ND	1.19E+000	9.22E-001	1.19E+001	1.00E+000
TAll-TRE7-0001	89001867	6 /17/98	ND	ND	2.07E+000	8.62E-001	9.13E-001	ND	8.72E-001	9.38E-001	9.44E-001	9.93E-001	1.15E+000	8.76E-001	1.10E+000	9.24E-001
TAll TRE7-0015	89001883	6 /17/98	ND	ND	2.66E+000	ND	9.41E-001	ND	9.61E-001	8.71E-001	ND	6.67E-001	1.17E+000	6.45E-001	9.91E-001	9.67E-001
TAll TRE7-0002	89001868	6 /17/98	ND	ND	ND1.70E+000	7.78E-001	8.57E-001	ND	9.95E-001	9.76E-001	ND	ND	1.24E+000	8.23E-001	1.08E+000	9.53E-001
TAll TRE7-0021	89001890	6 /17/98	ND	ND	1.93E+000	9.89E-001	9.28E-001	ND	7.25E-001	ND	9.02E-001	8.87E-001	1.22E+000	9.69E-001	1.32E+000	9.29E-001
TAll TRE7-0009	89001875	6 /17/98	ND	ND	3.04E+000	8.41E-001	9.35E-001	ND	8.84E-001	9.77E-001	ND	ND	1.17E+000	6.66E-001	1.38E+000	9.40E-001
TAll TRE7-0017	89001885	6 /17/98	ND	ND	ND	ND	8.72E-001	ND	7.02E-001	9.02E-001	ND	ND	ND	8.63E-001	7.51E-001	9.19E-001

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll TRE1-0001	89000815	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0002	89000816	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.43E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0004	89000818	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.37E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0003	89000817	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.42E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0008	89000822	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.32E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0007	89000821	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.71E-002	2.19E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0006	89000820	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0011	89000826	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.31E+001	ND	ND	ND	ND	ND	ND
TAll TRE1-0009	89000824	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.32E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0007	89001860	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRE6-0024	89001853	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0013	89001866	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0012	89001865	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0011	89001864	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0010	89001863	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0009	89001862	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRE6-0006	89001859	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0001	89001854	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0002	89001855	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0005	89001858	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0008	89001861	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0003	89001856	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAll OVA5-0004	89001857	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0004	89001870	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0014	89001882	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0013	89001881	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0006	89001872	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0012	890001879	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0011	89001877	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0010	89001876	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0008	89001874	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0003	89001869	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0007	89001873	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0005	89001871	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll-TRE7-0001	89001867	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0015	89001883	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0002	89001868	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0021	89001890	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0009	89001875	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0017	89001885	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.24E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAII TRE1-0001	89000815	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0002	89000816	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0004	89000818	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0003	89000817	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0008	89000822	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0007	89000821	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0006	89000820	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0011	89000826	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE1-0009	89000824	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0007	89001860	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0024	89001853	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0013	89001866	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0012	89001865	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0011	89001864	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0010	89001863	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0009	89001862	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0006	89001859	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0001	89001854	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0002	89001855	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0005	89001858	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0008	89001861	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0003	89001856	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVA5-0004	89001857	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0004	89001870	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0014	89001882	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0013	89001881	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0006	89001872	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0012	890001879	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0011	89001877	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0010	89001876	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0008	89001874	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0003	89001869	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0007	89001873	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0005	89001871	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII-TRE7-0001	89001867	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0015	89001883	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0002	89001868	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0021	89001890	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0009	89001875	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE7-0017	89001885	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAll TRE1-0001	89000815	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0002	89000816	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0004	89000818	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0003	89000817	5/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0008	89000822	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0007	89000821	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0006	89000820	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0011	89000826	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE1-0009	89000824	5/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0007	89001860	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE6-0024	89001853	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0013	89001866	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0012	89001865	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0011	89001864	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0010	89001863	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0009	89001862	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND.	ND	ND	ND	ND	ND
TAll TRE6-0006	89001859	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0001	89001854	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0002	89001855	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0005	89001858	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0008	89001861	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0003	89001856	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVA5-0004	89001857	6/10/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0004	89001870	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0014	89001882	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0013	89001881	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0006	89001872	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0012	890001879	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0011	89001877	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0010	89001876	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0008	89001874	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0003	89001869	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0007	89001873	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0005	89001871	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll-TRE7-0001	89001867	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0015	89001883	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0002	89001868	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0021	89001890	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0009	89001875	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0017	89001885	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRE7-0018	89001887	6 /17/98	ND	ND	ND	8.87E-001	9.37E-001	ND	7.80E-001	ND	ND	ND	1.21E-000	8.43E-001	8.42E-001	9.51E-001
TAll TRE7-0020	89001889	6 /17/98	ND	ND	3.56E+000	ND	8.95E-001	ND	6.57E-001	8.92E-001	1.04E+000	ND	1.11E+000	8.01E-001	1.08E+000	8.87E-001
TAll TRE7-0022	89001891	6 /17/98	ND	ND	1.38E+000	8.82E-001	9.03E-001	ND	ND	9.99E-001	9.12E-001	ND	1.17E+000	9.11E-001	9.02E-001	9.74E-001
TAll TRE7-0023	89001892	6 /17/98	ND	ND	1.91E+000	8.97E-001	9.50E-001	ND	8.92E-001	9.20E-001	1.02E+000	8.37E-001	1.18E+000	9.07E-001	7.35E-001	ND
TAll TRE7-0024	890010893	6 /17/98	ND	ND	1.69E+000	1.01E+000	9.94E-001	ND	8.00E-001	1.10E+000	ND	1.18E+000	1.19E+000	8.98E-001	9.28E-001	8.87E-001
TAll TRE7-0016	89001884	6 /17/98	ND	ND	1.28E+000	9.13E-001	9.38E-001	ND	8.71E-00	9.04E-001	ND	ND	1.09E+000	8.58E-001	9.14E-001	8.59E-001
TAll TRE7-0019	89001888	6 /17/98	ND	ND	1.53E+000	8.07E-001	9.20E-001	ND	8.16E-001	1.10E+000	9.99E-001	ND	1.06E+000	8.59E-001	7.62E-001	8.99E-001
TAll TRE5-0010	89001820	6 /2 /98	ND	ND	1.73E+000	8.53E-001	9.17E-001	ND	7.35E-001	1.01E+000	9.48E-001	ND	1.13E+000	9.13E-001	1.50E+000	9.92E-001
TAll TRE5-0019	89001829	6 /2 /98	ND	ND	ND	8.93E-001	ND	ND	1.01E+000	9.26E-001	ND	1.12E+000	1.11E+000	9.32E-001	1.12E+000	1.00E+000
TAll TRE5-0018	89001828	6 /2 /98	ND	ND	1.54E+000	9.79E-001	9.47E-001	ND	6.68E-001	8.70E-001	9.99E-001	1.14E+000	1.17E+000	8.76E-001	8.41E-001	1.03E+000
TAll TRE5-0017	89001827	6 /2 /98	ND	ND	1.23E+000	9.34E-001	9.90E-001	ND	8.92E-001	9.50E-001	ND	6.29E-001	1.13E+000	8.74E-001	1.08E+000	9.12E-001
TAll TRE5-0016	89001826	6 /2 /98	ND	ND	2.32E+000	9.50E-001	9.97E-001	ND	1.11E+000	8.56E-001	9.71E-001	ND	1.18E+000	8.68E-001	1.08E+000	1.06E+000
TAll TRE5-0015	89001825	6 /2 /98	ND	ND	ND	8.98E-001	9.13E-001	ND	9.23E-001	9.55E-001	9.70E-001	ND	1.15E+000	7.68E-001	9.60E-001	9.80E-001
TAll TRE5-0014	89001824	6 /2 /98	ND	ND	ND	8.56E-001	9.32E-001	ND	8.77E-001	ND	9.31E-001	ND	1.31E+000	8.36E-001	1.02E+000	ND
TAll TRE5-0013	89001823	6 /2 /98	ND	ND	1.85E+000	8.73E-001	8.85E-001	ND	ND	1.04E+000	ND	7.60E-001	1.18E+000	8.28E-001	6.61E-001	9.14E-001
TAll TRE5-0011	89001821	6 /2 /98	ND	ND	ND	8.82E-001	1.01E+000	ND	8.97E-001	9.15E-001	9.50E-001	ND	1.18E+000	8.76E-001	8.87E-001	1.01E+000
TAll TRE5-0009	89001819	6 /2 /98	ND	ND	1.19E+000	ND	9.18E-001	ND	6.94E-001	8.57E-001	8.48E-001	8.92E-001	1.15E+000	8.88E-001	1.30E+000	9.41E-001
TAll TRE6-0001	89001830	6 /2 /98	ND	ND	ND	9.34E-001	9.83E-001	ND	9.39E-001	1.05E+000	9.00E-001	1.09E+000	1.28E+000	9.35E-001	7.84E-001	9.86E-001
TAll TRE5-0012	89001822	6 /2 /98	ND	ND	1.51E+000	9.13E-001	9.16E-001	ND	9.38E-001	8.21E-001	ND	ND	1.20E+000	7.12E-001	1.04E+000	9.10E-000
TAll TRE7-0025	89001894	6 /22/98	ND	ND	2.59E+000	9.81E-001	1.04E+000	ND	9.69E-001	8.83E-001	9.20E-001	ND	1.17E+000	8.96E-001	9.86E-001	9.62E-001
TAll TRE7-0026	89001895	6 /22/98	ND	ND	1.77E+000	9.67E-001	1.01E+000	ND	7.52E-001	ND	9.25E-001	9.49E-001	1.25E+000	9.64E-001	8.63E-001	1.10E+000
TAll TRE7-0027	89001896	6 /22/98	ND	ND	1.79E+000	9.26E-001	9.23E-001	ND	9.09E-001	9.09E-001	9.27E-001	1.18E+000	1.17E+000	8.87E-001	8.43E-001	9.89E-001
TAll TRE7-0028	89001897	6 /22/98	ND	ND	1.43E+000	8.73E-001	9.89E-001	ND	9.13E-001	ND	ND	9.01E-001	1.20E+000	9.36E-001	9.12E-001	9.96E-001
TAll TRE7-0030	89001899	6 /22/98	ND	ND	1.58E+000	9.65E-001	8.98E-001	ND	1.06E+000	9.73E-001	ND	1.25E+000	1.25E+000	9.51E-001	1.29E+000	9.68E-001
TAll TRE7-0029	89001898	6 /22/98	ND	ND	2.27E+000	9.05E-001	9.55E-001	ND	9.69E-001	1.01E+000	ND	1.17E+000	1.16E+000	9.27E-001	1.04E+000	9.82E-001
TAll TRE7-0036	89002506	6 /23/98	ND	ND	ND	8.20E-001	9.10E-001	ND	8.69E-01	9.61E-001	9.84E-001	ND	1.21E+000	8.56E-001	8.90E-001	9.65E-001
TAll TRE7-0033	89002503	6 /23/98	ND	ND	ND	1.09E+000	1.06E+000	ND	7.99E-001	8.87E-001	8.74E-001	ND	1.10E+000	8.67E-001	1.28E+000	9.99E-001
TAll TRE7-0034	89002504	6 /23/98	ND	ND	2.67E+000	8.91E-001	9.79E-001	ND	8.18E-001	1.05E+000	9.14E-001	1.11E+000	1.27E+000	8.63E-001	1.21E+000	9.79E-001
TAll TRE7-0035	89002505	6 /23/98	ND	ND	1.95E+000	9.10E-001	9.16E-001	ND	8.59E-001	9.41E-001	ND	1.04E+000	1.15E+000	7.35E-001	1.02E+000	1.02E+000
TAll TRE7-0031	89002501	6 /23/98	ND	ND	2.02E+000	8.94E-001	9.88E-001	ND	ND	9.90E-001	ND	6.72E-001	1.22E+000	9.15E-001	1.16E+000	9.64E-001
TAll TRE7-0032	89002502	6 /23/98	ND	ND	ND	8.56E-001	9.40E-001	ND	8.28E-001	9.15E-001	8.19E-001	ND	1.27E+000	ND	1.11E+000	1.07E+000
TAll TRE7-0048	89002519	6 /24/98	ND	ND	2.13E+000	9.22E-001	8.85E-001	ND	ND	9.47E-001	ND	ND	1.09E+000	ND	1.06E+000	ND
TAll TRE7-0038	89002508	6 /24/98	ND	ND	ND	8.92E-001	9.37E-001	ND	8.70E-001	9.22E-001	9.68E-001	1.16E+000	1.13E+000	8.18E-001	7.93E-001	9.16E-001
TAll TRE7-0039	89002509	6 /24/98	ND	ND	2.61E+000	9.03E-001	9.23E-001	ND	ND	9.77E-001	ND	ND	1.14E+000	9.26E-001	1.39E+000	9.58E-001
TAll TRE7-0040	89002510	6 /24/98	2.77E+000	ND	1.82E+000	8.39E-001	9.29E-001	ND	ND	9.65E-001	1.05E+000	ND	1.22E+000	8.87E-001	1.24E+000	9.39E-001
TAll TRE7-0041	89002511	6 /24/98	ND	ND	ND	8.35E-001	9.36E-001	ND	8.27E-001	1.02E+000	ND	6.85E-001	1.16E+000	8.86E-001	9.48E-001	9.32E-001
TAll TRE7-0042	89002512	6 /24/98	ND	ND	ND	8.92E-001	9.25E-001	ND	ND	1.03E+000	ND	1.50E+000	1.25E+000	9.34E-001	1.10E+000	9.24E-001
TAll TRE7-0043	89002513	6 /24/98	ND	ND	2.33E+000	8.72E-001	9.76E-001	ND	ND	9.26E-001	8.14E-001	1.28E+000	1.22E+000	9.09E-001	1.15E+000	8.91E-001
TAll TRE7-0044	89002514	6 /24/98	ND	ND	1.70E+000	8.29E-001	9.39E-001	ND	ND	1.10E+000	1.01E+000	1.07E+00	1.21E+000	8.23E-001	1.03E+000	9.57E-001
TAll TRE7-0045	89002515	6 /24/98	ND	ND	1.86E+000	9.23E-001	9.83E-001	ND	9.52E-001	9.11E-001	ND	ND	1.18E+000	9.08E-001	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAII TRE7-0018	89001887	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0020	89001889	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0022	89001891	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0023	89001892	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0024	890010893	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0016	89001884	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0019	89001888	6/17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0010	89001820	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0019	89001829	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0018	89001828	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.23E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0017	89001827	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0016	89001826	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.24E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0015	89001825	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0014	89001824	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0013	89001823	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0011	89001821	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0009	89001819	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0001	89001830	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAII TRE5-0012	89001822	6/2/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0025	89001894	6/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0026	89001895	6/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0027	89001896	6/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0028	89001897	6/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0030	89001899	6/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0029	89001898	6/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0036	89002506	6/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0033	89002503	6/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0034	89002504	6/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0035	89002505	6/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0031	89002501	6/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0032	89002502	6/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0048	89002519	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0038	89002508	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0039	89002509	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0040	89002510	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0041	89002511	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0042	89002512	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0043	89002513	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0044	89002514	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRE7-0045	89002515	6/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRE7-0018	89001887	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0020	89001889	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0022	89001891	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0023	89001892	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0024	890010893	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0016	89001884	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0019	89001888	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0010	89001820	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0019	89001829	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0018	89001828	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0017	89001827	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0016	89001826	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0015	89001825	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0014	89001824	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0013	89001823	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0011	89001821	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0009	89001819	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE6-0001	89001830	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0012	89001822	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0025	89001894	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0026	89001895	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0027	89001896	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0028	89001897	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0030	89001899	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0029	89001898	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0036	89002506	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0033	89002503	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0034	89002504	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0035	89002505	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0031	89002501	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0032	89002502	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0048	89002519	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0038	89002508	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0039	89002509	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0040	89002510	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0041	89002511	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0042	89002512	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0043	89002513	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0044	89002514	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0045	89002515	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAll TRE7-0018	89001887	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0020	89001889	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0022	89001891	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0023	89001892	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0024	890010893	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0016	89001884	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0019	89001888	6 /17/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0010	89001820	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0019	89001829	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0018	89001828	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0017	89001827	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0016	89001826	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0015	89001825	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0014	89001824	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0013	89001823	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0011	89001821	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0009	89001819	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE6-0001	89001830	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE5-0012	89001822	6 /2 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0025	89001894	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0026	89001895	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0027	89001896	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0028	89001897	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0030	89001899	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0029	89001898	6 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0036	89002506	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0033	89002503	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0034	89002504	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0035	89002505	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0031	89002501	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0032	89002502	6 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0048	89002519	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0038	89002508	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0039	89002509	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0040	89002510	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0041	89002511	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0042	89002512	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0043	89002513	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0044	89002514	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0045	89002515	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRE7-0047	89002518	6 /24/98	ND	ND	2.56E+000	8.97E-001	9.69E-001	ND	8.96E-001	1.07E+000	8.94E-001	ND	1.20E+000	9.01E-001	1.19E+000	9.74E-001
TAll TRE7-0037	89002507	6 /24/98	ND	ND	ND	9.05E-001	8.83E-001	ND	ND	1.06E+000	ND	9.67E-001	1.19E+000	8.89E-001	1.26E+000	ND
TAll TRE7-0046	89002516	6 /24/98	ND	ND	ND	9.38E-001	9.41E-001	ND	1.00E+000	9.51E-001	9.30E-001	1.29E+000	1.26E+000	8.28E-001	1.04E+000	1.04E+000
TAll TRE8-0003	89002530	6 /25/98	ND	ND	2.71E+000	8.61E-001	9.21E-001	ND	9.09E-001	8.70E-001	ND	ND	1.20E+000	8.35E-001	9.52E-001	ND
TAll TRE8-0004	89002531	6 /25/98	ND	ND	ND	8.52E-001	8.70E-001	ND	9.02E-001	9.53E-001	9.46E-001	ND	1.22E+000	7.35E-001	1.11E+000	9.09E-001
TAll TRE7-0049	89002520	6 /25/98	ND	ND	1.54E+000	ND	1.03E+000	ND	8.31E-001	9.22E-001	ND	ND	1.15E+000	8.13E-001	9.05E-001	9.07E-001
TAll TRE7-0050	89002521	6 /25/98	ND	ND	1.40E+000	ND	9.85E-001	ND	7.94E-001	9.78E-001	ND	ND	1.11E+000	8.97E-001	1.07E+000	9.39E-001
TAll TRE7-0051	89002522	6 /25/98	ND	ND	2.01E+000	7.98E-001	1.00E+000	ND	ND	9.72E-001	8.93E-001	ND	1.05E+000	8.12E-001	9.70E-001	9.41E-001
TAll TRE7-0052	89002523	6 /25/98	ND	ND	2.32E+000	8.74E-001	1.00E+000	ND	8.31E-001	8.95E-001	9.97E-001	1.02E+000	1.13E+000	8.12E-001	9.97E-001	1.01E+000
TAll TRE7-0053	89002524	6 /25/98	ND	ND	ND	8.46E-001	8.77E-001	ND	7.69E-001	9.81E-001	ND	ND	1.21E+000	8.29E-001	9.10E-001	9.23E-001
TAll TRE7-0054	89002525	6 /25/98	ND	ND	2.22E+000	8.94E-001	8.74E-001	ND	9.82E-001	9.63E-001	9.11E-001	ND	1.15E+000	9.16E-001	1.22E+000	9.34E-001
TAll TRE7-0055	89002526	6 /25/98	ND	ND	2.59E+000	8.70E-001	9.14E-001	ND	8.15E-001	9.61E-001	9.29E-001	ND	1.07E+000	8.26E-001	9.76E-001	8.64E-001
TAll TRE7-0056	89002527	6 /25/98	ND	ND	3.31E+000	8.65E-001	9.43E-001	ND	8.73E-001	8.91E-001	9.96E-001	ND	1.29E+000	ND	9.62E-001	ND
TAll TRE8-0001	89002528	6 /25/98	ND	ND	2.12E+000	8.93E-001	8.74E-001	ND	7.57E-001	9.42E-001	9.05E-001	9.03E-001	1.12E+000	ND	1.15E+000	8.81E-001
TAll TRE8-0010	89002537	6 /25/98	ND	ND	1.35E+000	9.39E-001	1.01E+000	ND	7.58E-001	9.11E-001	9.09E-001	ND	1.12E+000	8.43E-001	1.06E+000	9.48E-001
TAll TRE8-0002	89002529	6 /25/98	ND	ND	ND	8.97E-001	9.75E-001	ND	7.25E-001	9.06E-001	9.18E-001	ND	1.07E+000	ND	9.10E-001	9.88E-001
TAll TRE8-0014	89002541	6 /25/98	ND	ND	1.77E+000	8.07E-001	9.19E-001	ND	8.28E-001	1.01E+000	9.79E-001	ND	1.12E+000	8.85E-001	9.04E-001	9.58E-001
TAll TRE8-0013	89002540	6 /25/98	ND	ND	2.09E+000	9.10E-001	8.81E-001	ND	ND	9.85E-001	8.85E-001	9.60E-001	1.15E+000	8.69E-001	8.78E-001	ND
TAll TRE8-0011	89002538	6 /25/98	ND	ND	1.60E+000	8.22E-001	9.37E-001	ND	9.40E-001	1.00E+000	ND	ND	1.18E+000	ND	9.74E-001	9.33E-001
TAll TRE8-0009	89002536	6 /25/98	ND	ND	1.78E+000	ND	8.43E-001	ND	9.19E-001	1.10E+000	8.14E-001	1.11E+000	1.18E+000	9.10E-001	1.27E+000	8.61E-001
TAll TRE8-0008	89002535	6 /25/98	ND	ND	2.32E+000	7.92E-001	8.81E-001	ND	1.04E+000	9.40E-001	8.86E-001	1.31E+000	1.08E+000	9.92E-001	8.63E-001	8.94E-001
TAll TRE8-0007	89002534	6 /25/98	ND	ND	1.56E+000	8.13E-001	9.03E-001	ND	9.04E-001	9.86E-001	1.02E+000	ND	1.11E+000	8.64E-001	ND	1.04E+000
TAll TRE8-0006	89002533	6 /25/98	ND	ND	3.46E+000	ND	9.12E-001	ND	ND	9.03E-001	8.60E-001	9.25E-001	1.09E+000	8.70E-001	9.79E-001	9.91E-001
TAll TRE8-0005	89002532	6 /25/98	ND	ND	ND	8.77E-001	9.27E-001	ND	9.20E-001	9.30E-001	9.40E-001	ND	1.14E+000	8.91E-001	1.05E+000	9.81E-001
TAll TRE8-0012	89002539	6 /25/98	ND	ND	ND	8.25E-001	8.71E-001	ND	8.77E-001	8.25E-001	9.23E-001	8.94E-001	1.19E+000	8.61E-001	9.55E-001	8.83E-001
TAll TRE8-0015	89002542	6 /26/98	ND	ND	1.50E+000	9.27E-001	9.16E-001	ND	7.39E-001	9.21E-001	9.15	ND	1.13E+000	8.44E-001	1.17E+000	8.75E-001
TAll TRE8-0026	89002553	6 /26/98	ND	ND	2.28E+000	9.14E-001	9.64E-001	ND	6.84E-001	ND	ND	ND	1.12E+000	8.97E-001	9.76E-001	9.20E-001
TAll TRE8-0021	89002548	6 /26/98	ND	ND	1.81E+000	9.33E-001	9.76E-001	ND	1.03E+000	1.01E+000	ND	7.40E-001	1.31E+000	8.69E-001	1.06E+000	8.61E-001
TAll TRE8-0027	89002554	6 /26/98	ND	ND	ND	8.96E-001	8.91E-001	ND	9.90E-001	8.23E-001	8.83E-001	ND	1.23E+000	8.90E-001	ND	9.51E-001
TAll TRE8-0025	89002552	6 /26/98	ND	ND	ND	9.04E-001	9.35E-001	ND	9.47E-001	1.05E+000	9.62-001	1.43E+000	1.21E+000	8.18E-001	1.22E+000	9.18E-001
TAll TRE8-0024	89002551	6 /26/98	ND	ND	2.36E+000	9.19E-001	9.34E-001	ND	7.63E-001	1.00E+000	9.21E-001	ND	1.10E+000	8.67E-001	1.15E+000	1.05E+000
TAll TRE8-0023	89002550	6 /26/98	ND	ND	2.22E+000	7.87E-001	9.04E-001	ND	ND	9.11E-001	8.92E-001	ND	1.15E+000	8.03E-001	ND	9.82E-001
TAll TRE8-0022	89002549	6 /26/98	ND	ND	1.81E+000	8.27E-001	9.41E-001	ND	8.94E-001	9.22E-001	8.97E-001	1.46E+000	1.15E+000	8.50E-001	ND	9.00E-001
TAll TRE8-0020	89002547	6 /26/98	ND	ND	1.40E+000	9.08E-001	9.88E-001	ND	9.57E-001	9.72E-001	9.33E-001	7.13E-001	1.06E+000	8.98E-001	9.94E-001	8.50E-001
TAll TRE8-0019	89002546	6 /26/98	ND	ND	2.20E+000	8.46E-001	9.06E-001	ND	9.20E-001	1.01E+000	9.64E-001	6.79E-001	1.20E+000	8.44E-001	9.32E-001	9.46E-001
TAll TRE8-0018	89002545	6 /26/98	ND	ND	2.82E+000	8.44E-001	8.94E-001	ND	7.74E-001	8.66E-001	9.53E-001	9.56E-001	1.10E+000	6.54E-001	1.11E+000	8.66E-001
TAll TRE8-0016	89002543	6 /26/98	ND	ND	2.55E+000	9.29E-001	9.56E-001	ND	ND	8.98E-001	8.54E-001	7.93E-001	1.09E+000	8.52E-001	9.08E-001	9.82E-001
TAll TRE8-0017	89002544	6 /26/98	ND	ND	1.93E+000	8.61E-001	ND	ND	ND	9.24E-001	ND	ND	1.10E+000	8.78E-001	1.03E+000	9.36E-001
TAll TRE6-0003	89001832	6 /3 /98	ND	ND	2.16E+000	9.10E-001	9.91E-001	ND	1.13E+000	9.80E-001	9.34E-001	1.06E+000	1.22E+000	8.66E-001	1.10E+000	9.06E-001
TAll TRE6-0004	89001833	6 /3 /98	ND	ND	1.65E+000	9.49E-001	1.03E+000	ND	ND	9.93E-001	9.81E-001	ND	1.16E+000	9.09E-001	1.14E+000	1.02E+000

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll TRE7-0047	89002518	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0037	89002507	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0046	89002516	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0003	89002530	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0004	89002531	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0049	89002520	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0050	89002521	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0051	89002522	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0052	89002523	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0053	89002524	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0054	89002525	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0055	89002526	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRE7-0056	89002527	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0001	89002528	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0010	89002537	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0002	89002529	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0014	89002541	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0013	89002540	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0011	89002538	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0009	89002536	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0008	89002535	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0007	89002534	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0006	89002533	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.00E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0005	89002532	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0012	89002539	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0015	89002542	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0026	89002553	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0021	89002548	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0027	89002554	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0025	89002552	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0024	89002551	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.01E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0023	89002550	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0022	89002549	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0020	89002547	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.98E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0019	89002546	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0018	89002545	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.16E+000	ND	ND	ND	ND	ND	ND
TAll TRE8-0016	89002543	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0017	89002544	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRE6-0003	89001832	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAll TRE6-0004	89001833	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.98E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRE7-0047	89002518	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0037	89002507	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0046	89002516	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0003	89002530	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0004	89002531	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0049	89002520	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0050	89002521	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0051	89002522	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0052	89002523	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0053	89002524	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0054	89002525	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0055	89002526	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0056	89002527	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0001	89002528	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0010	89002537	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0002	89002529	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0014	89002541	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0013	89002540	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0011	89002538	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0009	89002536	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0008	89002535	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0007	89002534	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0006	89002533	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0005	89002532	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0012	89002539	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0015	89002542	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0026	89002553	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0021	89002548	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0027	89002554	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0025	89002552	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0024	89002551	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0023	89002550	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0022	89002549	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0020	89002547	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0019	89002546	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0018	89002545	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0016	89002543	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0017	89002544	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE6-0003	89001832	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0004	89001833	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAll TRE7-0047	89002518	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0037	89002507	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0046	89002516	6 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0003	89002530	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0004	89002531	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0049	89002520	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0050	89002521	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0051	89002522	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0052	89002523	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0053	89002524	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0054	89002525	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0055	89002526	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE7-0056	89002527	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0001	89002528	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0010	89002537	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0002	89002529	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0014	89002541	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0013	89002540	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0011	89002538	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0009	89002536	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0008	89002535	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0007	89002534	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0006	89002533	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0005	89002532	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0012	89002539	6 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0015	89002542	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0026	89002553	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0021	89002548	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0027	89002554	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0025	89002552	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0024	89002551	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0023	89002550	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0022	89002549	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0020	89002547	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0019	89002546	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0018	89002545	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0016	89002543	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0017	89002544	6 /26/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE6-0003	89001832	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE6-0004	89001833	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAII TRE6-0006	89001835	6 /3 /98	ND	ND	ND	ND9.29E-001	1.01E+000	ND	8.50E-001	8.17E-001	1.06E+000	6.49E-001	1.20E+000	9.48E-001	9.51E-001	ND
TAII TRE6-0005	89001834	6 /3 /98	ND	ND	ND	9.20E-001	9.25E-001	ND	9.28E-001	1.03E+000	9.22E-001	ND	1.15E+000	9.07E-001	1.19E+000	9.74E-001
TAII TRE6-0002	89001831	6 /3 /98	ND	ND	1.71E+000	9.73E-001	9.99E-001	ND	9.21E-001	1.09E+000	9.51E-001	1.04E+000	1.17E+000	9.65E-001	9.03E-001	8.91E-001
TAII TRE6-0008	89001837	6 /3 /98	ND	ND	2.87E+000	8.55E-001	9.04E-001	ND	8.56E-001	9.75E-001	1.00E+000	6.98E-001	1.13E+000	9.58E-001	1.09E+000	E+001
TAII TRE6-0009	89001838	6 /3 /98	ND	ND	1.99E+000	8.55E-001	8.37E-001	ND	9.08E-001	1.07E+000	ND	7.63E-001	1.16E+000	9.62E-001	1.36E+000	1.03E+000
TAII TRE6-0007	89001836	6 /3 /98	ND	ND	ND	ND8.04E-001	9.50E-001	ND	9.32E-001	8.97E-001	ND	6.90E-001	1.25E+000	9.55E-001	9.50E-001	E+001
TAII TRE6-0012	89001841	6 /5 /98	ND	ND	1.20E+000	9.06E-001	9.44E-001	ND	9.36E-001	8.94E-001	9.81E-001	1.09E+000	1.26E+000	9.77E-001	8.98E-001	1.08E+000
TAII TRE6-0011	89001840	6 /5 /98	ND	ND	2.41E+000	9.32E-001	9.49E-001	ND	1.07E+000	1.07E+000	ND	8.76E-001	1.20E+000	8.55E-001	9.03E-001	9.31E-001
TAII TRE6-0010	89001839	6 /5 /98	ND	ND	2.14E+000	9.63E-001	9.94E-001	ND	9.18E-001	8.87E-001	9.19E-001	ND	1.24E+000	ND	1.12E+000	9.86E-001
TAII TRE6-0014	89001843	6 /5 /98	ND	ND	ND	8.95E-001	9.54E-001	ND	9.51E-001	1.01E+000	ND	ND	1.16E+000	8.74E-001	ND	ND
TAII TRE6-0015	89001844	6 /5 /98	ND	ND	1.51E+000	8.76E-001	8.72E-001	ND	ND	9.47E-001	1.04E+000	ND	1.14E+000	ND	1.17E+000	1.01E+000
TAII TRE6-0013	89001842	6 /5 /98	ND	ND	2.14E+000	9.39E-001	9.52E-001	ND	8.88E-001	1.15E+000	1.00E+000	7.42E-001	1.12E+000	8.61E-001	1.02E+000	0012.14E+001
TAII TRE6-0016	89001845	6 /8 /98	ND	ND	2.08E+000	9.74E-001	9.59E-001	ND	9.17E-001	9.80E-001	9.33E-001	ND	1.18E+000	6.72E-001	7.38E-001	9.72E-001
TAII TRE6-0018	89001847	6 /8 /98	ND	ND	2.23E+000	8.72E-001	8.98E-001	ND	8.86E-001	1.09E+000	9.64E-001	8.84E-001	1.12E+000	9.00E-001	8.55E-001	9.85E-001
TAII TRE6-0019	89001848	6 /8 /98	ND	ND	2.81E+000	8.60E-001	9.44E-001	ND	1.13E+000	1.04E+000	9.07E-001	1.55E+000	1.17E+000	8.60E-001	1.11E+000	1.04E+000
TAII TRE6-0020	89001849	6 /8 /98	ND	ND	ND	8.84E-001	ND	ND	8.08E-001	8.35E-001	1.02E+000	1.10E+000	1.18E+000	9.20E-001	1.06E+000	9.12E-001
TAII TRE6-0021	89001850	6 /8 /98	ND	ND	4.49E+000	9.05E-001	8.66E-001	ND	7.43E-001	1.02E+000	9.48E-001	1.13E+000	1.21E+000	8.56E-001	9.51E-001	1.03E+000
TAII TRE6-0022	89001851	6 /8 /98	ND	ND	ND	8.85E-001	9.20E-001	ND	9.12E-001	1.02E+000	8.45E-001	ND	1.17E+000	9.44E-001	1.11E+000	9.46E-001
TAII TRE6-0023	89001852	6 /8 /98	ND	ND	3.75E+000	9.28E-001	9.10E-001	ND	9.58E-001	9.68E-001	9.15E-001	1.22E+000	1.17E+000	ND	9.17E-001	1.06E+000
TAII TRE6-0017	89001846	6 /8 /98	ND	ND	2.63E+000	9.00E-001	9.70E-001	ND	9.13E-001	1.02E+000	9.86E-001	8.93E-001	1.18E+000	ND	9.50E-001	1.03E+000
TA2-TRD2-0009	89002594	7 /14/98	ND	ND	ND	7.60E-001	8.94E-001	ND	7.26E-001	9.30E-001	8.58E-001	ND	1.25E+000	8.40E-001	9.24E-001	8.42E-001
TA2-TRD2-0010	89002595	7 /14/98	ND	ND	ND	7.97E-001	9.40E-001	ND	8.36E-001	8.62E-001	9.67E-001	ND	1.12E+000	8.58E-001	9.95E-001	ND
TA2-OVD3-0001	89002597	7 /14/98	ND	ND	2.29E+000	7.64E-001	9.27E-001	ND	8.99E-001	9.98E-001	9.92E-001	ND	1.24E+000	8.82E-001	1.01E+000	9.83E-001
TA2-TRD2-0007	89002592	7 /14/98	ND	ND	1.99e+000	7.86e-001	9.04e-001	ND	7.87e-001	9.70e-001	9.31e-001	ND	1.19e+000	7.76e-001	8.84e-001	9.88e-001
TA2-TRD2-0011	89002596	7 /14/98	ND	ND	1.70E+000	7.87E-001	9.11E-001	ND	9.05E-001	1.00E+000	9.13E-001	ND	1.23E+000	8.54E-001	6.32E-001	9.34E-001
TA2-TRD2-0008	89002593	7 /14/98	ND	ND	1.24E+000	7.89E-001	8.68E-001	ND	6.59E-001	ND	9.73E-001	ND	1.09E+000	8.64E-001	8.65E-001	8.99E-001
TA2-OVD3-0002	89002598	7 /14/98	ND	ND	2.62E+000	8.16E-001	9.90E-001	ND	ND	9.91E-001	9.98E-001	7.25E-001	1.20E+000	8.22E-0011	7.85E-001	ND
TAII TRD3-0003	89002804	7 /22/98	ND	ND	1.77E+000	8.43E-001	9.19E-001	ND	1.02E+000	9.90E-001	9.54E-001	ND	1.11E+000	8.63E-001	9.41E-001	8.93E-001
TAII TRD3-0001	89002802	7 /22/98	ND	ND	ND	8.85E-001	9.33E-001	ND	7.21E-001	8.89E-001	ND	ND	1.14E+000	8.38E-001	9.68E-001	9.04E-001
TAII TRD3-0002	89002803	7 /22/98	ND	ND	ND	8.61E-001	9.48E-001	ND	9.24E-001	9.51E-001	ND	1.15E+000	1.11E+000	7.13E-001	8.53E-001	9.30E-001
TAII TRD3-0004	89002805	7 /22/98	ND	ND	1.65E+000	8.99E-001	9.90E-001	ND	9.12E-001	9.43E-001	ND	ND	1.21E+000	8.10E-001	1.55E+000	9.70E-001
TAII TRD3-0005	89002806	7 /22/98	ND	ND	1.85E+000	ND	9.57E-001	ND	8.97E-001	8.85E-001	9.02E-001	1.02E+000	1.14E+000	6.86E-001	8.55E-001	8.95E-001
TAII TRD3-0006	89002807	7 /22/98	ND	ND	2.78E+000	8.94E-001	9.57E-001	ND	8.25E-001	ND	9.53E-001	1.23E+000	1.17E+000	8.39E-001	9.52E-001	9.17E-001
TAII TRD3-0007	89002808	7 /22/98	ND	ND	ND	8.56E-001	9.55E-001	ND	7.91E-001	9.95E-001	9.72E-001	9.41E-001	1.04E+000	8.78E-001	9.37E-001	9.33E-001
TAII TRD3-0008	89002809	7 /22/98	ND	ND	2.13E+000	8.28E-001	9.36E-001	ND	8.25E-001	1.02E+000	9.19E-001	7.30E-001	1.10E+000	9.57E-001	1.08E+000	9.44E-001
TAII TRD3-0009	89002810	7 /22/98	ND	ND	1.54E+000	8.95E-001	9.15E-001	ND	9.32E-001	8.40E-001	9.45E-001	9.61E-001	1.15E+000	8.36E-001	1.06E+000	9.81E-001
TAII TRD3-0010	89002811	7 /22/98	ND	ND	ND	8.30E-001	9.00E-001	ND	8.72E-001	1.09E+000	ND	9.16E-001	1.09E+000	8.11E-001	8.31E-001	8.72E-001
TAII TRD3-0011	89002812	7 /23/98	ND	ND	1.37E+000	9.54E-001	9.13E-001	ND	8.77E-001	8.56E-001	8.06E-001	ND	1.11E+000	8.45E-001	9.90E-001	8.75E-001
TAII TRD3-0012	89002813	7 /23/98	ND	ND	2.06E+000	9.36E-001	1.03E+000	ND	9.49E-001	1.01E+000	ND	1.22E+000	1.12E+000	8.72E-001	9.04E-001	8.60E-001
TAII TRD3-0013	890002814	7 /24/98	ND	ND	2.14E+000	9.04E-001	1.05E+000	ND	8.02E-002	9.92E-001	8.66E-001	ND	1.11E+000	8.64E-001	8.96E-001	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAII TRE6-0006	89001835	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0005	89001834	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0002	89001831	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.24E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0008	89001837	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0009	89001838	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0007	89001836	6 /3 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0012	89001841	6 /5 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0011	89001840	6 /5 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0010	89001839	6 /5 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0014	89001843	6 /5 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0015	89001844	6 /5 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0013	89001842	6 /5 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0016	89001845	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0018	89001847	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0019	89001848	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0020	89001849	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0021	89001850	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0022	89001851	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0023	89001852	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRE6-0017	89001846	6 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TA2-TRD2-0009	89002594	7 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TA2-TRD2-0010	89002595	7 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TA2-OVD3-0001	89002597	7 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.19E+001	ND	ND	ND	ND	ND	ND
TA2-TRD2-0007	89002592	7 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TA2-TRD2-0011	89002596	7 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TA2-TRD2-0008	89002593	7 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TA2-OVD3-0002	89002598	7 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0003	89002804	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.00E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0001	89002802	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0002	89002803	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0004	89002805	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0005	89002806	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0006	89002807	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0007	89002808	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0008	89002809	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0009	89002810	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0010	89002811	7 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0011	89002812	7 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0012	89002813	7 /23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRD3-0013	890002814	7 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAII TRE6-0006	89001835	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0005	89001834	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0002	89001831	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0008	89001837	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0009	89001838	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0007	89001836	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0012	89001841	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0011	89001840	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0010	89001839	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0014	89001843	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0015	89001844	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0013	89001842	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0016	89001845	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0018	89001847	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0019	89001848	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0020	89001849	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0021	89001850	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0022	89001851	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0023	89001852	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0017	89001846	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0009	89002594	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0010	89002595	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-OVD3-0001	89002597	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0007	89002592	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0011	89002596	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0008	89002593	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-OVD3-0002	89002598	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0003	89002804	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0001	89002802	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0002	89002803	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0004	89002805	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0005	89002806	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0006	89002807	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0007	89002808	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0008	89002809	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0009	89002810	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0010	89002811	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0011	89002812	7/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0012	89002813	7/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0013	890002814	7/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII TRE6-0006	89001835	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0005	89001834	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0002	89001831	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0008	89001837	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0009	89001838	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0007	89001836	6/3/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0012	89001841	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0011	89001840	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0010	89001839	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0014	89001843	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0015	89001844	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0013	89001842	6/5/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0016	89001845	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0018	89001847	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0019	89001848	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0020	89001849	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0021	89001850	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0022	89001851	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0023	89001852	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE6-0017	89001846	6/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0009	89002594	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0010	89002595	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-OVD3-0001	89002597	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0007	89002592	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0011	89002596	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-TRD2-0008	89002593	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA2-OVD3-0002	89002598	7/14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0003	89002604	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0001	89002602	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0002	89002603	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0004	89002605	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0005	89002606	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0006	89002607	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0007	89002608	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0008	89002609	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0009	89002610	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0010	89002611	7/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0011	89002612	7/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0012	89002613	7/23/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0013	890002614	7/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRD3-0014	89002815	7 /24/98	ND	ND	2.67E+000	ND	1.01E+000	ND	9.50E-001	9.83E-001	ND	ND	1.20E+000	8.75E-001	1.13E+000	8.80E-001
TAll TRD3-0015	89002816	7 /24/98	ND	ND	ND	9.28E-001	9.21E-001	ND	6.23E-001	9.55E-001	9.15E-001	ND	1.08E+000	7.97E-001	9.10E-001	1.00E+000
TAll ACF5-0004	89002561	7 /6 /98	ND	ND	1.55E+000	1.03E+000	1.04E+000	ND	9.01E-001	9.24E-001	ND	9.47E-001	1.22E+000	7.59E-001	8.59E-001	9.48E-001
TAll ACF5-0003	89002560	7 /6 /98	ND	ND	ND	ND	8.90E-001	ND	9.20E-001	1.08E+000	1.00E+000	8.35E-001	1.12E+000	8.84E-001	1.06E+000	1.08E+000
TAll TRE8-0010	89002537	7 /6 /98	ND	ND	1.35E+000	9.39E-001	1.01E+000	ND	7.58E-001	9.11E-001	9.09E-001	ND	1.12E+000	8.42E-001	1.06E+000	9.47E-001
TAll ACF5-0005	89002562	7 /6 /98	2.72E+000	ND	ND	9.88E-001	1.06E+000	ND	9.45E-001	7.81E-001	ND	ND	1.17E+000	8.78E-001	ND	9.41E-001
TAll TRE8-0028	89002555	7 /6 /98	ND	ND	ND	8.86E-001	9.55E-001	ND	7.96E-001	9.93E-001	ND	1.24E+000	1.26E+000	818E-001	9.65E-001	8.70E-001
TAll TRE8-0029	89002556	7 /6 /98	ND	ND	ND	9.12E-001	9.07E-001	ND	8.62E-001	8.98E-001	8.32E-001	ND	1.03E+000	8.27E-001	1.18E+000	9.11E-001
TAll TRE8-0030	89002557	7 /6 /98	ND	ND	2.23E+000	8.81E-001	8.89E-001	ND	8.48E-001	1.00E+000	8.75E-001	1.01E+000	1.15E+000	9.03E-001	1.33E+000	8.78E-001
TAll ACF5-0006	89002563	7 /6 /98	ND	ND	ND	9.23E-001	1.01E+000	ND	8.61E-001	9.32E-001	ND	ND	1.16E+000	8.17E-001	1.15E+000	9.72E-001
TAll ACF5-0007	89002564	7 /6 /98	ND	ND	1.75E+000	9.41E-001	1.03E+000	ND	8.49E-001	9.86E-001	9.04E-001	1.25E+000	1.18E+000	8.20E-001	1.20E+000	9.99E-001
TAll ACF5-0001	89002558	7 /6 /98	ND	ND	3.02E+000	8.98E-001	9.24E-001	ND	7.70E-001	1.01E+000	ND	ND	1.14E+000	7.16E-001	1.28E+000	9.39E-001
TAll ACF5-0002	89002559	7 /6 /98	ND	ND	ND	ND	8.48E-001	ND	9.63E-001	9.51E-001	9.56E-001	ND	1.12E+000	7.16E-001	9.46E-001	9.36E-001
TAll TRE8-0005	89002532	7 /6 /98	ND	ND	ND	8.77E-001	9.27E-001	ND	9.20E-001	9.30E-001	9.40E-001	ND	1.14E+000	8.91E-001	1.05E+000	9.81E-001
TAll TRD1-0006	89002578	7 /7 /98	ND	ND	ND	8.71E-001	9.49E-001	ND	8.20E-001	7.97E-001	ND	9.15E-001	ND	8.35E-001	7.42E-001	8.56E-001
TAll ACF5-0011	890002568	7 /7 /98	ND	ND	ND	8.60E-001	9.77E-001	ND	7.20E-001	1.02E+000	ND	ND	1.21E+000	9.87E-001	1.03E+000	9.35E-001
TAll ACF5-0009	89002566	7 /7 /98	ND	ND	2.42E+000	8.37E-001	9.96E-001	ND	8.16E-001	9.59E-001	8.55E-001	ND	1.32E+000	1.28E+000	1.36E+000	1.20E+000
TAll OVD1-0001	89002569	7 /7 /98	ND	ND	ND	8.62E-001	8.21E-001	ND	7.41E-001	6.97E-001	ND	ND	1.16E+000	7.64E-001	1.03E+000	1.04E+000
TAll OVD1-0002	89002570	7 /7 /98	ND	ND	ND	9.72E-001	9.40E-001	ND	8.31E-001	6.87E-001	ND	ND	1.20E+000	7.31E-001	ND	1.05E+000
TAll OVD2-0001	89002571	7 /7 /98	ND	ND	1.51E+000	ND	9.64E-001	ND	ND	9.79E-001	9.63E-001	8.15E-001	1.11E+000	8.37E-001	1.20E+000	1.01E+000
TAll OVD2-0002	89002572	7 /7 /98	ND	ND	ND	9.15E-001	9.75E-001	ND	1.05E+000	9.91E-001	9.65E-001	1.53E+000	1.21E+000	1.02E+000	1.26E+000	1.09E+000
TAll TRD1-0001	89002573	7 /7 /98	ND	ND	1.73E+000	8.95E-001	1.03E+000	ND	9.49E-001	8.16E-001	9.11E-001	1.03E+000	1.05E+000	8.30E-001	ND	9.03E-001
TAll TRD1-0002	89002574	7 /7 /98	ND	ND	2.62E+000	7.77E-001	9.19E-001	ND	7.02E-001	1.09E+000	8.30E-001	ND	1.12E+000	8.95E-001	1.05E+000	9.57E-001
TAll TRD1-0003	89002575	7 /7 /98	ND	ND	ND	8.71E-001	8.70E-001	ND	7.38E-001	9.82E-001	ND	ND	1.15E+000	7.79E-001	7.88E-001	9.48E-001
TAll TRD1-0005	89002577	7 /7 /98	ND	ND	ND	9.25E-001	1.04E+000	ND	7.84E-001	9.36E-001	ND	1.05E+000	ND	8.62E-001	8.82-001	9.26E-001
TAll TRD1-0007	89002579	7 /7 /98	ND	ND	1.31E+000	7.78E-001	8.96E-001	ND	7.75E-001	9.11E-001	ND	ND	ND	7.20E-001	1.20E+000	8.86E-001
TAll ACF5-0008	89002565	7 /7 /98	ND	ND	ND	9.87E-001	1.07E+000	ND	9.85E-001	1.00E+000	ND	ND	1.31E+000	1.12E+000	ND	1.15E+000
TAll TRD1-0004	89002576	7 /7 /98	ND	ND	1.87E+000	ND	1.06E+000	ND	8.92E-001	1.06E+000	ND	ND	ND	7.85E-001	1.13E+000	9.18E-001
TAll TRD1-0012	89002584	7 /7 /98	ND	ND	ND	8.74E-001	9.32E-001	ND	9.08E-001	8.93E-001	9.93E-001	ND	1.24E+000	ND	ND	8.26E-001
TAll ACF5-0010	89002567	7 /7 /98	ND	ND	2.03E+000	9.25E-001	9.92E-001	ND	8.08E-001	1.07E+000	9.56E-001	1.38E+000	1.32E+000	1.26E+000	1.57E+000	1.23E+000
TAll TRD2-0001	89002586	7 /8 /98	ND	ND	ND	8.49E-001	9.55E-001	ND	8.14E-001	7.67E-001	ND	ND	1.10E+000	6.31E-001	7.39E-001	8.03E-001
TAll TRD1-0013	89002585	7 /8 /98	ND	ND	1.89E+000	8.86E-001	9.13E-001	ND	8.04E-001	7.23E-001	ND	ND	1.11E+000	6.95E-001	1.09E+000	9.58E-001
TAll TRD1-0011	89002583	7 /8 /98	ND	ND	ND	6.26E-001	6.56E-001	ND	ND	5.61E-001	ND	ND	9.10E-001	3.96E-001	7.76E-001	5.92E-001
TAll TRD1-0010	89002582	7 /8 /98	ND	ND	ND	8.11E-001	8.77E-001	ND	8.91E-001	9.07E-001	ND	ND	1.15E+000	5.98E-001	9.66E-001	8.32E-001
TAll TRD1-0009	89002581	7 /8 /98	ND	ND	ND	8.83E-001	9.09E-001	ND	8.01E-001	8.62E-001	ND	ND	1.17E+000	6.69E-001	ND	9.09E-001
TAll TRD1-0008	89002580	7 /8 /98	ND	ND	ND	7.85E-001	6.70E-001	ND	5.66E-001	8.42E-001	ND	ND	9.51E-001	4.49E-001	ND	7.46E-001
TAll TRD2-0002	89002587	7 /8 /98	ND	ND	ND	7.50E-001	9.09E-001	ND	8.02E-001	8.69E-001	ND	ND	1.25E+000	7.42E-001	9.10E-001	8.84E-001
TAll TRD2-0005	89002590	7 /9 /98	ND	ND	ND	8.45E-001	1.01E+000	ND	7.50E-001	1.02E+000	ND	ND	1.11E+000	8.27E-001	8.90E-001	9.70E-001
TAll TRD2-0004	89002589	7 /9 /98	ND	ND	2.18E+000	8.17E-001	8.79E-001	ND	7.28E-001	7.43E-001	ND	ND	1.17E+000	ND	1.15E+000	9.83E-001
TAll TRD2-0006	89002591	7 /9 /98	ND	ND	ND	8.73E-001	9.01E-001	ND	6.87E-001	1.01E+000	ND	ND	1.15E+000	ND	8.80E-001	9.21E-001

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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll TRD3-0014	89002815	7/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD3-0015	89002816	7/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.00E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0004	89002561	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0003	89002560	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0010	89002537	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0005	89002562	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0028	89002555	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0029	89002556	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0030	89002557	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0006	89002563	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0007	89002564	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0001	89002558	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0002	89002559	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAll TRE8-0005	89002532	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0006	89002578	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0011	89002568	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0009	89002566	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll OVD1-0001	89002569	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll OVD1-0002	89002570	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.28E+001	ND	ND	ND	ND	ND	ND
TAll OVD2-0001	89002571	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAll OVD2-0002	89002572	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0001	89002573	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0002	89002574	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0003	89002575	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0005	89002577	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.97E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0007	89002579	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0008	89002565	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0004	89002576	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0012	89002584	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAll ACF5-0010	89002567	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRD2-0001	89002586	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.00E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0013	89002585	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0011	89002583	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.45E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0010	89002582	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0009	89002581	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.01E+001	ND	ND	ND	ND	ND	ND
TAll TRD1-0008	89002580	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.67E+001	ND	ND	ND	ND	ND	ND
TAll TRD2-0002	89002587	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRD2-0005	89002590	7/9/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRD2-0004	89002589	7/9/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21E+001	ND	ND	ND	ND	ND	ND
TAll TRD2-0006	89002591	7/9/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.99E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRD3-0014	89002815	7 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD3-0015	89002816	7 /24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0004	89002561	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0003	89002560	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0010	89002537	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0005	89002562	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0028	89002555	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0029	89002556	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0030	89002557	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0006	89002563	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0007	89002564	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0001	89002558	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0002	89002559	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRE8-0005	89002532	7 /6 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0006	89002578	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0011	890002568	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0009	89002566	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD1-0001	89002569	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD1-0002	89002570	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD2-0001	89002571	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD2-0002	89002572	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0001	89002573	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0002	89002574	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0003	89002575	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0005	89002577	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0007	89002579	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0008	89002565	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0004	89002576	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0012	89002584	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll ACF5-0010	89002567	7 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD2-0001	89002586	7 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0013	89002585	7 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0011	89002583	7 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0010	89002582	7 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0009	89002581	7 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD1-0008	89002580	7 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD2-0002	89002587	7 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD2-0005	89002590	7 /9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD2-0004	89002589	7 /9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD2-0006	89002591	7 /9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII TRD3-0014	89002815	7/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD3-0015	89002816	7/24/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0004	89002561	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0003	89002560	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE8-0010	89002537	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0005	89002562	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE8-0028	89002555	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE8-0029	89002556	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE8-0030	89002557	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0006	89002563	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0007	89002564	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0001	89002558	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0002	89002559	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRE8-0005	89002532	7/6/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0006	89002578	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0011	890002568	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0009	89002566	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD1-0001	89002569	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD1-0002	89002570	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD2-0001	89002571	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD2-0002	89002572	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0001	89002573	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0002	89002574	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0003	89002575	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0005	89002577	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0007	89002579	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0008	89002565	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0004	89002576	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0012	89002584	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII ACF5-0010	89002567	7/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD2-0001	89002586	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0013	89002585	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0011	89002583	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0010	89002582	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0009	89002581	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD1-0008	89002580	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD2-0002	89002587	7/8/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD2-0005	89002590	7/9/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD2-0004	89002589	7/9/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD2-0006	89002591	7/9/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAII TRD2-0003	89002588	7 /9 /98	ND	ND	1.98E+000	8.48E-001	9.31E-001	ND	8.85E-001	9.74E-001	8.90E-001	ND	1.12E+000	7.66E-001	1.02E+000	8.73E-001
TAII TRD4-0002	89002818	8 /07/98	ND	ND	ND	8.48E-001	9.49E-001	ND	7.77E-001	8.42E-001	9.43E-001	8.68E-001	1.10E+000	7.98E-001	1.17E+000	9.226E-001
TAII TRD4-0001	89002817	8 /07/98	ND	ND	1.68E+000	9.31E-001	9.62E-001	ND	9.02E-001	8.98E-001	9.07E-001	ND	1.22E+000	8.20E-001	9.41E-001	9.26E-001
TAII TRD4-0008	89002826	8 /07/98	ND	ND	1.85E+000	8.61E-001	9.66E-001	ND	9.00E-001	9.89E-001	ND	ND	1.12E+000	6.83E-001	1.07E+000	1.08E+000
TAII TRD4-0007	89002825	8 /07/98	ND	ND	2.07E+000	9.11E-001	9.512E-001	ND	8.59E-001	8.43E-001	9.02E-001	ND	1.08E+000	8.48E-001	1.28E+000	ND
REDO	89002824	8 /07/98	ND	ND	1.697E+000	8.71E-001	9.86E-001	ND	7.85E-001	1.01E+000	9.07E-001ND	ND	1.06E+000	8.09E-001	9.59E-001	9.09E-001
TAII TRD4-0005	89002821	8 /07/98	ND	ND	ND	8.43E-001	9.24E-001	ND	8.30E-001	8.57E-001	ND	ND	1.10E+000	7.78E-001	9.93E-001	9.626E-001
TAII TRD4-0004	89002820	8 /07/98	ND	ND	ND	8.46E-001	8.95E-001	ND	8.54E-001	9.60E-001	9.60E-001	ND	1.17E+000	6.80E-001	1.02E+000	7.92E-001
TAII TRD4-0003	89002819	8 /07/98	ND	ND	ND	8.57E-001	8.98E-001	ND	8.74E-001	1.01E+000	8.66E-001	ND	1.20E+000	8.43E-001	ND	9.14E-001
TAII TRD6-0001	89002841	8 /12/98	ND	ND	ND	8.58E-001	9.38E-001	ND	6.84E-001	9.54E-001	ND	9.74E-001	1.22E+000	6.98E-001	1.22E+000	9.31E-001
TAII TRD6-0002	89002842	8 /12/98	ND	ND	ND	8.64E-001	8.95E-001	ND	ND	7.71E-001	ND	ND	1.02E+000	7.70E-001	ND	8.89E-001
TAII TRD6-0003	89002843	8 /12/98	ND	ND	ND	8.75E-001	9.74E-001	ND	1.13E+000	1.03E+000	ND	ND	1.05E+000	7.86E-001	9.99E-001	9.87E-001
TAII TRD6-0004	89002844	8 /12/98	ND	ND	ND	8.89E-001	1.02E+000	ND	9.21E-001	1.08E+000	ND	ND	1.22E+000	8.49E-001	1.20E+000	9.34E-001
TAII TRD6-0005	89002845	8 /12/98	ND	ND	1.83E+000	9.47E-001	9.31E-001	ND	8.34E-001	9.99E-001	9.63E-001	ND	1.14E+000	6.60E-001	9.85E-001	9.57E-001
TAII TRD6-0006	89002846	8 /12/98	ND	ND	ND	8.94E-001	1.02E+000	ND	1.02E+000	9.06E-001	ND	8.81E-001	1.16E+000	ND	1.07E+000	8.66E-001
TAII TRD6-0007	89002847	8 /12/98	ND	ND	1.87E+000	8.93E-001	9.97E-001	ND	1.02E+000	9.32E-001	ND	ND	1.07E+000	8.51E-001	1.02E+000	8.36E-001
TAII TRD6-0008	89002848	8 /13/98	ND	ND	ND	7.84E-001	9.42E-001	ND	ND	7.65E-001	ND	1.15E+000	1.16E+000	6.89E-001	1.00E+000	8.84E-001
TAII TRD6-0026	89002867	8 /14/98	ND	ND	ND	7.76E-001	8.74E-001	ND	6.51E001	6.86E-001	ND	ND	1.13E+000	7.01E-001	1.01E+000	7.54E-001
TAII OVD4-0001	89002868	8 /14/98	ND	ND	ND	8.65E-001	9.85E-001	ND	6.66E-001	1.14E+000	ND	ND	1.27E+000	8.77E-001	8.10E-001	9.36E-001
TAII OVD4-0002	89002869	8 /14/98	ND	ND	ND	8.88E-001	1.04E+000	ND	1.04E+000	1.13E+000	1.01E+000	7.12E-001	1.26E+000	9.60E-001	9.43E-001	8.76E-001
TAII TRD6-0025	89002866	8 /14/98	ND	ND	ND	9.29E-001	8.99E-001	ND	8.07E001	8.36E-001	ND	ND	1.16E+000	6.22E-001	ND	9.32E-001
TAII TRD6-0024	89002865	8 /14/98	ND	ND	ND	8.55E-001	9.18E-001	ND	7.15E001	6.61E-001	ND	ND	1.09E+000	6.43E-001	5.46E-001	9.38E-001
TAII TRD6-0017	89002858	8 /14/98	ND	ND	ND	8.83E-001	8.83E-001	ND	7.53E-001	7.65E-001	ND	ND	1.13E+000	6.73E-001	9.83E-001	9.77E-001
TAII TRD6-0019	89002860	8 /14/98	ND	ND	ND	8.10E-001	9.37E-001	ND	ND	8.28E-001	ND	ND	1.11E+000	6.44E-001	ND	7.99E-001
TAII OVD4-0003	89002870	8 /14/98	ND	ND	ND	8.79E-001	9.11E-001	ND	9.60E-001	9.55E-001	9.92E-001	ND	1.27E+000	8.68E-001	1.28E+000	1.02E+000
TAII TRD6-0023	89002864	8 /14/98	ND	ND	ND	7.72E-001	9.24E-001	ND	7.39E001	9.02E-001	ND	ND	1.10E+000	6.97E-001	7.98E-001	ND
TAII TRD6-0022	89002863	8 /14/98	ND	ND	ND	8.40E-001	9.33E-001	ND	ND	9.16E-001	ND	9.62E-001	1.16E+000	6.16E-001	1.13E+000	8.89E-001
TAII TRD6-0021	89002862	8 /14/98	ND	ND	ND	8.31E-001	8.90E-001	ND	1.02E+000	9.65E-001	ND	ND	1.19E+000	7.02E-001	1.12E+000	8.42E-001
TAII TRD6-0020	89002861	8 /14/98	ND	ND	ND	8.13E-001	9.48E-001	ND	1.10E+000	8.62E-001	ND	ND	1.08E+000	6.67E-001	ND	8.43E-001
TAII TRD6-0018	89002859	8 /14/98	ND	ND	ND	8.18E-001	8.71E-001	ND	8.00E-001	8.21E-001	ND	ND	1.19E+000	8.05E-001	ND	8.43E-001
TAII TRD6-0016	89002857	8 /14/98	ND	ND	ND	8.64E-001	9.69E-001	ND	7.82E-001	9.42E-001	ND	ND	1.11E+000	6.23E-001	1.14E+000	9.31E-001
TA-II / BX-23	806-1	8 /20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0007	89002881	8 /31/98	ND	ND	ND	8.71E-001	8.72E-001	ND	8.55E-001	7.65E-001	ND	ND	1.11E+000	7.08E-001	8.84E-001	9.50E-001
TAII TRD7-0006	89002880	8 /31/98	ND	ND	ND	9.35E-001	8.74E-001	ND	9.68E-001	6.34E-001	ND	ND	ND	7.23E-001	ND	9.13E-001
TAII TRD7-0012	89002886	8 /31/98	ND	ND	ND	9.70E-001	9.72E-001	ND	ND	7.66E-001	ND	ND	1.13E+000	7.60E-001	ND	8.28E-001
TAII TRD7-0014	89002888	8 /31/98	ND	ND	ND	8.20E-001	9.41E-001	ND	ND	6.76E-001	ND	ND	1.19E+000	7.35E-001	ND	9.38E-001
TAII TRD7-0013	89002887	8 /31/98	ND	ND	ND	ND	8.98E-001	ND	5.92E-001	8.52E-001	ND	ND	1.22E+000	6.51E-001	ND	1.02E+000
TAII TRD7-0011	89002885	8 /31/98	ND	ND	1.08E+000	9.21E-001	9.88E-001	ND	ND	8.74E-001	1.01E+000	ND	1.10E+000	6.76E-001	ND	8.26E-001
TAII TRD7-0010	89002884	8 /31/98	ND	ND	ND	9.06E-001	9.86E-001	ND	6.94E-001	974E-001	ND	ND	1.12E+000	8.26E-001	1.01E+000	9.71E-001
TAII TRD7-0005	89002879	8 /31/98	ND	ND	ND	8.45E-001	9.63E-001	ND	1.09E+000	953E-001	ND	ND	ND	7.70E-001	1.06E+000	1.01E+000

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAII TRD2-0003	89002588	7 /9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRD4-0002	89002818	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD4-0001	89002817	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRD4-0008	89002826	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRD4-0007	89002825	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
REDO	89002824	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.95E+001	ND	ND	ND	ND	ND	ND
TAII TRD4-0005	89002821	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRD4-0004	89002820	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRD4-0003	89002819	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0001	89002841	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0002	89002842	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0003	89002843	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0004	89002844	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0005	89002845	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0006	89002846	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0007	89002847	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0008	89002848	8 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0026	89002867	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII OVD4-0001	89002868	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII OVD4-0002	89002869	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0025	89002866	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0024	89002865	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0017	89002858	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0019	89002860	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII OVD4-0003	89002870	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0023	89002864	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0022	89002863	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0021	89002862	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0020	89002861	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0018	89002859	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD6-0016	89002857	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TA-II / BX-23	806-1	8 /20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0007	89002881	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0006	89002880	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.027E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0012	89002886	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.68E+000	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0014	89002888	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0013	89002887	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0011	89002885	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0010	89002884	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.02E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0005	89002879	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRD2-0003	89002588	7 /9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0002	89002818	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0001	89002817	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0008	89002826	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0007	89002825	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
REDO	89002824	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0005	89002821	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0004	89002820	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0003	89002819	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0001	89002841	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0002	89002842	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0003	89002843	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0004	89002844	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0005	89002845	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0006	89002846	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0007	89002847	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0008	89002848	8 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0026	89002867	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD4-0001	89002868	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD4-0002	89002869	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0025	89002866	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0024	89002865	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0017	89002858	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0019	89002860	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD4-0003	89002870	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0023	89002864	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0022	89002863	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0021	89002862	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0020	89002861	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0018	89002859	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD6-0016	89002857	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II / BX-23	806-1	8 /20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0007	89002881	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0006	89002880	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0012	89002886	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0014	89002888	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0013	89002887	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0011	89002885	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0010	89002884	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0005	89002879	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII TRD2-0003	89002588	7 /9 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0002	89002818	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0001	89002817	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0008	89002826	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0007	89002825	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
REDO	89002824	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0005	89002821	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0004	89002820	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0003	89002819	8 /07/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0001	89002841	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0002	89002842	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0003	89002843	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0004	89002844	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0005	89002845	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0006	89002846	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0007	89002847	8 /12/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0008	89002848	8 /13/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0026	89002867	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD4-0001	89002868	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD4-0002	89002869	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0025	89002866	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0024	89002865	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0017	89002858	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0019	89002860	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD4-0003	89002870	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0023	89002864	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0022	89002863	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0021	89002862	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0020	89002861	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0018	89002859	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD6-0016	89002857	8 /14/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II / BX-23	606-1	8 /20/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0007	89002881	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0006	89002880	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0012	89002886	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0014	89002888	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0013	89002887	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0011	89002885	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0010	89002884	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0005	89002879	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAll TRD7-0008	89002882	8 /31/98	ND	ND	ND	7.79E-001	8.88E-001	ND	ND	7.99E-001	ND	ND	1.14E+000	6.47E-001	ND	9.84E-001
TAll OVD7-0001	89002871	8 /31/98	ND	ND	1.67E+000	9.30E-001	1.02E+000	ND	1.01E+000	9.74E-001	ND	ND	1.10E+000	7.06E-001	7.69E-001	9.67E-001
TAll TRD7-0004	89002878	8 /31/98	ND	ND	ND	8.60E-001	9.80E-001	ND	9.03E-001	9.04E-001	ND	ND	ND	6.86E-001	9.52E-001	8.97E-001
TAll TRD7-0003	89002877	8 /31/98	ND	ND	ND	9.50E-001	9.94E-001	ND	1.06E+000	8.92E-001	ND	ND	ND	6.77E-001	8.39E-001	8.99E-001
TAll TRD7-0002	89002876	8 /31/98	ND	ND	ND	8.90E-001	1.04E+000	ND	ND	7.25E-001	ND	ND	1.12E+000	7.70E-001	9.94E-001	8.88E-001
TAll TRD7-0001	89002875	8 /31/98	ND	ND	ND	9.07E-001	9.05E-001	ND	8.06E-001	1.00E+000	ND	1.13E+000	1.17E+000	6.93E-001	7.98E-001	9.51E-001
TAll OVD7-0004	89002874	8 /31/98	ND	ND	ND	8.48E-001	8.99E-001	ND	8.54E-001	9.36E-001	ND	8.74E-001	1.23E+000	6.68E-001	1.50E+000	1.00E+000
TAll OVD7-0003	89002873	8 /31/98	ND	ND	ND	9.27E-001	9.50E-001	ND	7.90E-001	6.18E-001	ND	ND	1.13E+000	7.05E-001	9.91E-001	9.68E-001
TAll TRD7-0009	89002883	8 /31/98	ND	ND	ND	8.83E-001	8.98E-001	ND	8.03E-001	8.39E-001	ND	ND	1.14E+000	5.69E-001	8.22E-001	9.51E-001
TAll OVD7-0002	89002872	8 /31/98	ND	ND	ND	8.50E-001	1.03E+000	ND	7.53E-001	1.08E+000	9.35E-001	ND	123E+000	8.68E-001	1.36E+000	8.38E-001
TAll TRD4-0014	89002832	8 /7 /98	ND	ND	ND	8.58E-001	9.61E-001	ND	ND	9.33E-001	ND	ND	1.01E+000	8.45E-001	1.32E+000	9.45E-001
TAll TRD5-0007	89002840	8 /7 /98	ND	ND	ND	9.19E-001	9.15E-001	ND	8.14E-001	9.62E-001	ND	5.65E-001	1.18E+000	8.55E-001	1.01E+000	8.84E-001
TAll TRD4-0009	89002827	8 /7 /98	ND	ND	1.38E+000	8.78E-001	9.25E-001	ND	7.46E-001	1.03E+000	9.56E-001	9.93E-001	1.18E+000	8.40E-001	1.20E+000	1.01E+000
TAll TRD4-0010	89002828	8 /7 /98	ND	ND	1.89E+000	9.87E-001	8.75E-001	ND	9.16E-001	9.88E-001	9.74E-001	1.48E+000	1.11E+000	7.28E-001	1.23E+000	9.00E-001
TAll TRD4-0011	89002829	8 /7 /98	ND	ND	ND	8.40E-001	8.71E-001	ND	ND	9.59E-001	ND	ND	1.12E+000	9.13E-001	9.54E-001	8.79E-001
TAll TRD4-0013	89002831	8 /7 /98	ND	ND	ND	8.99E-001	9.33E-001	ND	8.40E-001	9.37E-001	9.50E-001	ND	1.11E+000	8.48E-001	9.24E-001	9.49E-001
TAll TRD4-0015	89002833	8 /7 /98	ND	ND	ND	8.11E-001	9.15E-001	ND	5.68E-001	8.66E-001	ND	1.11E+000	1.19E+000	7.05E-001	ND	9.88E-001
TAll TRD5-0001	89002834	8 /7 /98	ND	ND	2.13E+000	8.59E-001	9.47E-001	ND	9.76E-001	1.14E+000	9.47E-001	1.26E+000	1.19E+000	8.88E-001	1.06E+000	9.58E-001
TAll TRD5-0002	89002835	8 /7 /98	ND	ND	3.05E+000	8.85E-001	8.80E-001	ND	1.21E+000	9.41E-001	ND	ND	1.21E+000	7.10E-001	7.65E-001	9.73E-001
TAll TRD5-0003	89002836	8 /7 /98	ND	ND	ND	9.25E-001	1.00E+000	ND	1.13E+000	1.02E+000	ND	ND	1.20E+000	7.27E-001	1.21E+000	9.51E-001
TAll TRD5-0004	89002837	8 /7 /98	ND	ND	1.53E+000	8.98E-001	9.73E-001	ND	1.05E+000	1.13E+000	ND	9.72E-001	1.18E+000	8.83E-001	1.06E+000	9.95E-001
TAll TRD5-0005	89002838	8 /7 /98	ND	ND	1.72E+000	9.29E-001	9.41E-001	ND	9.27E-001	9.59E-001	9.14E-001	9.61E-001	1.17E+000	8.10E-001	1.18E+000	9.93E-001
TAll TRD5-0006	89002839	8 /7 /98	ND	ND	ND	8.30E-001	9.95E-001	ND	8.80E-001	9.12E-001	ND	ND	1.14E+000	8.64E-001	1.01E+000	8.44E-001
TAll TRD4-0012	89002830	8 /7 /98	ND	ND	ND	8.87E-001	9.93E-001	ND	8.91E-001	8.93E-001	ND	ND	1.17E+000	6.73E-001	1.01E+000	9.53E-001
TAll TRD7-0018	89002894	9 /11/98	ND	ND	ND	8.48E-001	9.36E-001	ND	9.43E-001	1.04E+000	ND	ND	1.10E+000	7.06E-001	1.10E+000	9.50E-001
TAll TRD7-0022	89002898	9 /11/98	ND	ND	ND	7.91E-001	9.43E-001	ND	7.17E-001	8.81E-001	ND	ND	1.17E+000	7.42E-001	ND	8.71E-001
TAll TRD7-0023	89002899	9 /11/98	ND	ND	ND	9.00E-001	9.70E-001	ND	ND	1.03E+000	8.87E-001	ND	1.14E+000	8.15E-001	1.06E+000	9.02E-001
TAll TRD7-0021	89002897	9 /11/98	ND	ND	ND	9.12E-001	9.22E-001	ND	ND	6.85E-001	ND	ND	1.20E+000	6.44E-001	ND	9.51E-001
TAll TRD7-0019	89002895	9 /11/98	ND	ND	ND	8.33E-001	9.37E-001	ND	ND	8.04E-001	ND	ND	1.20E+000	6.81E-001	ND	8.39E-001
TAll TRD7-0020	89002896	9 /11/98	ND	ND	ND	8.89E-001	9.33E-001	ND	ND	7.69E-001	ND	ND	1.06E+000	6.97E-001	1.33E+000	8.09E-001
TAll TRD8-0007	89003315	9 /22/98	ND	ND	ND	8.75E-001	9.33E-001	ND	8.25E-001	7.36E-001	ND	ND	1.12E+000	7.69E-001	ND	1.04E+000
TAll TRD8-0006	89003314	9 /22/98	ND	ND	ND	8.49E-001	9.82E-001	ND	7.67E-001	1.10E+001	ND	1.49E+000	1.21E+000	9.18E-001	1.22E+000	1.03E+000
TAll TRD8-0005	89003313	9 /22/98	ND	ND	ND	8.94E-001	8.83E-001	ND	9.69E-001	8.90E-001	ND	ND	1.20E+000	7.77E-001	ND	9.40E-001
TAll TRD8-0004	89003312	9 /22/98	ND	ND	ND	8.13E-001	9.15E-001	ND	6.99E-001	9.26E-001	ND	ND	1.19E+000	8.10E-001	6.75E-001	9.02E-001
TAll TRD8-0003	89003311	9 /22/98	ND	ND	ND	8.65E-001	9.69E-001	ND	9.49E-001	9.90E-001	ND	ND	1.13E+000	9.08E-001	ND	9.40E-001
TAll TRD8-0002	89003310	9 /22/98	ND	ND	ND	9.68E-001	1.03E+000	ND	1.07E+000	8.82E-001	ND	ND	1.16E+000	6.82E-001	ND	1.00E+000
TAll TRD8-0001	89003309	9 /22/98	ND	ND	ND	1.01E+000	1.07E+000	ND	8.51E-001	8.79E-001	ND	ND	1.16E+000	9.18E-001	1.32E+000	9.70E-001
TAll TRD7-0024	89003301	9 /22/98	ND	ND	ND	9.10E-001	1.03E+000	ND	8.29E-001	1.04E+000	ND	ND	1.24E+000	7.69E-001	8.44E-001	8.77E-001
TAll SLPE-0038	89003304	9 /22/98	ND	ND	ND	8.24E-001	9.77E-001	ND	NA	6.49E-001	ND	ND	1.06E+000	5.58E-001	9.16E-001	8.37E-001
TAll SLPE-0040	89003306	9 /22/98	ND	ND	2.31E+000	8.84E-001	8.87E-001	ND	7.37E-001	9.13E-001	ND	1.07E+000	1.07E+000	8.53E-001	1.06E+000	8.87E-001

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAll TRD7-0008	89002882	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll OVD7-0001	89002871	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0004	89002878	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0003	89002877	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	209E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0002	89002876	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0001	89002875	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll OVD7-0004	89002874	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll OVD7-0003	89002873	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0009	89002883	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAll OVD7-0002	89002872	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.06E+001	ND	ND	ND	ND	ND	ND
TAll TRD4-0014	89002832	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.00E+001	ND	ND	ND	ND	ND	ND
TAll TRD5-0007	89002840	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRD4-0009	89002827	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRD4-0010	89002828	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD4-0011	89002829	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.105E+001	ND	ND	ND	ND	ND	ND
TAll TRD4-0013	89002831	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRD4-0015	89002833	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRD5-0001	89002834	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAll TRD5-0002	89002835	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRD5-0003	89002836	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRD5-0004	89002837	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll TRD5-0005	89002838	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRD5-0006	89002839	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRD4-0012	89002830	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0018	89002894	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0022	89002898	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.18E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0023	89002899	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0021	89002897	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0019	89002895	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0020	89002896	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAll TRD8-0007	89003315	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRD8-0006	89003314	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAll TRD8-0005	89003313	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.20E+001	ND	ND	ND	ND	ND	ND
TAll TRD8-0004	89003312	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAll TRD8-0003	89003311	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAll TRD8-0002	89003310	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAll TRD8-0001	89003309	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAll TRD7-0024	89003301	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0038	89003304	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAll SLPE-0040	89003306	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAll TRD7-0008	89002882	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD7-0001	89002871	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0004	89002878	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0003	89002877	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0002	89002876	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0001	89002875	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD7-0004	89002874	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD7-0003	89002873	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0009	89002883	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll OVD7-0002	89002872	8 /31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0014	89002832	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD5-0007	89002840	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0009	89002827	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0010	89002828	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0011	89002829	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0013	89002831	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0015	89002833	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD5-0001	89002834	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD5-0002	89002835	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD5-0003	89002836	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD5-0004	89002837	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD5-0005	89002838	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD5-0006	89002839	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD4-0012	89002830	8 /7 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0018	89002894	9 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0022	89002898	9 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0023	89002899	9 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0021	89002897	9 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0019	89002895	9 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0020	89002896	9 /11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD8-0007	89003315	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD8-0006	89003314	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD8-0005	89003313	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD8-0004	89003312	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD8-0003	89003311	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD8-0002	89003310	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD8-0001	89003309	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll TRD7-0024	89003301	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0038	89003304	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAll SLPE-0040	89003306	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII TRD7-0008	89002882	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD7-0001	89002871	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0004	89002878	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0003	89002877	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0002	89002876	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0001	89002875	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD7-0004	89002874	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD7-0003	89002873	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0009	89002883	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD7-0002	89002872	8/31/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0014	89002832	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD5-0007	89002840	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0009	89002827	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0010	89002828	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0011	89002829	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0013	89002831	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0015	89002833	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD5-0001	89002834	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD5-0002	89002835	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD5-0003	89002836	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD5-0004	89002837	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD5-0005	89002838	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD5-0006	89002839	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD4-0012	89002830	8/7/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0018	89002894	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0022	89002898	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0023	89002899	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0021	89002897	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0019	89002895	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0020	89002896	9/11/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0007	89003315	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0006	89003314	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0005	89003313	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0004	89003312	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0003	89003311	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0002	89003310	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0001	89003309	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0024	89003301	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0038	89003304	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0040	89003306	9/22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	U238	Th234	Ra226	Pb214	Bi214	Pb210	Th232	Ra228	Ac228	Th228	Ra224	Pb212	Bi212	Tl208
TAII SLPE-0039	89003305	9/22/98	ND	ND	ND	8.09E-001	9.39E-001	ND	8.16E-001	9.43E-001	ND	1.27E+000	1.18E+000	8.55E-001	NA	9.94E-001
TAII SLPE-0041	89003307	9/22/98	ND	ND	ND	8.47E-001	8.94E-001	ND	9.33E-001	9.73E-001	ND	ND	1.10E+000	6.60E-001	8.78E-001	9.14E-001
TAII SLPE-0042	89003308	9/22/98	ND	ND	ND	9.51E-001	8.80E-001	ND	7.71E-001	6.24E-001	ND	ND	1.15E+000	6.75E-001	ND	9.13E-001
TAII TRD8-0022	89003334	9/25/98	ND	ND	ND	9.33E-001	1.05E+000	ND	1.06E+000	9.35E-001	ND	ND	1.18E+000	6.84E-001	9.38E-001	9.68E-001
TAII TRD8-0021	89003333	9/25/98	ND	ND	ND	9.34E-001	1.08E+000	ND	ND	ND	ND	ND	1.15E+000	9.19E-001	1.16E+000	1.03E+000
TAII TRD8-0025	89003337	9/25/98	ND	ND	ND	9.42E-001	9.44E-001	ND	8.60E-001	6.93E-001	ND	ND	1.18E+000	6.81E-001	7.21E-001	9.47E-001
TAII TRD8-0020	89003332	9/25/98	ND	ND	3.08E+000	8.49E-001	9.23E-001	ND	8.63E-001	ND	ND	ND	1.18E+000	6.88E-001	6.76E-001	9.73E-001
TAII TRD8-0024	89003336	9/25/98	ND	ND	ND	8.94E-001	9.79E-001	ND	1.09E+000	1.04E+000	ND	ND	1.14E+000	7.06E-001	ND	9.23E-001
TAII TRD8-0023	89003335	9/25/98	ND	ND	ND	9.76E-001	1.02E+000	ND	1.02E+000	7.55E-001	ND	ND	1.18E+000	7.15E-001	ND	9.59E-001
TAII TRD8-0026	89003338	9/25/98	ND	ND	ND	9.13E-001	1.07E+000	ND	1.08E+000	7.94E-001	ND	ND	1.03E+000	7.20E-001	1.48E+000	8.71E-001
TAII TRD8-0011	89003319	9/25/98	ND	ND	ND	8.97E-001	9.77E-001	ND	ND	7.33E-001	ND	ND	1.16E+000	7.01E-001	1.16E+000	9.71E-001
TAII TRD8-0027	89003339	9/25/98	ND	ND	3.14E+000	9.16E-001	9.56E-001	ND	1.03E+000	9.78E-001	ND	ND	1.19E+000	9.11E-001	ND	8.51E-001
TAII TRD8-0028	89003340	9/25/98	ND	ND	ND	9.30E-001	1.01E+000	ND	ND	8.05E-001	ND	ND	1.13E+000	7.18E-001	9.46E-001	9.01E-001
TAII TRD8-0029	89003341	9/25/98	ND	ND	ND	8.19E-001	9.29E-001	ND	ND	8.70E-001	ND	ND	1.20E+000	6.71E-001	1.03E+000	9.01E-001
TAII TRD8-0019	89003331	9/25/98	ND	ND	ND	8.43E-001	8.86E-001	ND	ND	8.43E-001	ND	1.20E+000	1.16E+000	8.70E-001	ND	9.25E-001
TAII TRD8-0018	89003330	9/25/98	ND	ND	ND	8.36E-001	9.36E-001	ND	6.91E-001	8.90E-001	ND	ND	1.10E+000	6.26E-001	ND	8.96E-001
TAII TRD8-0017	89003329	9/25/98	ND	ND	ND	8.37E-001	9.78E-001	ND	6.15E-001	9.34E-001	ND	1.10E+000	1.23E+000	9.00E-001	1.15E+000	8.84E-001
TAII TRD8-0009	89003317	9/25/98	ND	ND	ND	9.15E-001	9.81E-001	ND	1.02E+000	1.11E+000	ND	ND	1.13E+000	8.57E-001	1.08E+000	9.02E-001
TAII TRD8-0008	89003316	9/25/98	ND	ND	1.64E+000	9.10E-001	9.92E-001	ND	7.86E-001	7.16E-001	ND	8.97E-001	1.11E+000	7.75E-001	1.00E+000	1.09E+000
TAII TRD8-0016	89003327	9/25/98	ND	ND	ND	8.93E-001	1.05E+000	ND	8.14E-001	8.70E-001	ND	ND	1.12E+000	8.64E-001	9.58E-001	8.43E-001
TAII TRD8-0010	89003318	9/25/98	ND	ND	ND	8.95E-001	9.38E-001	ND	ND	6.83E-001	ND	ND	1.08E+000	7.76E-001	1.14E+000	9.63E-001
TAII TRD8-0012	89003320	9/25/98	ND	ND	ND	8.79E-001	9.20E-001	ND	9.79E-001	7.76E-001	ND	8.97E-001	1.07E+000	7.36E-001	1.07E+000	9.88E-001
TAII TRD8-0013	89003321	9/25/98	ND	ND	ND	8.53E-001	9.57E-001	ND	6.86E-001	9.49E-001	ND	ND	1.15E+000	6.80E-001	1.11E+000	9.48E-001
TAII TRD8-0014	89003325	9/25/98	ND	ND	ND	8.80E-001	9.18E-001	ND	9.80E-001	8.32E-001	ND	1.05E+000	1.25E+000	6.61E-001	8.54E-001	1.01E+000
TAII TRD8-0015	89003326	9/25/98	ND	ND	ND	9.62E-001	9.36E-001	ND	9.77E-001	8.58E-001	ND	ND	1.18E+000	6.73E-001	1.12E+000	1.02E+000
TA-II SOLIDS	80195701/006	9/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/005	9/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/001	9/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/002	9/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/003	9/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/004	9/27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0015	89002889	9/8/98	ND	ND	2.83E+000	9.88E-001	9.61E-001	ND	1.05E+000	9.58E-001	ND	ND	1.11E+000	7.13E-001	1.09E+000	9.84E-001
TAII OVD8-0002	89002892	9/8/98	ND	ND	2.09E+000	8.61E-001	9.31E-001	ND	7.81E-001	9.64E-001	ND	ND	1.10E+000	7.67E-001	1.08E+000	9.35E-001
TAII OVD8-0001	89002891	9/8/98	ND	ND	2.26E+000	8.77E-001	9.46E-001	ND	8.89E-001	8.84E-001	ND	ND	1.18E+000	9.03E-001	ND	9.40E-001
TAII TRD7-0016	89002890	9/8/98	ND	ND	ND	9.97E-001	9.81E-001	ND	9.61E-001	1.02E+000	ND	ND	1.10E+000	5.95E-001	8.17E-001	9.36E-001
TAII TRD7-0017	89002893	9/8/98	ND	ND	ND	1.03E+000	1.05E+000	ND	8.63E-001	1.04E+000	ND	1.50E+000	1.04E+000	7.17E-001	1.02E+000	9.38E-001

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
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ER Sample ID	Laboratory Data Pkg ID	Date	U235	Th231	Pa231	Th227	Ra223	Rn219	Pb211	Tl207	Am241	Pu239	Np237	Pa233	Th229	Cs137	K40	Ag108M	Ag110M	Am243	Ba133	Be7	Cd109
TAII SLPE-0039	89003305	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII SLPE-0041	89003307	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAII SLPE-0042	89003308	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0022	89003334	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0021	89003333	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0025	89003337	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0020	89003332	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0024	89003336	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0023	89003335	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0026	89003338	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0011	89003319	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0027	89003339	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0028	89003340	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0029	89003341	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.07E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0019	89003331	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0018	89003330	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0017	89003329	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.12E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0009	89003317	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.11E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0008	89003316	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0016	89003327	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0010	89003318	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0012	89003320	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0013	89003321	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.14E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0014	89003325	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13E+001	ND	ND	ND	ND	ND	ND
TAII TRD8-0015	89003326	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/006	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/005	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/001	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/002	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/003	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/004	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0015	89002889	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.10E+001	ND	ND	ND	ND	ND	ND
TAII OVD8-0002	89002892	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04E+001	ND	ND	ND	ND	ND	ND
TAII OVD8-0001	89002891	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.15E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0016	89002890	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+001	ND	ND	ND	ND	ND	ND
TAII TRD7-0017	89002893	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E+001	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Cd115	Ce139	Ce141	Ce144	Co56	Co57	Co58	Co60	Cr51	Cs134	Eu152	Eu154	Eu155	Fe59	Gd153	Hg203	I131	Ir192	Kr85	Mn52	Mn54	Mo99	Na22
TAII SLPE-0039	89003305	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0041	89003307	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0042	89003308	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0022	89003334	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0021	89003333	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0025	89003337	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0020	89003332	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0024	89003336	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0023	89003335	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0026	89003338	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0011	89003319	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0027	89003339	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0028	89003340	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0029	89003341	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0019	89003331	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0018	89003330	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0017	89003329	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0009	89003317	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0008	89003316	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0016	89003327	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0010	89003318	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0012	89003320	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0013	89003321	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0014	89003325	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0015	89003326	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/006	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/005	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/001	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/002	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/003	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/004	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0015	89002889	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD8-0002	89002892	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD8-0001	89002891	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0016	89002890	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0017	89002893	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of SWMU 2 LAGS Soil Sampling Results (pCi/g)
March 1998–December 1998

ER Sample ID	Laboratory Data Pkg ID	Date	Na24	Nb95	Nd147	Ni57	Np239	Ru103	Ru106	Sb122	Sb124	Sb125	Sn113	Ta182	Ta183	Tc99M	Tl201	Xe133	Y88	Zn65	Zr95
TAII SLPE-0039	89003305	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0041	89003307	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII SLPE-0042	89003308	9 /22/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0022	89003334	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0021	89003333	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0025	89003337	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0020	89003332	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0024	89003336	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0023	89003335	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0026	89003338	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0011	89003319	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0027	89003339	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0028	89003340	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0029	89003341	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0019	89003331	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0018	89003330	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0017	89003329	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0009	89003317	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0008	89003316	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0016	89003327	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0010	89003318	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0012	89003320	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0013	89003321	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0014	89003325	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD8-0015	89003326	9 /25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/006	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/005	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/001	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/002	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/003	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TA-II SOLIDS	80195701/004	9 /27/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0015	89002889	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD8-0002	89002892	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII OVD8-0001	89002891	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0016	89002890	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAII TRD7-0017	89002893	9 /8 /98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ER = Environmental Restoration.
ID = Identification.
ND = Not detected.
LAGS = Large Area Gamma Spectroscopy.
pCi/g = Picocurie(s) per gram.
SWMU = Solid Waste Management Unit.

ANNEX 5-E
Data Validation Reports

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218

Sample Numbers TA2-2-BORROW-1, TA2-2-BORROW-2

AR/COC No. 600003 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	—		
2) Holding times met for all samples?	—		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	—		
4) Quantitation limit met for all samples?	—		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		—	① SVOC-016; ethylbenzene, MBK, MIBK, Styrene, tetrachloroethene, Trichloroethene, and O-Xylene.
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	—		

Reviewed by: J. Hoffman J. Rabe

Date: 5/2/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable, LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	② S198-002-01-LMB => nickel
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were out of QC limits (biased low) in sample SVOC-016 (LCS) for the following analytes; Ethylbenzene, MBK, MIBK Styrene, Tetrachloroethene, Trichloroethene, and o-Xylene.

Reviewed by: Jeffrey A. Rabe

Date: 5/21/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

None of the above listed analytes were detected in the submitted samples. However, there are uncertainties associated with the method detection limits of those analytes.

② Nickel was detected above the PQL in the metals laboratory method blank, detected values are estimated

Note: Laboratory precision was based on the MS/MSD pair results

JR 5/21/98

Reviewed by: Jeffrey A. Rabe

Date: 5/21/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
			JR
		5 of 5	
	see page		

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
C = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahr

Date: 5/21/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600003 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-BORROW-1/-2	7440-39-3	J, P2	Ba
	7440-02-0	J, B	Ni
	7440-43-9	U1	Cd
	100-41-4	UJ, A	Ethyl benzene
	591-78-6	UJ, A	2-hexanone
	108-10-1	UJ, A	4-methyl 2-pentanone = Toluene
	100-42-5	UJ, A	Styrene
	127-18-4	UJ, A	Tetrachloroethene
	79-01-6	UJ, A	Trichloroethene
	95-47-6	UJ, A	o-xylene

2/2/95 Amd

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey P. Rabe Date: 5/21/98

Rev.
Attac..
November 1995

Rmnd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218

AR/COC No.: 600003 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	NA		Not an RMMA location		

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 5/26/98 Closed by: _____ Date: _____

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR/COC: 600004 Data Classification:

Sample/ Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACFI-0001-18-S	EPA 8260	UJ	
	75-09-2	SU	Methylene chloride
TA2-2-ACFI-0001-18-S	78-93-3	R	2-Butanone
	107-06-2	R	1,2-DCA
~~TA2-2-ACFI-0001-18-S~~	~~EPA 8270~~	~~UJ~~	~~HS 3/4/99~~
			Derek Rapp 7-7-00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jay E. Thomas Date: 2/23/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.220.200

Sample Numbers TA2-2-ACF1-0001-18-S

AR/COC No. 600005 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	① SVOC-017 ⇒ Acetone, Carbon tetrachloride, Tetrachloroethene, and ethylbenzene
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 5/20/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	② SVOC-017 ⇒ 1,1-Dichloroethene
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		Note: "J" value reported for nickel
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Perrent recoveries for acetone, carbon tetrachloride, tetrachloroethene and ethylbenzene were all out of QC windows (biased low) in the LCS (SVOC-017). None of the

Reviewed by: [signature] J. Rabe

Date: 5/20/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

above listed analytes were detected in the submitted sample however, there are uncertainties associated with the MDL's of these analytes.

② The relative percent difference (RPD) for 1,1-Dichloroethene was out of QC windows (biased high) Percent recoveries in the MS and MSD were within limits. Analyte was not detected in the submitted sample

5/20/98

Reviewed by: Jeffrey A. Rabe

Date: 5/20/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Anthony J. Robertson

Date: 5/20/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600005 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACF1-6001-18-S	67-64-1	UJ, A	acetone
	56-23-5	UJ, A	carbon tet
	127-18-4	UJ, A	PCE
	100-41-4	UJ, A	Ethyl benzene
	75-35-4	UJ, P1	1,1-DCE
		JR	
		5/20/98	
			2-17-00

2/2/99 Amt

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rahe Date: 5/20/98

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Rmnd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name Site 2 VCM Case No. 7218.220.200

AR/COC No. 600005 Analytical Lab ERCL SDG No. NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rale Date: 5/20/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-ACF2-0001-15-S (040004-001, -002, -003, -004)

AR/COC No. 600007 Analytical laboratory GEL SDG No. 9903399
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____

Methods: VOC (8260), SVOC (8270), Metals (6010/7000), Tritium (9060)

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?			
2) Holding times met for all samples?			SEE CVR FORM
3) Reporting units appropriate for the matrix and meet project-specific requirements?			
4) Quantitation limit met for all samples?			Note: TB was received out of HT of blank preparation, but was within HT of when field samples collected. "UJ" code results
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		Met acceptance criteria for all methods
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		Met acceptance criteria for VOCs & SVOCs

Reviewed by: Kevin A Lambert

Date: 8/6/98

INFORMATION COPY

SHEARS #189905

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		Not run for VOCs + Metals. Acceptability from another ARCOC group not discussed
6) Precision a) Laboratory control sample precision reported and met for all samples?	✓		Met acceptance criteria for all methods
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		Not run for VOCs + Metals. Acceptability from another ARCOC not discussed
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		No target analytes detected
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	✓		TB was outside HT from date of prep. Sample results will be "UJ" coded
8) Narrative included, correct, and complete?	✓		Note: VOCs + Metals narrative does not address MS/MSD acceptability

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① All samples were prepared and analyzed with accepted procedures and specified methods. All compounds were successfully analyzed. No problems were identified during data package review except for the

Reviewed by: Kevin A Zambrat

Date: 8/6/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET holding time for the Trip Blank was exceeded. Sample results were non-detects and will be "UJ" coded. No other data qualification was required The following sections discuss data review and validation
(2) VOCs: No target analytes were detected in the MBs and TB. LCS/LCSD met acceptance criteria. Surrogate %REC met acceptance criteria. (3) S KHL 8/6/98 No MS/MSD was run on ARCOC group and MS/MSD acceptability was not addressed from another ARCOC group in the batch. KHL 8/6/98
(3) SVOCs: No target analytes were detected in the MBs. LCS/LCSD, MS/MSD & Surrogate %REC met acceptance criteria.
(4) RAD: No target analytes were detected in MB. LCS, MS/MSD, & Duplicate met acceptance criteria. (5) Metals: No target analytes were detected above RL in the MBs. Cd was "J" coded in the MB ~~but was~~ KHL 8/6/98 and site sample. No data is qualified. LCS/LCSD & Surrogate %REC met acceptance criteria. No MS/MSD was run on ARCOC group and MS/MSD acceptability was not addressed from another ARCOC group in the batch. (6) No Eq. Blank was submitted on ARCOC.

(7) Data is acceptable

(8) QC measures are adequate except MS/MSD acceptability is not addressed for VOCs & Metals

Reviewed by: Kevin A Lambert

Date: 8/6/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

SEE OTHER PAGE ON FRONT

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Kevin A Lambert

Date: 8/6/98

Site 2 VCM

ARCOC# 600007

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

SAMPLE FINDINGS SUMMARY CONTINUATION SHEET

Sample/ Fraction No.	Analysis	Qualifiers	Comments
TA2-2 ACF2-0001-15-5-TB	EPA 8260	UJ JH 8/6/98	Trip Blank (040004-004) was received out of Hold Time
	Data is acceptable		
	QC measures are adequate		

JH 11/4/99

Reviewed by: Kevin A. Lambert Approved by:* _____

Date: 8/6/98 Date: _____

*Task/Project Leader must approve data package.

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-ACF2-0001-15-S

AR/COC No. 600008 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-CIT ⇒ Acetone, Carbon tetrachloride, Tetrachloroethene and Ethylbenzene ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 6/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate was not analyzed with the submitted sample.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	SVOC-017 ⇒ 1,1-Dichloroethene ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		Note: "J" value reported for nickel (Metals QC Batch SI98-003).
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for acetone, carbon tetrachloride, tetrachloroethene, and ethylbenzene were biased low in the LCS (SVOC-017). None of the above analytes were detected in the submitted

Reviewed by: Jeffrey A. Rabe

Date: 6/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

sample. However there is a degree of uncertainty associated with the MDLs of these analytes.

② The relative percent difference (RPD) for 1,1-Dichloroethane was biased high in the MS/MSD pair. The percent recoveries in the MS and MSD samples were within QC limits and the analyte was not detected in the submitted sample. Therefore the data are not adversely affected.

JR 6/16/98

Reviewed by: Jeffrey A. Rabe

Date: 6/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: [signature]

Date: 6/16/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600008 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACF2-0001-15-S	75-35-4	UJ, P1	
"	67-64-1	UJ, A	
"	56-23-5	UJ, A	
"	127-18-4	UJ, A	
"	100-41-4	UJ, A	
		JR	

6/16/98

2/2/99 AMT

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MB. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: A. Hess A. Rate Date: 6/16/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev.
Attach..
Novembe ...s

Printed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282.000

AR/COC No.: 600008 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt [illegible] provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	[illegible] provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 6/16/98 Closed by: _____ Date: _____

SAMPLE FINDINGS SUMMARY

Site: Site 2 YCM

AR/COC: 600010 Data Classification: INORGANICS

Sample Fraction No.	Analysis	DV Qualifiers	Comments
~~040005-002~~	~~7440-39-3 (Barium)~~	~~B~~	~~Values greater than MDL conditionally acceptable~~
1-8-99 KAL	~~"~~	~~B~~	~~"~~
1-8-99 KAL	~~7440-02-0 (Nickel)~~		
040005-002 TA2-2-ACF3-0001-12-S	7440-39-3 (Barium)	J, A2, P1	Accuracy & precision of MS/MSD did not meet acceptance criteria.

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 12/30/98

Kevin A Lambert 1-8-99

7/19/94

Site: Site 2 VCM

AR/COC: 600010 Data Classification: ORGANICS

Sample Fraction No.	Analysis	DV Qualifiers	Comments
	DATA IS ACCEPTABLE		
	QC calibrations does not affect data - No qualifiers		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 12/30/98

SAMPLE FINDINGS SUMMARY

7/19/99

Site: SITE 2 VCM

AR/COC: 600010 Data Classification: Radiologic

Sample Fraction No.	Analysis	DV Qualifiers	Comments
	Data is Acceptable		
w/	No Qualifiers		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 12/30/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-ACF3-0001-12-S

AR/COC No. 600012 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-018 ⇒ Chloromethane, Styrene Carbon tetrachloride, Ethyl benzene Tetrachloroethane, o-, p/m-Xylene ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatographic technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 6/11/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		Note: No percent recovery calculated for barrium
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		Note: No percent recovery calculated for barrium in the MSD sample (RPD not calculated)
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		Nickel was reported with a "J" value in the metals LMB.
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were out of QC windows for the following analytes in SVOC-018: Chloromethane (biased high), Carbon tetrachloride (biased low), Ethylbenzene (biased low), Styrene

Reviewed by: Anthony A. Rabe

Date: 6/11/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

(biased low), Tetrachloroethene (biased low), o-Xylene (biased low), and p/m-Xylene (biased low). All of the above analytes were not detected in the submitted sample. Analytes which are biased low have an uncertainty associated with the MDL.

Note: accuracy and precision were based on the results of the MS/MSD pair. Percent recoveries were not calculated for barium in the MS and MSD samples. An LCS was analyzed with both the metals and VOC samples (supporting documentation for accuracy).

JR
6/11/98

Reviewed by: Jeffrey A. Rabe

Date: 6/11/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

JR 6/11/98

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rale

Date: 6/11/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600012 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACF3-0001-12-5	7440-39-3	PZ	
	74-87-3	UJ, A	
	106-42-3 108-38-3	UJ, A	
	95-47-6	UJ, A	
	100-41-4	UJ, A	
	127-18-4	UJ, A	
	56-23-5	UJ, A	
	100-42-5	UJ, A	

2/2/99 tmt

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: J. Hy J. Rale Date: 6/11/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. '
Attachm
November . .95

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.282000

AR/COC No.: 600012 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rale Date: 6/11/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 JCM

Case Number 7218.282000

Sample Numbers TA2-2-ACF3-0001-SL1-SP/SU TA2-2-ACF4-0001-SL1-SP/SU

AR/COC No. 600039 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: [signature]

Date: 6/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	SI9805 ⇒ barium ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable : LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recovery for barium was biased high in the MS sample. Percent recovery results were 126% (QC windows are 75 to 125%). Percent recovery for barium in the MSD

Reviewed by: Jeffrey A. Rabe

Date: 6/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

and LCS were within QC limits.

JR 6/15/98

Reviewed by: Anthony A. Rabe

Date: 6/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
			6/15/98
			5 of 5
			see page

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Anthony A. Rahe

Date: 6/15/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600039 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACF3-0001-SL1-SP	7440-39-3	J, A2	Ba
TA2-2-ACF3-0001-SL1-SU			
TA2-2-ACF4-0001-SL1-SP			
TA2-2-ACF4-0001-SL1-SU			

6/15/98 JR

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey J. Rale Date: 6/15/98

2/2/99 Amt

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. [redacted]
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Nove[redacted] 1995

11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.282000

AR/COC No.: 600039 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: [signature] 4-Rate Date: 6/15/98 Closed by: _____ Date: _____

Site: SANDIA SITE 2 VCM

SW 846
ORGANICS VOCs E2000
SVOCs 8270
INORGANICS EPA 6000/7000

AR/COC: 600041 Data Classification: TRITIUM

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TRIP BLANK 040007-001 TA2-2ACE4-T13	VOCs EPA E2000	"R"	SAMPLE CARRIED THRU 2/5/98 - 4/7/98
DATA	APPEARS	to be	ACCEPTABLE
NO	DATA	QUALifiers	
QC	MEASURES	APPEAR	TO BE
ADEQUATE			

1127
7/14/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470'1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 1 K 00 98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-ACF4-0001-12-5

AR/COC No. 600043 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: A. Hay A. Rabe

Date: 6/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	SI9805 ⇒ barium ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate not analyzed with submitted sample
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recovery for barrium was biased high in the MS sample. Percent recovery results were 126% (QC windows are 75 to 125%). Percent recovery for barrium in the MSD

Reviewed by: Jeffrey A. Rabe

Date: 6/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

and LCS were within QC limits.

Note: VOC sample results were not reported due to possible spike contamination (Batch SVOC-019).

JR 6/15/98

Reviewed by: Jeffrey A. Rahe

Date: 6/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
			6/15/98
			JR.
			see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 6/15/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 JCM

AR COC: 600043 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACF4-0001-12-S	7440-39-3	J, A2	
		JR	
		6/15/98	

3/2/99 AMT

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey G. Rabe Date: 6/15/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attachment A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600043 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested.		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided		—	SVOC results not reported (Possible spike cont.)		

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey J. Rale Date: 6/15/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-ACF1-0001-SL2-S , TA2-2-PTW1-0001-10-S

AR/COC No. 600046 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-019 ⇒ 1,1,2,2-Tetrachloroethane ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Anthony A. Rabe

Date: 6/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	SI98-06 ⇒ Barium (MS/MSD) ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS Duplicate was not analyzed with submitted samples.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	SI98-06 ⇒ Nickel ③
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		Note: "J" value reported for acetone in LMB (SVOC-019)
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for 1,1,2,2-Tetrachloroethane was slightly out of QC windows (result ⇒ 131%, QC limits 75-130%). The above analyte was not detected in the submitted samples, the results

Reviewed by: Jeffrey A. Rake

Date: 6/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

are not affected by this potentially high bias.

④ The percent recovery for barium in the MS and MSD samples were biased low. This low recovery could possibly indicate a loss of Ba in the sample due to the presence of sulfate.

⑤ The relative percent difference calculated for nickel was outside of QC limits (biased high) for the MS/MSD pair. The LCS, MS, and MSD percent recoveries were all within QC limits. The RPD results for nickel is most likely due to sample non-homogeneity.

Note: Acetone, a common laboratory contaminant was detected between the MDL and PQL in both submitted samples and the MDL.

JR 6/16/98

Reviewed by: Jeffrey A. Rabe

Date: 6/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
			JR 6/16/98
		5 of 5	
	see page		

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 6/16/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600046 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACF1-0001-SL2-S	7440-39-3 Ba	J, A2	
and sample	7440-02-0 Ni	J, P1	No qual. for 1/24/01 J. Rabe
TA2-2-PTW1-0001-10-S	79-34-5	~~UJ, A~~	tetrachloroethane 1,1,2,2
}	67-64-1	U	Remainder of Qualifiers applies to both submitted samples (barium, nickel and acetone)
			J. Rabe 2/20/01
		JR	
	6/16/98		

2/2/99 dmd

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/16/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP
Rev.
Attachment A
November 1995

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600046 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Anthony A. Rolo | Date: 6/16/98 | Closed by: _____ | Date: _____

ORGANICS
INORGANICS
METALS

Site: SANDIA

SUBMIT
VOC BY 8260
SVOC BY 8270
& METALS BY GFAA/ICP

AR/COC: 600047 Data Classification: TRIPLICATE

Sample Fraction No.	Analysis	DV Qualifiers	Comments
040009-001 TA2-2 PTW1-TB	TRIP BLANK Aqueous Sample	"R"	COLLECTED 2/5/98, SUBMITTED TO CAS on ~~4/3/98~~ 4/4/98 SH 4/6/98
DATA IS ACCEPTABLE AS NOTED			
QC MEASURES APPEAR TO BE ADEQUATE			

mj 7/14/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010. EPA6020. EPA74701, EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: [signature] Date: 11 NOV 98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282

Sample Numbers TA2-2-ACF-0001-SLS-S

AR/COC No. 600048 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	Metals T198-01 ⇒ Ag SVOC-020 ⇒ Tetrachloroethene ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey J. Rahe

Date: 6/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-06 (Metals) ⇒ Ba T198-01 (Metals) ⇒ no results for Ba and Cd. Ag biased high. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate not analyzed with submitted samples.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-06 (Metals) ⇒ Ni T198-01 (Metals) ⇒ no results for Ba and Cd ④
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	T198-01 (Metals) ⇒ Ba ③
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No., and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for Ag was biased high in the LCS T198-01. Analyte was not detected in the submitted sample. The percent recovery for Tetrachloroethene was biased low in the

Reviewed by: Jeffrey A. Rabe

Date: 6/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

LCS SUOC-020. Therefore there is an uncertainty associated with the MDL of this analyte.

② Percent recoveries for barium were biased low in the MS and MSD samples (S198-06) and the RPD for nickel was biased high. Percent recoveries for Ag were biased high in the MS and MSD samples (CT198-01) and no MS/MSD results for Ba and Cd, (RPD was not calculated).

③ Ba detected at the PQL in the LMB (CT198-01).

JR 6/19/98

Reviewed by: Jeffrey A. Rabe

Date: 6/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 6/19/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600048 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-ACF4-0001-SLS-S	7440-39-3	J A2, P2	
	7440-02-0	J P1	
	7440-22-4	UJ, A A2	
	7440-43-9	J, P2	
	79-01-6	UJ, A	
		JR	

6/19/98

9-17-00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

3/3/99 AMT

Reviewed by: A. Rabe Date: 6/19/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Re
At
November 1995

Rvwd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 JCM | Case No: 7218.282000

AR/COC No.: 600048 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry checked and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA				
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 6/19/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 - UCM

Case Number 7218.282000

Sample Numbers TA2-2-PW12-0001 - SL7-S , - SL7B-S

AR/COC No. 600061 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-020 ⇒ Tetrachloroethene (1)
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffry A. Role

Date: 6/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-07 ⇒ mercury and barium ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		LCS dupliate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-07 ⇒ barium ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recovery for Tetrachloroethene was biased low in the LCS sample (SVOC-020) indicating an uncertainty with the associated method detection limit. The above analyte

Reviewed by: Anthony A. Rale

Date: 6/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

was not detected in the submitted sample.

② Percent recoveries were biased high for mercury in the MS and MSD samples. No percent recoveries were reported for barium, the relative percent difference (RPD) was therefore not calculated.

JR

6/14/98

Reviewed by: Jeffrey J. Rake

Date: 6/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

6/14/98

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 6/14/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600061 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-PW12-0001-SL7-S	79-01-6	UJ,A	
and sample	7440-39-3	J,P2	
TA2-2-PW12-0001-SL8-S	7439-97-6	J,A2	
		JR	
	6/14/98		

INFORMATION ONLY

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470.1, EPA8015B, EPA8081, EPA8260, EPA8260-MB, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] A. Rale Date: 6/14/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev
Atta[illegible] A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600061 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: [signature] J. Rabe | Date: 6/14/98 | Closed by: _____ | Date: _____

SAMPLE FINDINGS SUMMARY

Site: 2VCM

LR/COC: 600062 Data Classification:

Sample/ Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-PTW2-0001-12-S	EPA 8260	UJ	
TA2-2-PTW2-001-12-S	67-64-1	UJ	
	108-88-3	UJ	
TA2-2-PTW2-001-12-S	75-09-2	R	
TA2-2-PTW2-TB	EPA 8260	UJ	
	75-09-2	UJ	
TA2-2-PTW2-001-12-S	218-01-9	R	
	207-08-9	UJ	
~~TA2-2-PTW2-001-12-S~~			

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jay E Thomas Date: 2/25/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-PTW2-0001-12-S

AR/COC No. 600064 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-020 ⇒ Tetrachloroethene
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 6/18/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	S198-07 ⇒ mercury and barium. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	S198-07 ⇒ barium ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recovery for Tetrachloroethene was biased low in the LCS (SVOC-020) indicating an uncertainty with the associated method detection limit. The above analyte

Reviewed by: Jeffrey A. Rabe

Date: 6/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

was not detected in the submitted sample.

(2) Percent recoveries were biased high for mercury in the MS and MSD samples. No percent recoveries were reported for barium, the relative percent difference (RPD) was therefore not calculated.

JR 6/14/98

Reviewed by: Jeffrey J. Rabe

Date: 6/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 6/14/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600064 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-PTW2-0001-12-5	79-01-6	UJ, A	
	7440-39-3	J, P2	
	7439-97-6	J, A2	
		JR	
	6/14/98		

INFORMATION ONLY

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/14/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP...
Re
Attachment A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No: 7218.282000

AR/COC No.: 600064 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey J. Rabe Date: 6/14/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-ACF2-0001-SL4-S, TA2-2-PTW3-0001-12-S

AR/COC No. 600066 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	S198-09 (Metals) ⇒ Ag SUOC-021 (VOC) ⇒ Acetone and Carbon disulfide).
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 6/17/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	S198-09 (Metals) ⇒ Ag and Ba ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate was not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	S198-09 (Metals) ⇒ Ba ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		Note: %R for silver in the LCS is also biased low. Corrected 6/19/98 JR

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for silver in sample S198-09 (LCS) was biased low MS and MSD recoveries were also biased low. Percent recoveries for Acetone and Carbon disulfide in sample

Reviewed by: Jeffry A. Rahe

Date: 6/17/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

SUOC-021 (LCS) were biased low. There is an uncertainty associated with the MDLs with the above listed analytes.

⑫ Percent recoveries for silver were biased low in the MS and MSD samples. The LCS was within control limits. Percent recoveries for Ba were not reported in the MS and MSD pair results. The relative percent difference could not be calculated for Ba.

JK 6/17/98

Reviewed by: Jeffrey J. Rahe

Date: 6/17/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

6/17/98
JR
1 of 5
see page

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rale

Date: 6/17/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600066 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-AFC2-0001-SL4-S	7440-22-4	UJ, A, A2	Ag
and sample	7440-39-3	J, P2	Ba
TA2-2-PTW3-0001-12-S	67-64-1	UJ, A	Acetone
	75-15-0	UJ, A	CS2
Qualifiers	apply to both		
submitted	samples	2/20/01	
	J. Rabe		
			[signature] 1-30-01

6/17/98 JR

2/2/99 AMT

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: [signature] Date: 6/17/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. [illegible] A
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Ground 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600066 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rake Date: 6/17/98 Closed by: _____ Date: _____

Site: Site 2 VCM

AR/COC: 600067 Data Classification: organics

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA12-2-PT-W3-0001-12-5	Acenaphthene (83-32-9)	UJ	%RSD greater than 40%.
	3 Nitroaniline (99-09-2)	R	% RSD > 60%.
	bis(2-chloroethyl)ether (111-44-4)	UJ	LCS RPD outside acceptance range.
	2 Chlorophenol (95-57-8)	UJ	
	1,4 dichlorobenzene (106-46-7)	UJ	
	1,2,4 Trichlorobenzene (120-82-1)	UJ	
	4 chloro, 3 methyl phenol (59-50-7)	UJ	
VOC	methylene chloride (75-09-2)	R	% RSD > 60%. RSD value = 93.89%.
	Acetone (67-64-1)	J	Trip blank exceeded holding time by 23 days Acetone detected in Field Sample " non detects qualified UJ
	VOC's EPA 8260	UJ	See holding time/preservation Form

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: E Tod Mantz Date: 3-16-99

verified

Site: Sit 2 VCM

AR/COC: 600067 Data Classification: Inorganics

J because result is < RDL & not > the DL

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA-2-2-PTW3-0001-12	5 Silver (Ag) (7440-22-4)	0.248J	detected silver at < 5x blank concentration. Ag in blank.
	Data is	Acceptable	
	QC measures	Appear Adequate	

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470'1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: E Todd Monhu Date: 3-16-99

verified

Site: Site 2 VCM

AR/COC: 600067 Data Classification: Radiochemistry

Sample Fraction No.	Analysis	DV Qualifiers	Comments
	No	Data	Qualified
	Data	Is	Acceptable
	QC Measures		Appear
	Adequate		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470T, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: E Todd Martin Date: 3-16-99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-PTW3-0001 - SL4-S

AR/COC No. 600069 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	Metals QC Batch T198-01 and S198-09 ⇒ Ag SVOC-021 ⇒ Carbon disulfide and Acetone ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Anthony A. Rahe

Date: 6/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	T198-01 (Metals) ⇒ Ag (no results for Ba and Cd. S198-09 (Metals) ⇒ Ag (no results for Ba) ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable : LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	(Metals T198-01) ⇒ no results for Ba and Cd. (Metals S198-09) ⇒ no results for Ba. ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	Metals T198-01 ⇒ Ba ③
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		
8) Narrative included, correct, and complete?	—		Note: LCS percent recoveries for Ag in Metals QC Batch (T198-01 and S198-09) were also outside QC limits.

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① LCS percent recoveries for Ag were biased high in LCS T198-01 and biased low in LCS S198-09. LCS percent recoveries were biased low for acetone and carbon disulfide in SVOC-021.

Reviewed by: Jeffry J. Rabe

Date: 6/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

Analytes with low bias have an uncertainty associated with the MDL.

② Ag was biased high in the MS and MSD samples for QC Batch T198-01. No MS/MSD results were reported for Ba and Cd (no RPD was calculated). Ag was biased low in the MS and MSD samples for QC Batch 5198-09. No MS/MSD results were reported for Ba (No RPD was calculated).

③ At Ba was detected at the PQL for LMB metals QC Batch T198-01.

JK 6/14/98

Reviewed by: Jeffrey A. Rabe

Date: 6/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

JR 6/19/98

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 6/19/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600069 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-PTW3-0001-SL4-S	7440-39-3	J, P2	
	7440-43-9	J, P2	
	7440-22-4	J A, A2	
	67-64-1	J, A	
	75-15-0	UJ, A	

2/0/99 start

JR

6/19/98

7-17-00

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470.1, EPA8015B, EPA8081, EPA8260, EPA8260-MB, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/19/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP[illegible]03
Rev
Attac[illegible]ent A
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No: 7128.282000

AR/COC No.: 600069 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA				
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey T. Role Date: 6/19/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2-VCM

Case Number 7218.282000

Sample numbers TA2-2-OVER-0001-SL2-S

AR/COC No. 600071 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SI98-09 (Metals) ⇒ Ag SVOC-022 ⇒ numerous analytes ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 6/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	SI98-09 ⇒ barium ② Silver (MS/MSD) biased low
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate was not analyzed with submitted samples. ③
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	SI98-09 ⇒ barium ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		Note: %R for silver in the LCS is also biased low. Corrected 6/19/98 JR

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for silver was biased low in LCS SI98-09. Percent recoveries for Ag were not reported in the MS/MSD samples. Although the sample results were

Reviewed by: Jeffrey A. Rabe

Date: 6/17/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

ND there is an uncertainty associated with the MDL for this analyte. Percent recoveries for numerous analytes in LCS SVOC-022 were not reported. The Mega Mix used in the LCS was determined to be bad (i.e., none of the intended compounds were present). Results are only reportable for the following analytes: Chloromethane, Vinyl chloride, Bromomethane, Chloroethane, 2-Butanone (MEK), MBK, and MIBK. The percent recovery for acetone was biased low, qualified as UJ, A. All other results (VOC) are not reportable

② Percent recoveries for barium were not reported in the MS/MSD pair results. The RPD for barium could not be determined. The percent recovery for silver was biased low (MS+MSD)

③ The LCS duplicate was not ran with the submitted samples. Precision could not be determined from the laboratory control samples.

Reviewed by: Jeffrey A. Rabe

Date: 6/17/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: 4. Rabe

Date: 6/12/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600071 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OVER-0001-SL2-S	7440-22-4	J, A, A2	Ag
≀	7440-39-3	J, P2	Ba
≀	EPA 8260	R	See comments, Section 2.0 of data validation

JR 6/17/98

2/22/99 AMK

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: [signature] Date: 6/17/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP
Rev.
Attach. A
November 1995

Found 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name Site 2 UCM Case No. 7218.282000

AR/COC No. 600071 Analytical Lab ERCL SDG No. NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓				
2.6	Narrative provided	✓				
2.7	TAT met	NA				
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 6/17/98 Closed by: _____ Date: _____

SAMPLE FINDINGS SUMMARY

Site: 2 VCM

AR/COC: 600072 Data Classification:

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-PTW4-7B	~~110-75-8~~	~~UJ~~ ✓	~~KAC 7-16-99~~
	75-09-2	220J ✓	Methylene chloride
TA2-2-PTW4-0001-15-S	75-09-2	R ✓	TCE
	79-01-6	UJ ✓	TCE
	74-83-9	R ✓	Bromomethane
	75-00-3	R ✓	Chloroethane
	67-64-1	5.0UJ	Acetone
	75-35-4	UJ ✓	1,1-DCE
	83-32-9	UJ ✓	Acenaphthene SVOC
	51-28-5	UJ ✓	
	534-52-1	UJ ✓	
	65-85-0	UJ ✓	
	7440-39-3	J ✓	Barium

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 5/19/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-PTW4-0001-15-S

AR/COC No. 600074 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SI9809 ⇒ (Metals) Ag SVOC-022 ⇒ numerous analytes ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 6/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	SI98-09 ⇒ barium ② Silver (MS/MSD) biased low
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate was not analyzed with submitted samples. ③
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	SI98-09 ⇒ barium ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		Note: %R for silver in the LCS is also biased low Corrected 6/18/98 JR

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for silver was biased low in LCS SI98-09. Percent recoveries for Ag were not reported in the MS/MSD samples. Although the sample results were ND there

Reviewed by: Jeffrey A. Rabe

Date: 6/17/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

is an uncertainty associated with the MDL for this analyte. Percent recoveries for numerous analytes in LCS SUOC-022 were not reported. The Mega Mix used in the LCS was determined to be bad (i.e., none of the intended compounds were present). Results are only reportable for the following analytes: Chloromethane, Vinyl chloride, Bromomethane, Chloroethane, 2-Butanone (MEK), MBK and MIBK. The percent recovery for acetone was biased low. All other results (VOC) are not reportable. Acetone qualified as UJ, A.

② Percent recoveries for barium were not reported in the MS/MSD pair. The RPD for barium could not be determined. The percent recovery for silver was biased low in the MS+MSD.

③ The LCS duplicate was not ran with the submitted samples. Precision could not be determined from the laboratory control samples.

Reviewed by: Jeffrey A. Rabe

Date: 6/17/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

JR 6/17/88

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 6/17/88

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600074 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-PTW4-0001-15-S	7440-22-4	UJ, A AZ	
2	7440-39-3	J, P2	
2	EPA 8260	R	See comments, Section 2.0 of data validation

6/17/98 JR

2/2/99 AMT

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rake Date: 6/17/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP
Rev.
Attachm. A
November 1995

Reviewed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600074 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested.		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 6/17/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 JCM

Case Number 7218.282000

Sample Numbers TA2-2-PTW4-SL14-000-S

AR/COC No. 600076 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?			Metals (T198-01 and S198-09) ⇒ Ag SVOC-023 ⇒ MBK and MIBK ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?		✓	SVOC-023 ⇒ Dibromofluoromethane and Toluene-d8. ②

Reviewed by: Jeffrey A. Rabe

Date: 6/18/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	T198-01 (Metals) ⇒ Ag, no results for Ba and Cd. S198-09 (metals) ⇒ Ag no results for Ba ③
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate not analyzed with submitted samples.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	T198-01 (Metals) ⇒ no results for Ba and Cd. S198-09 (Metals) ⇒ Ba ③
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	T198-01 (Metals) ⇒ Ba SVOC-023 ⇒ Acetone "J" value. ④
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		
8) Narrative included, correct, and complete?	—		Note: percent recoveries for Ag Metals (T198-01 and S198-09) LCS were outside of QC limits. Corrected 6/19/98

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

for Ag

④ Percent recoveries were biased high in LCS T198-01 and biased low in LCS S198-09. Analytes with low bias have an uncertainty associated with the MDL. Percent recoveries

Reviewed by: Jeffrey T. Kale

Date: 6/18/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

were biased high for MBK and MIBK in LCS SVOC-023.

② Surrogates Dibromofluoromethane (S1) and Toluene-d8 (S2) were biased high for all of the batch related samples including the quality control samples

③ Ag was biased high in the MS and MSD samples for QC Batch T198-01. No MS/MSD results were reported for Ba and Cd. Ag was biased low in the MS and MSD samples for QC Batch S198-09. No MS/MSD results were reported for Ba.

④ Ba was detected at the PQL for LMB metals QC Batch T198-01. Acetone was detected in LMB VOC QC Batch SVOC-023.

Note: No analytes were detected in the submitted VOC sample.

6/18/98 JR

Reviewed by: Jeffrey A. Rabe

Date: 6/18/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
			6/18/98 JP

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 6/18/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600076 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-PTW4-SL14-000-S	7440-39-3	J, P2	
	7440-43-9	J, P2	
	7440-22-4	J, A, A2	
	591-78-6	UJ, A	
	108-10-1	UJ, A	

JR

6/18/98

2/17/99

2/2/99 AMT

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rahe Date: 6/18/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev.
Attach A
November 1995

Read 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.282000

AR/COC No.: 600076 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Anthony A. Rabe Date: 6/18/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-OUM-0001 -SLS-S

AR/COC No. 600081 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	Metals (LCS - 519809) ⇒ Ag SVOC-023 ⇒ MBK and MIBK ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?		✓	SVOC-023 ⇒ Dibromofluoromethane and Toluene-d8 ②

Reviewed by: Jeffrey A. Rabe

Date: 6/7/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	Metals (SI9809) ⇒ Ag ③
6) Precision a) Laboratory control sample precision reported and met for all samples?		NA	Not applicable : LCS duplicate was not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	—		
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	SVOC-023 ⇒ Acetone ④
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recovery for Ag was biased low in the LCS (there is an uncertainty associated with the MDL). Percent recoveries for MBK and MIBK was out of QC windows

Reviewed by: Jeffrey A. Rabe

Date: 6/7/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

(biased high), analytes were not detected in submitted samples.

② Surrogate recoveries for Dibromofluoromethane and Toluene-d8 for all batch related samples.

③ Percent recoveries for Ag were out of QC windows (biased low) in the MS and MSD samples

④ Acetone was detected in the metals LMB however it was not detected in the submitted sample.

Note: Precision was determined on the results of the MS/MSD pair.

JR 6/7/88

Reviewed by: Jeffrey J. Rahe

Date: 6/7/88

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

R

6/7/98

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Anthony A. Rabe

Date: 6/7/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600081 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OVW4-0001-SLS-S	7440-22-4	P1 J, A	Ag
	7440-39-3	J, P2	Ba
	67-64-1	B	acetone
	591-78-6	UJ, A	2-hexanone
	108-10-1	UJ, A	4-methyl-2-pentanone
		JR	
		6/7/98	

2/2/99 ADMT

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: [signature] Date: 6/7/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-OUW4-0001-SL8-S, -SLPE-0001-SL3-S, -SLPE-001-SL9-S, -SLPE-SL14-000-S

AR/COC No. 600083 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-024 ⇒ Acetone, MEK, Carbon Tetrachloride, and Tetrachloroethene ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffry A. Rabe

Date: 6/23/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-011 ⇒ no MS results for Ba. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate was not analyzed with submitted samples.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-011 ⇒ no MSD results for Ba, RPD not calculated. ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were biased low for the following analytes in LCS SVOC-024: Acetone, MEK, Carbon Tetrachloride, and Tetrachloroethene. There is an

Reviewed by: Jeffrey A. Rahe

Date: 6/23/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

uncertainty associated with the MDLs of the above listed analytes.

© Percent recoveries for Ba in the MS and MSD samples (S1198-011) were not reported. The RPD could not be calculated.

JR 6/23/98

Reviewed by: Jeffrey A. Rabe

Date: 6/23/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

6/23/98 TR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Robe

Date: 6/23/98

SAMPLE FINDINGS SUMMARY

Site: Site 2-UCM

AR COC: 600083 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OVW4-0001-SL8-S	7440-39-3	J A2, P2	Ba
+ TA2-2-SLPE-0001-SL5-S +	67-64-1	UJ, A	Acetone
	78-93-3	UJ, A	2-butanone
TA2-2-SLPE-0001-SL9-S	56-23-5	UJ, A	Carbon tet
+ TA2-2-SLPE-SL14-0001-S	127-18-4	UJ, A	PCE
			Acetone was detected in sample TA2-2-SLPE-0001-SL9-S
			Qualifier should be listed as J, A (67-64-1)

2/2/99 AWM

6/23/98 JR

7-17-00

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/23/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Re
All Att A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600083 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓			
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey J. Rabe Date: 6/23/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-TRE1-SL06-000-S, TA2-2-TRE1-SL13-000-S

AR/COC No. 600085 Analytical laboratory ERLL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-029 => multiple analytes ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 6/22/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-012 ⇒ No results for Be ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate not analyzed with submitted samples.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-012 ⇒ all analytes ③
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were biased low for the following analytes in LCS (SVOC-029): Acetone, MEK, 1,1,1-Trichloroethane, Carbon tetrachloride, MBK, Tetrachloroethene, Ethylbenzene,

Reviewed by: Jeffrey A. Rabe

Date: 6/22/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

p/m - Xylene, o-Xylene, and Styrene. There is an uncertainty associated with the MDL with the above listed analytes

② No MS results were provided for Ba in QC sample S198-012.

③ Due to sample preparation error no MSD results were provided for QC sample S198-012.

JR 6/22/88

Reviewed by: Jeffrey A. Rake

Date: 6/22/88

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Anthony J. Robertson

Date: 6/22/98

126469

CHAIN OF CUSTODY

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600085 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE1-SL06-000-S	7440-39-3	J A2, PZ	
and Sample	EPA 6020	J, PZ	
TA2-2-TRE1-SL13-000-S	67-64-1	UJ, A	
	78-93-3	UJ, A	
	71-55-6	UJ, A	
	56-23-5	UJ, A	
	591-78-6	UJ, A	
	127-18-4	UJ, A	
	100-41-4	UJ, A	
	106-42-3 108-38-3	UJ, A	
	95-47-6	UJ, A	

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list provided and qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tim Rehder to coordinate adding them to the list.

INFORMATION ONLY

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470.1, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rake Date: 6/22/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600085 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE1-SL06-000-S	100-42-5	UJ,A	
and Sample			
TA2-2-TRE1-SL13-000-S			

JR 6/22/98

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/22/98

Rev. Alla[illegible] A
November 1995

Rvwd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600085 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	NR		Not requested (No MSD results)		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Role Date: 6/22/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-TRE2-SL07-000-S

AR/COC No. 600087 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-029 ⇒ multiple analytes @
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rab

Date: 6/23/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-012 ⇒ no results for Ba ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable: LCS duplicate was not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-012 ⇒ No MSD results RPD not calculated. ③
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for the following analytes were biased low in LCS 5U0C-029: Acetone, MEK, 1,1,1-Trichloroethane, Carbon Tetrachloride, MBK, Tetrachloroethene, Ethylbenzene,

Reviewed by: Jeffrey J. Rahe

Date: 6/23/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

plm - Xylene, O-Xylene, and Styrene. There is an uncertainty associated with the MDLs of the above listed analytes.

② The percent recovery for Ba in the MS sample was not reported (5198-012).

③ MSD results were not reported for any of the metals (5198-012) RPDs could not be calculated.

JR 6/23/98

Reviewed by: Jeffrey A. Rabe

Date: 6/23/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 JR 6/23/88

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 6/23/88

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600087 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE2-SL07-000-S	7440-39-3	J A2, P2	
	EPA 6020	J, P2	
	67-64-1	UJ, A	
	78-93-3	UJ, A	
	71-55-6	UJ, A	
	56-23-5	UJ, A	
	591-78-6	UJ, A	
	127-18-4	UJ, A	
	100-41-4	UJ, A	
	106-42-3 108-38-3	UJ, A	2-17-00
	95-47-6	UJ, A	

2/3/99 AMT

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/23/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600087 Data Classification:

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE2-SL07-000-S	100-42-5	UJ, A	Dana C Kelly 1-28-99
		JR	

6/23/98

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/23/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev.
Attac. A
November 1995

Dmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600087 | Analytical Lab: ERCL | SDG No.: NA

In the lables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)		✓	Note: Not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 6/23/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-SLPE-SL16-000-S, SL22, SL23, SL19, SL32, SL34

AR/COC No. 600277 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SL98-013 ⇒ Ag SU0C-030 ⇒ Acetone and MEK ⓓ
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: A. Hu, A. Rab

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	—		Note: S198-013 Ba biased low in the MSD
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	S198-13 ⇒ Ba ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	"J" values for Hg and Pb in the metals LMB (S198-13) ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were biased low for Ag in the LCS (S198-013) and also biased low for acetone and MEK in LCS SVOC-030. The MDL's associated with these analytes

Reviewed by: Anthony J. Kahe

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

may be higher than the MDL's listed in the results summary

② The MSD percent recovery for Ba was biased low and the RPD for the MS/MSD pair was outside of QC limits (biased high).

③ "J" values were reported for Hg and Pb in the metals LMB (s198-013). Pb was detected in all the submitted samples above the POL. Hg was not detected in any of the submitted samples.

JR
7/15/98

Reviewed by: Jeffrey A. Rabe

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
			see page 5 of 5
		7/15/98	
	JR		

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: J. Hoy A. Rabe

Date: 7/15/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600277 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
All submitted Samples	7440-22-4	J, A	
	7440-39-3	J, PI	
	67-64-1	UJ, A	
	78-93-3	UJ, A	

7/15/98 JR

3/23/99

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MB. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey T. Rahr Date: 7/15/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attac[illegible]A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600277 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	[illegible] control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓				
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 7/15/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 JCM

Case Number 7218.282000

Sample Numbers TA2-2-TRE3-SL07-000-S, TA2-2-TRE4-SL10-000-S

AR/COC No. 600279 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		—	SI98-13 ⇒ Ag SVOC-031 ⇒ Acetone and MEK ⓒ
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Kathy A. Rabe

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		Note: S198-13 Ba biased low in the MSD
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		LCS duplicate was not ran with the submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-13 ⇒ Ba ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	"J" values reported for Hg and Pb ⇒ S198-13 (Metals) ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

② Percent recoveries were biased low for Ag in LCS S98-13 and biased low for acetone and MEK in LCS SVOC-031. The MDL's of these analytes may be higher than the MDL's listed

Reviewed by: [signature]

Date: 7/15/88

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

in the results summary.

② The MSD percent recovery for Ba was biased low and the RPD for the MS/MSD pair was outside of QC limits (biased high).

③ "J" values were reported for Hg and Pb in the metals LMB. The "J" value in sample TA2-2-TRE3-S107-000-S is less than 5x the blank value and is qualified as ND.

JR 7/15/98

Reviewed by: Jeffrey A. Rabe

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional comments

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rahe

Date: 7/15/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600279 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE3-SL07-000-S	7440-22-4	J, A	Ag
and sample TA2-2-TRE4-	7440-39-3	J, PI	Ba
SL10-000-S	67-64-1	UJ, A	Acetone
	78-93-3	UJ, A	2-Butanone
TA2-2-TRE3-SL07-000-S	7439-97-6	UI	Hg

Qualifiers to apply to both subsur. Hed samples

TR

7/15/98

Derek Rafson 5-1-01

7/9/99 dmt

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey J. Rabe Date: 7/15/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev
Attac ... A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 660279 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for ... types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Sc... date provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rake Date: 7/15/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-OVTE-SL03-000-S, TA2-2-OVTE-SL08-000-S

AR/COC No. 600281 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SL98-13 ⇒ Ag SVOC-032 ⇒ Acetone, MEK, and MBK (1)
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: J. Hoy A. Rabe

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	—		Note: S198-13 Ba biased low in the MSD.
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	S198-13 ⇒ Ba (2)
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	"J" values for Hg and Pb in the metals LMB (S198-13) (3)
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

(1) Percent recoveries were biased low for Ag in LCS S198-13 and also biased low for acetone, MEK, and MIBK in LCS SVOC-032. The MDL's of those analytes may be higher

Reviewed by: Jeffrey A. Kale

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

than the MDL's listed in the results summary.

② The MSD percent recovery for Ba was biased low and the RPD for the MS/MSD pair was outside of QC limits (biased high).

③ "J" values were reported for Hg and Pb in the metals LMB (S198-013). Pb was detected in both submitted samples above the PQL. Hg was not detected in either sample.

JR 7/15/98

Reviewed by: Jeffrey A Rake

Date: 7/15/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

7/15/98 JR 5 of 5 see page

Attach continuation sheet for additional comments

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 7/15/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600281 Data Classification: DV-2

	Sample Fraction No.	Analysis	DV Qualifiers	Comments
V	TA2-OUTE-SL03-000-S	7440-22-4	J,A	Ag
V	and sample TA2-2-OUTE-SL08-000-S	7440-39-3	J,A	Ba
V		67-64-1	UJ,A	Acetone
V		78-93-3	UJ,A	MEK 2-Butanone
V		591-78-6	UJ,A	2-Hexanone
	Qualifiers apply to both submitted samples.	2/20/00 JR		
			JR	
			7/15/98	
				Daniel Rhoes 1-30-01

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 7/15/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. ... Attach. ... A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.282000

AR/COC No.: 600281 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records continuous and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Tritium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—		Note: not requested		
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 7/15/98 Closed by: _____ Date: _____

SAMPLE FINDINGS SUMMARY

Site: 2VCM

AR/COC: 600283 Data Classification:

Sample/ Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRES-0601-TB	EPA 8260 VOC	R	hold time exceeded by 24days bubble in bottle
TA2-2-TRES-0601-EB	67-64-1 (acetone)	UJ	CCV %D > 20
"	108-10-1 (4-methyl-2-pentanone)	UJ	"
"	91-20-3 (naphthalene)	UJ	"
"	108-05-4 (vinyl acetate)	UJ	"
"	107-06-2 (1,2-dichloroethane)	UJ	"
"	75-09-2 (methylene chloride)	UJ	sample result > PQL, < 10 x blank value
"	75-34-5 (1,1,2,2-tetrachloroethane)	UJ	CCV %D > 20
TA-2-TRE-0601 EB	106-48-7 (4-chloroaniline)	UJ	"
"	7782-49-2 (Se)	J	sample result > IDL, < 5 x ICB
"	7440-22-4 (Ag)	J	sample result > IDL, < 5 x CCB3
"	7440-39-3 (Ba)	J	sample result > IDL, < 5 x mth blk.

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance or additional clarification is warranted.

INFORMATION ONLY

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

SITE OR PROJECT Site 2 VCM CASE NO. 7218.220200

ANALYTICAL LABORATORY CEL SAMPLE IDS _____

LABORATORY REPORT # 9806039 040078-003

TASK LEADER _____

NO. OF SAMPLES 1

DATA ASSESSMENT SUMMARY

		ICP	AA	MERCURY	CYANIDE
1.	HOLDING TIMES	✓		✓	
2.	CALIBRATIONS	✓		✓	
3.	BLANKS	U		✓	
4.	ICS	✓			
5.	LCS	✓			
6.	DUPLICATE ANALYSIS	N/A		N/A	
7.	MATRIX SPIKE	N/A		N/A	
8.	MSA				
9.	SERIAL DILUTION	N/A			
10.	SAMPLE VERIFICATION	✓		✓	
11.	OTHER QC	✓		✓	
12.	OVERALL ASSESSMENT	✓		✓	

✓ (check mark) — Acceptable
Other — Qualified:
J - Estimate
UJ - Undetected, estimated
R - Unusable (analyte may or may not be present)

ACTION ITEMS: Data acceptable with qualifications
Notes on page 2

AREAS OF CONCERN: _____

REVIEWED BY: _____

DATE REVIEWED: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

ACTION ITEMS: The only sample submitted in this C.O.C. for inorganic analysis is an equipment blank. No LCSD was run on this sample which is acceptable as it is a blank sample.
Se, Ag, & Ba results were qualified with "J" as they were > IDL & < 5x method blk &/or calibration blanks.

AREAS OF CONCERN:

OVERALL DATA QUALITY ASSESSMENT

Reviewed By: _____ Date: 11/7/94

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

1.0 HOLDING TIMES

List holding time criteria used to evaluate samples, indicating which samples exceed the holding time. Holding time begins with validated time of sample collection.

Parameter	Holding Time Criteria	Sample ID	Days Holding Time was Exceeded	Action
		N/A		

Were the correct preservatives used? Yes ☑ No ☐

List below samples that were incorrectly preserved.

Sample No.	Type of Samples	Deficiency	Action
	N/A		

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

2.0 INSTRUMENT CALIBRATION

2.1 Percent Recovery Criteria

Indicate %Recovery (%R) criteria used to evaluate calibration standards:

Metals: ± 10%
Mercury: ± 20%
Cyanide: _____
Other: _____

List below the analytes which did not meet %R criteria for initial and continuing calibration standards:

Analysis Date	ICV/CCV #	Analyte	%R	Action	Samples Affected
		N/A			

2.2 Analytical Sequence

Did the laboratory use the proper number of standards for calibration as described in the EPA method? Yes ☑ No ☐

Have initial calibrations been performed at the beginning of each analysis and at the frequency indicated by the EPA method? Yes ☑ No ☐

Have continuing calibration standards been analyzed at the beginning of sample analysis and at a minimum frequency indicated by the EPA method and at the end of the analysis sequence? Yes ☑ No ☐

If no for any of the above, outline deviations and actions taken below:

_____

_____

_____

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

Were the correlation coefficients for the calibration curves for AA, Hg, CN, and other spectrophotometric methods ≥0.995? (Check calculations performed for calibration curves.) Yes ☑ No ☐

If no, list: _____

Date	Analyte	Coefficient	Action	Samples Affected

Check for transcription and calculation errors involving calibration summary forms and raw data. Briefly summarize errors and associated actions when data quality might have been affected. N/A

3.0 BLANK ANALYSIS

3.1 Initial and Continuing Calibration Blanks

Have Initial and Continuing Calibration Blanks (ICB/CCB) been analyzed at the frequency required in the EPA method? Yes ☑ No ☐

If no, summarize problems and resolutions in the narrative report.

List analytes detected in ICB and CCBs below:

NOTE: For soil samples, convert blank values to mg/kg using digestion weights and volumes.

Analysis Date	ICB/CCB No.	Analyte	ug/l Conc.	Required IDL Detection Limits	5X ~~IDL~~ Action Level	Samples Affected
	ICB1	Hg	-0.1	0.1		none
		Se	2.7	2.4	MH 13.5 ~~12.0~~ ug/l	none 04078 2.26
	CCB3	Be	-0.2	0.1		none
		Ag	3.2	2.0	MH 10 ug/l	none 04078 2.74

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

3.2 Method Blank

Was one method blank analyzed for:

Each of 20 samples? Yes ☑ No ☐
Each digestion batch? Yes ☑ No ☐
Each matrix type? Yes ☑ No ☐
Both AA and ICP when both are used for the same analyte? Yes ☐ No ☐ N/A
or
At the frequency indicated in the EPA method or QAPjP? Yes ☑ No ☐

NOTE: Method blank is the same as the calibration blank for mercury and for wet chemistry analysis.

List analytes detected in method blank samples below. NOTE: For soil samples, be sure to calculate blank values using digestion weights and volumes.

Preparation Date	Analyte	Conc. mg/l	Required Detection Limits	Action Level mg/l	Samples Affected
QC511970	Ba	.34	0.33	1.65	04078003 1.18U
	Pb	1.09	0.68 ~~0.33 mH~~	5.45	none
	Se	2.02	1.4 mH ~~2.9 0.44~~	10.1	04078003 2.26U
	Ag	2.02	mH ~~2.0~~ 0.62	10.1	" 2.74U

Is concentration in the method blank below the detection limit? Yes ☐ No ☑

Affected samples: _____

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

3.3 Field/Rinse/Equipment Blanks

Was a field/equipment blank analyzed as required by the EPA method or QAPjP? Yes ☑ No ☐

List below analytes detected in the field blanks. NOTE: For soil samples, calculate blank values using digestion weights and volumes.

040078-003 was an equipment blank

Collection Date	Blank ID	Analyte	mg/l Conc.	Required Detection Limits	Action Level	Samples Affected
	040078-003	Ag	0.00274J	0.005		none
	040078-003	Ba	0.00118J	~~0.005~~ 0.003		↓
	↓	Cd	0.000409J	↓		
		Ca	0.00226J			
		Fe	0.00226J			↓

4.0 ICP INTERFERENCE CHECK SAMPLE ANALYSIS

Was an ICP interference check sample (ICS) analyzed at the beginning and end of a run or at least twice every 8 hours? (Not required for Ca, Mg, K, and Na) Yes ☑ No ☐

Samples affected: _____

Are the values of the ICS for solution AB within 80-120%R? Yes ☑ No ☐

If no, is the concentration of Al, Ca, Fe, or Mg lower than in ICS? Yes ☐ No ☐

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

If no, list below all analytes which did not meet %R criteria and in which the concentration of Al, Ca, Fe, or Mg is higher than in the ICS:

Date	Analyte	%R	Action	Samples Affected

Are any results > IDL for those analytes which are not present in the ICS solution A? Yes ☐ No ☑

If yes, results >2 (absolute value of the IDL) indicate either a positive or negative interference and must be qualified.

Samples affected: _____

Check for transcription/calculation errors. Briefly summarize errors and associated actions when data quality might have been affected.

5.0 LABORATORY CONTROL SAMPLES (LCS)

Was an LCS analyzed at required frequency? Yes ☑ No ☐

Samples affected: _____

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

List below any LCS recoveries not within limits. N/A

Preparation Date	Analyte	%R	Action	Samples Affected

6.0 LABORATORY DUPLICATE ANALYSIS

N/A no laboratory duplicates were analyzed

Were laboratory duplicates analyzed at required frequency? Yes ☐ No ☐

Samples affected: _____

_____

Was laboratory duplicate analysis performed on field or equipment blanks? Yes ☐ No ☐

Samples affected: _____

_____

_____

Is any value for sample duplicate pair <PQL and the other value >10xPQL? Yes ☐ No ☐

Samples affected: _____

_____

_____

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

List below concentrations of any analyte that did not meet criteria for duplicate precision:

Sample ID	Matrix	Preparation Date	Analyte	PQL	RPD	Action	Samples Affected

Check for transcription/calculation errors. Briefly summarize errors and associated actions when data quality might have been affected.

N/A

7.0 FIELD DUPLICATE SAMPLE ANALYSIS

Were field duplicates collected at the frequency indicated in the EPA method or QAPjP?
Yes ☐ No ☐ no field duplicate submitted

If yes, qualify data associated only with the field duplicate pair. Calculate RPDs for each analyte in which both values are greater than the IDL.

Is any value for sample duplicate < practical quantitation limit (PQL) and other value >10xPQL? Yes ☐ No ☐

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

Samples affected: _____

_____

_____

List below the analytes that do not meet RPD or PQL criteria. Use the same criteria as those used for laboratory duplicate analysis or criteria specified in EPA method or sampling plan.

Sample ID	Matrix	Collection Date	RPD	Control Limit	Action	Samples Affected

Check for transcription/calculation errors. Briefly summarize errors and associatec actions when data quality might have been affects.

_____

_____

_____

_____

8.0 MATRIX SPIKE ANALYSIS

NOTE: *This matrix spike is a predigestion/predistallation spike.*

Was a matrix spike prepared and analyzed at the required frequency? Yes ☐ No ☐

no MS/MSD requested

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

Were matrix spikes performed at the concentrations specified by the EPA method? Yes ☐ No ☐

Samples affected: _____

_____

_____

Was matrix spike analysis performed on field or equipment blanks? Yes ☐ No ☐

If equipment or field blanks are the only aqueous samples, matrix spike analysis may be performed; however, matrix spike samples must be present for the other matrices.

Samples affected: _____

_____

_____

List below the % recoveries for analytes that did not meet the criteria:

Sample ID	Matrix	Preparation Date	Analyte	%R	Action	Samples Affected

Check for transcription/calculation errors. Also check to ensure matrix spike concentrations are not affected by sample dilutions performed. If matrix spike concentrations are diluted below or close to IDL based on sample dilutions performed, use professional judgment in qualifying data. Ensure that the laboratory performed sample dilutions only when necessary as indicated by QA/QC requirements. Briefly summarize errors and associated actions when data quality might have been affected.

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

NOTE: If preparation blank spikes are analyzed, evaluate recoveries. These recoveries can indicate whether excursions in matrix spike recovery are caused by sample matrix effects or poor digestion efficiencies and/or problems with matrix spike solution. For example, if matrix spike recovery for selenium is 0% and preparation blank spike recovery for selenium is 92%, this may indicate sample matrix effects.

9.0 FURNACE ATOMIC ABSORPTION ANALYSIS N/A

Were duplicate injections present for each sample, including required QC analyses (not required if MSA is done)? Yes ☐ No ☐

Samples affected: _____

_____

_____

Were postdigestion spikes analyzed for samples, including QC samples? Yes ☐ No ☐

Were postdigestion spikes analyzed at the required concentration? Yes ☐ No ☐

Samples affected: _____

_____

_____

Was a dilution analyzed for samples with postdigestion spike recovery <40%? Yes ☐ No ☐

Samples affected: _____

_____

_____

MSA Analysis (Method of Standard Additions)—MSA is required when serial dilutions are not with ± 10%. Was MSA required for any sample but not performed? Yes ☐ No ☐

Are MSA calculations outside the linear range of the calibration curve? Yes ☐ No ☐

Reviewed By: _____ Date: 1/7/99

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

NOTE: Ensure the spiking concentrations used for MSA analysis were at 50–100% and 150% of sample concentration or absorbance.

Samples affected: _____

_____

_____

10.0 SERIAL DILUTION ANALYSIS N/A

NOTE: Serial dilution analysis (ICP) is required only for initial concentrations equal to or greater than 10xIDL.

If applicable, was a serial dilution performed for:

Each 20 samples? Yes ☐ No ☐
Each matrix type? Yes ☐ No ☐

Samples affected: _____

_____

List below results which did not meet criteria of %D <10% for analyte concentrations greater than 50xIDL before dilution:

Analysis Date	Sample ID	Analyte	IDL	%D	Action	Samples Affected

Check for calculation errors and negative interferences.

Reviewed By: _____ Date: 11/7/94

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

11.0 SAMPLE RESULT VERIFICATION

11.1 Verification of Instrumental Parameters

Are instrument detection limits present and verified on a quarterly basis? Yes ☑ No ☐

Are IDLs present for each analyte and each instrument used? Yes ☑ No ☐

Is the IDL greater than the required detection limits for any analyte? Yes ☐ No ☑
(If IDL > required detection limits, flag values less than 5xIDL)

Samples affected: _____

_____

_____

Are ICP Interelement Correction Factors established and verified annually? Yes ☑ No ☐

Are ICP Linear Ranges established and verified quarterly? Yes ☑ No ☐

If no for any of the above, review problems and resolutions in narrative report. _____

_____

_____

11.2 Reporting Requirements

Were sample results reported down to the PQL? Yes ☑ No ☐

If no, indicate necessary corrections. _____

_____

Were sample results that were analyzed by ICP for Se, Tl, As, or Pb at least 5xIDL? Yes ☑ No ☐

Were sample weights, volumes, and dilutions taken into account when reporting sample results and detection limits? Yes ☑ No ☐

Reviewed By: _____ Date: 11/7/94

INORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3—DV3)

If no for any of the above, sample results may be inaccurate. Note necessary changes and if errors are present, request resubmittal of laboratory package.

Were any sample results higher than the linear range of calibration curve and not subsequently reanalyzed at the appropriate dilution? Yes ☐ No ☑

Samples affected: _____

11.3 Sample Quantitation

Check a minimum of 10% of positive sample results for transcription/calculation errors. Summarize necessary corrections. If errors are large, request resubmittal of laboratory package.

Comments:

Approved By:* _____

Date: _____

*Task/Project Leader is responsible for approval of data set.

Reviewed By: _____ Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

SITE OR PROJECT Site 2 VCM
ANALYTICAL LABORATORY GEL
LABORATORY REPORT # 9806039
CASE NO. 7218.220200

SAMPLE IDS 040078-001 040078-002
NO. OF SAMPLES ~~040078-005~~ MH
040079-001

DATA ASSESSMENT SUMMARY

Describe problems/qualifications below (Action Items and Areas of Concern)

		VOC	SVOC	PEST/PCB	OTHER
1.	HOLDING TIMES/PRESERVATION	MR	✓		
2.	GC/MS INST. PERFORM.	✓	✓		
3.	CALIBRATIONS/WINDOWS	UJ	UJ		
4.	BLANKS	U	✓		
5.	SURROGATES	✓	✓		
6.	MATRIX SPIKE/DUP	N/A	N/A		
7.	LABORATORY CONTROL SAMPLES	✓	✓		
8.	INTERNAL STANDARDS	✓	✓		
9.	COMPOUND IDENTIFICATION	✓	✓		
10.	SYSTEM PERFORMANCE	✓	✓		
11.	OVERALL ASSESSMENT	✓	✓		

✓ (check mark) — Acceptable: Data had no problems or qualified due to minor problems
N - Data qualified due to major problems
X - Problems, but do not affect data
Qualifiers: J - Estimate
UJ - Undetected, estimated

~~ACTION~~ ITEMS: Qualifications due to failed CCV's, majority of data acceptable

~~AREAS OF CONCERN~~:

Reviewed By: [signature]
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

PROJECT/TASK LEADER: _____

~~ACTION ITEMS~~: VOC & SVOC CCV's contained several compounds which did not pass %D acceptance criteria. Samples affected resulted in non-detects and are qualified UJ.

The trip blank for VOC analysis was received quite old and contained a bubble, therefore all resulting data is rejected (R).

Methylene chloride was present in the method blank resulting in a ~~X~~U qualifier for the 4.5 result.

~~AREAS OF CONCERN~~: Chloroform was also present in the method blank, but sample result was ND, no qualifier.

OVERALL DATA QUALITY ASSESSMENT _____

Reviewed By: _____
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

1.0 HOLDING TIMES AND PRESERVATION

Indicate the holding time criteria below that was used to evaluate the samples.

(SW-846, 3rd. ed.)
Other: _____

List below samples that were over holding time criteria.

Sample ID	date collected ~~VTSR~~	Date Analyzed	Action
040079-001 TB	4/27/98	6/5/98	R
		VOC hold time	
		exceeded by 24 hrs	
		bubble in bottle	

NOTE: VTSR = Validated time of sample receipt.

Were the correct preservatives used? Yes ☑ No ☐

List below samples that were incorrectly preserved.

Sample No.	Type of Sample	Deficiency	Action

Reviewed By: _____
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

2.0 GC/MS TUNING CRITERIA

Has a GC/MS tuning performance been analyzed for every twelve hours of sample analysis for each GC/MS instrument used? Yes ☑ No ☐

Was the correct standard (listed in the EPA Method) used? Yes ☑ No ☐

Have the ion abundance criteria been met for each tune? Yes ☑ No ☐

NOTE: GC/MS abundance criteria is specified by EPA method for GC/MS analysis (EPA 8240A or 8270A).

If no for any of the above, list all the data associated with the tune that either failed criteria or in which there was no tune.

Date/Time	Problem	Sample Affected (Action)

Check for transcription/calculation errors. If errors are present, briefly summarize necessary changes:

N/A

Is the spectra of the mass calibration acceptable? Yes ☑ No ☐

Reviewed By: [signature]
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

3.0 GC INSTRUMENT PERFORMANCE.

3.1 DDT Retention Time

Is DDT retention time for packed columns >12 minutes (except for OV-1 and OV-101)?
Yes ☐ No ☐

If no, list below the DDT standards that failed criteria: _____

Affected samples and compounds: _____

N/A

3.2 Retention Time Windows

List below compounds that were not within the retention time windows.

Date/Time	Compound	RT	RT Window	Action	Affected Samples

Reviewed By: _____
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

3.3 DDT and Endrin Degradation

List below the standards that have a DDT or Endrin breakdown of >20% (or a combined breakdown of >20%).

Date/Time	Standard ID	DDT/Endrin	% Breakdown	Action	Affected Samples
		N/A			

3.4 DBC Retention Time Check

Is the %D between EVAL A and each analysis (quantitation and confirmation) DBC retention time within QC limits (2% for packed column, 0.3% capillary ID <0.32 mm, and 1% for megabore)?

Yes ☐ No ☐

Date	Sample ID	DBC %D	Action
	N/A		

For the above criteria outlined in Sections 8.1–8.4, check for transcription/calculation errors.

If errors are found, list below with necessary corrections: N/A

Reviewed By: [signature]
Date: 7/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

4.0 INITIAL CALIBRATION

Has initial calibration been performed as required in the EPA method? Yes ☑ No ☐

Were the correct number of standards used to calibrate the instrument? Yes ☑ No ☐

For GC analyses of PCBs and Pesticides, did the laboratory follow the correct 72-hour sequence of analysis?
Yes ☐ No ☐ N/A

List below compounds which did not meet initial calibration criteria outlined by the EPA method.

Instrument ID	Date	Compound	RF/%RSD	Action	Samples Affected
GC/MS	6/10/98	3,4-dimethyl phenol	32.11	none	none
8270B		benzidine	32.46	none	none

Check for transcription/calculation errors. If errors are present, summarize necessary corrections below:

N/A

Reviewed By: M. Johnson 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

5.0 CONTINUING CALIBRATION

Have continuing calibration standards been analyzed at the frequency specified in the EPA method?
Yes ☑ No ☐

List below all compounds which did not meet continuing calibration requirements.

Instrument ID	Date	Compound	see below RF/%D	Action	Samples Affected
VOA1	6/5/98	chloromethane	61.2 L	UJ	none
		acetone	-50.8 L		040078-001
		4-methyl-2-pentanone	31.2 L		040078-001
		acetonitrile	-2548 L		none
		1,2-dibromo-3-chloropropane	47.4 L		none
		naphthalene	37.6 L		040078-001
		dichlorodifluoromethane	61.6 R		none

continued ~~below~~ see attached page

Check for transcription and calculation errors. If errors are found, briefly summarize necessary corrections below:

- note - L = linear calibration - true value %D > 20%

R = RF calibration - RF %D > 20%

~~Instrument ID | date | compound | RF/%D | MH~~

Reviewed By: [signature]
Date: 1/7/99

Continuing Calibration page 8 continued

Instrument ID	date	compound	RF/%D	action	samples affected
VOA1	6/5/98	trichloro fluoromethane	33.0 R	UJ	none
		iodomethane	-44.3 R		none
		vinyl acetate	57.4 R		040078-001
		1,2-dichloro ethane	20.3 R		040078-001
		1,1,2,2-tetra chloroethane	31.9 R		040078-001
		1,2,3-tri chloropropane	30.3 R		none
		1,3,5-Tri methylbenzene	21.6 R		none
		1,2,4-Tri methylbenzene	28.6 R		none
MSD4	6/10/98	aniline	35.3 R	UJ	none
		4-chloro aniline	27.0 R	UJ	040078-002
		3-nitro aniline	32.5 R		none
		benzidine	76.2 R		none

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

6.0 BLANK ANALYSES

6.1 Method/Reagent and Instrument Blanks

Has a method/reagent blank been analyzed for each set of samples or for every 20 samples of similar matrix, whichever is more frequent? Yes ☑ No ☐

Has an instrument blank been analyzed at least once every twelve hours for each GC/MS system used? Yes ☑ No ☐

6.2 Field/Rinse/Equipment Blanks

Are there field/rinse/equipment blanks associated with each sampling day or at frequency specified in the sampling plan. Yes ☐ No ☐ not requested on AR/COC

List below compounds for which analyses were requested that were detected in any of the blanks analyzed:

Date	Blank ID	Compound	Conc. ug/L	PQL 5/1	Action Level	Samples Affected (Action)
6/5/98	QCS12812	chloroform	0.55J	5.0	2.75 ~~25 ug/L~~	none
	method blk.	methylene chloride	2.0	5.0	20 ~~50 ug/L~~	040078-001 SU
6/5/98	040079-00	methylene chloride	6.7 BH	5.0	67 ~~22 ug/L~~	040078-001 SU
	trip blk.					

PQL = Practical Quantitation Limit from EPA Method.

Reviewed By: [signature]
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

Are there any TICs present in the blanks that are also present in the samples? Yes ☐ No ☑
If yes, list below.

7.0 SURROGATE RECOVERY

Were surrogate recoveries evaluated for each of the samples analyzed by GC or GC/MS?
Yes ☑ No ☐

If surrogate standards other than those presented by SW-846 are used, list below with reference to applicable control limits used to evaluate the percent recoveries.

Surrogate Compound	Control Limits

List below the percent recoveries which did not meet either SW-846 criteria or criteria listed above.

Date	Sample ID/Matrix	Surrogate Compound	%Rec	Action
		N/A		

Reviewed By: [signature]
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM

(Data Verification/Validation Level 3 DV-3)

If surrogate recovery was outside of control limits, were the samples or method blank reanalyzed?

Yes ☐ No ☐ N/A

Are method blank surrogate recoveries outside of limits upon reanalysis? Yes ☐ No ☐

Are transcription/calculation errors present? Yes ☐ No ☑

If yes, note necessary corrections. _____

Reviewed By: _____

Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM

(Data Verification/Validation Level 3 DV-3)

8.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSIS

Were MS/MSDs analyzed at the frequency required by the EPA method or QAPjP for each matrix type?

Yes ☐ No ☐ MS/MSD not requested

List below % recoveries and RPDs of compounds which did not meet criteria. Indicate on chart criteria used to evaluate recoveries and RPDs.

Date	Sample ID/Matrix	Compound	%Rec RPD	Action
		N/A		

Reviewed By: [signature]
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

9.0 LABORATORY CONTROL SAMPLE ANALYSIS

Have laboratory control samples containing a representative number of the compounds of interest been analyzed at the frequency specified in the EPA method or QAPjP?

Yes ☑ No ☐

Evaluate percent recoveries based on control limits established in individual EPA methods, or use established laboratory control limits. List below recoveries of compounds which did not meet criteria with reference to control limits used.

Date	Compound	%Rec	Control Limits	Action	Samples Affected
			N/A		

Control Limit Reference: _____

Evaluate RPD based on control limits established in individual EPA methods, or use established laboratory control limits. List below recoveries of compounds which did not meet criteria with reference to control limits used.

Date	Compound	%Rec	Control Limits	Action	Samples Affected
			N/A		

Control Limit Reference: _____

Reviewed By: _____
Date: 11/7/94

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 (V-3))

10.0 INTERNAL STANDARDS EVALUATION

List below the internal standard areas of samples or blanks which did not meet criteria.

Date	Sample ID	Internal Out	Acceptable Range	Action
		N/A		

Are retention times of the internal standards within 30 seconds of the associated calibration standard?
Yes ☒ No ☐

11.0 TARGET COMPOUND LIST ANALYTES
11.1 GC/MS Analyses

Are the reconstructed ion chromatograms, the mass spectra for the identified compounds, and the data system printouts included? Yes ☑ No ☐

Is chromatographic performance acceptable with respect to:

Baseline stability? Yes ☑ No ☐

Resolution? Yes ☑ No ☐

Peak shape? Yes ☑ No ☐

Full-scale graph (attenuation)? Yes ☑ No ☐

Reviewed By: [signature]
Date: 7/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

Other: _____

Is the RRT of each reported compound within the limits given in the method of the standard RRT in the continuing calibration? Yes ☑ No ☐

Are all the ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the mass spectrum? Yes ☑ No ☐

Do sample and standard relative intensities agree within 20%? Yes ☑ No ☐

If no for any of the above, indicate below problems and qualifications made to data:

_____

_____

_____

11.2 GC Analyses

Are there any transcription/calculation errors between the raw data and the reporting forms? N/A
Yes ☐ No ☐

If yes, review errors and necessary corrections below; if errors are large, resubmittal of laboratory package may be necessary.

N/A

_____

_____

_____

Are retention times of sample compounds within the calculated retention time windows for both quantitation and confirmation analysis? Yes ☑ No ☐

Was GC/MS confirmation performed when required by the EPA method? Yes ☐ No ☐

If no for any of the above, reject positive results except for retention time windows if associated standard compounds are similarly shifted.

Reviewed By: _____
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

Samples affected: _____

N/A

Check chromatograms for false negatives, especially for the multiple peak components (toxaphene and PCBs). If false negatives are apparent and the appropriate PCB standards were not analyzed, or if confirmed analysis was not present, flag the affected data.

Samples affected: _____

NOTE: Due to the complexities of PCB/pesticide analysis, each analytical run should be reviewed to verify identification and column performance.

12.0 FIELD DUPLICATE ANALYSIS

Were field duplicates submitted for analysis? Yes ☐ No ☑

If yes, calculate RPD and use professional judgment to determine if the data needs to be qualified. List results below.

Date	Sample ID	Compound	Sample Result	Duplicate Result	RPD	Affected Samples

13.0 COMPOUND QUANTITATION/REPORTED DETECTION LIMITS

Are there any transcription/calculation errors from raw data to reported results (check at least 10% of positive results)? Yes ☐ No ☑

In addition, verify that the correct internal standard, quantitation ion, and RRF were used to calculate the result for a minimum of 10% of sample data.

Reviewed By: _____
Date: 1/7/99

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

13.1 Chromatogram Quality

Were baselines stable? Yes ☑ No ☐

Were any negative peaks or unusual peaks present? Yes ☐ No ☑

Were early eluting peaks resolved to baseline? Yes ☑ No ☐

If incorrect quantitations are evident, note corrections necessary below: _____

_____

_____

Are the required quantitation limits (detection limits) adjusted to reflect sample dilutions and for soils, sample moisture? Yes ☐ No ☐ N/A

If no, make necessary corrections and note below.

_____

_____

_____

14.0 TENTATIVELY IDENTIFIED COMPOUNDS

Are Tentatively Identified Compounds (TIC) properly identified with scan number or retention time, estimated concentration, and J qualifier? Yes ☐ No ☐ N/A no TICs

Are the mass spectra for TICs and associated "best match" spectra included? Yes ☐ No ☐

Are any TCL compounds listed as TIC compounds? Yes ☐ No ☐

Are each of the ions present in the reference mass spectra with a relative intensity greater than 10% also present in the sample mass spectrum? Yes ☐ No ☐

Reviewed By: _____
Date: 1/7/94

ORGANIC DATA ASSESSMENT SUMMARY FORM
(Data Verification/Validation Level 3 DV-3)

Do TIC and "best match" standard relative ion intensities agree within 20%? Yes ☐ No ☐

Comments N/A

Reviewed By: [signature]

Date: 1/7/99

Approved By:* _____

Date _____

*Data package must be approved by Project/Task Leader.

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-OVTE-SL11-000-S, -DUP, TA2-2-TRES -SL08 and SL17

AR/COC No. 600285 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-033 ⇒ carbon disulfide and trans-1,2-Dichloroethene
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 8/10/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-014 ⇒ no results for Ba ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable, LCS duplicate was not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-014 ⇒ no results reported for Ba. ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for carbon disulfide and trans-1,2-Dichloroethene were biased high in LCS SVOC-033. Neither analyte was detected in the submitted samples.

Reviewed by: Jeffrey T. Robb

Date: 4/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

(2) Percent recoveries and RPD values were not reported for Ba.

JTC 8/10/98

Reviewed by: A. Henry A. Rabe

Date: 8/10/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 8/10/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600285 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
All submitted Samples	75-15-0	UJ, A	
TA2-2-OVTE-SL11-000-S and	156-60-5	UJ, A	
Duplicate TA2-2-TRE5-	7440-39-3	J, P2	
SL08-000-S, TA2-2-TRE5-			
SL17-000-S			

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rake Date: 8/10/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP...
Rev
Attac...ent A
November 1995

Ahmad 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600285 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)					

INFORMATION ONLY

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested.		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 8/10/98 Closed by: _____ Date: _____

Site: Site 2 VCM

AR/COC: 600288 Data Classification: Organics

Sample Fraction No.	Analysis	DV Qualifiers	Comments
✓ (TA2-2-TRE6-SL09-000-S)	2,4 Dinitrophenol 51-28-5	UJ	% RSD > 40%. Field samples are non-detect.
✓ (TA-2-2-TRE6-SL09-000-S)	Methylene Chloride 75-09-02	1.0 R J Epm 3-15-99	methy chloride detected in trip blank at Sample Concentration < 5x blank conc.
	Data	is	Acceptable (except
	where noted		above).
	QC measures		Appear to be
	Adequat		

Amt 4/13/99 10.20.00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470'1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: E Trd Monk Date: 3-15-99

Site: Site 2 VCM

AR/COC: 600288 Data Classification: Inorganics

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-TRE6-SL09-000-S	Silver 7440-22-4	.360 J	Silver & Mercury detected in method blank. Concentrations in samples < 5x blank concentrations. Field data qualified J.
↓	Mercury 7439-97-6	.0244 J	

4/13/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470'1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: E Todd Martin Date: 3-15-99

Site: Site 2 VCM

AR/COC: 600288 Data Classification: Radiometrics

Sample Fraction No.	Analysis	DV Qualifiers	Comments
	No Data	Qualified	
	Data	U	Acceptable
	QC Measures	appear to be	
	Adequate		

DV 4/13/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470'1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: E Tod Mortensen Date: 3-15-99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-TRE6-SL09-000-S, TA2-2-TRE6-SL22-S, -DUP

AR/COC No. 600290 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-034 ⇒ acetone, MBK, and MEK ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey J. Rale

Date: 8/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-14 ⇒ no results reported for Ba. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-14 ⇒ no results reported for Ba ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for acetone, MEK, and MBK were biased low in LCS SVOC-034. None of the above analytes were detected in the submitted samples. However, there is

Reviewed by: Jeffrey A. Rabe

Date: 8/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

an uncertainty associated with the MDL's of these analytes.

② Percent recoveries and RPD values were not reported for Ba in the MS/MSD samples.

8/12/98

Reviewed by: Jeffrey A. Rabe

Date: 8/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 8/12/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600290 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE6-SL09-000-S	67-64-1	UJ, A	
TA2-2-TRE6-SL22-000-S	591-78-6	UJ, A	
TA2-2-TRE6-SL22-000-DUP	78-93-3	UJ, A	
}	7440-39-3	J, P2	

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470.1, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey J. Rahe Date: 8/12/98

Rev
Atta[illegible] A
November 1995

Rvwd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600290 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey G. Rabe Date: 8/12/98 Closed by: _____ Date: _____

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

QA Officer Review Checklist

SNL/NM Environmental Restoration Chemistry Laboratory

	YES	NO	Comments
1. Samples were preserved and handled in accordance with QAPjP and LOPs	✓		
2. The appropriate number and type of laboratory QC check samples were analyzed	✓		
3. Laboratory QC checks met the established acceptance criteria		✓	See Case Narrative
4. Deviations from analytical methods are documented	N/A		
5. Data package is complete, per section 10.4 of the ERCL QAPjP	✓		

Data Package Checklist

	YES	NO	Comments
Date of Issue	✓		
Case Narrative	✓		
Description of data package	✓		
Index of samples, including sampling ID and laboratory ID	✓		
Description of any problems encountered in analysis	✓		
Circumstances leading to the use of data qualifiers	✓		
Type of digestion used for general inorganic analysis of samples	✓		
Analytical results for each sample - must include the parameter name, the parameter value, uncertainty value (where applicable), MDL and PQL, units of measure, data qualifier(s), method of analysis, and analysis date	✓		
Calibration ranges	✓		
QC Summaries	✓		
Surrogate data	✓		
Matrix spike or LCS recovery data for accuracy	✓		
MS/MSD or LCS/LCSD for precision	✓		
Method or reagent blank data	✓		
QA review documentation:	✓		
QA Officer Review Checklist	✓		
Electronic copy of the analytical data	✓		
COC	✓		

Data Package COC No. 600290 Reviewed by Margie Marley Date 7/21/98

c:\document\ercl\reports\qacheck.doc

SF 2001-COC (10-97)
Supersedes (5-97) form

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No.

Press F1 for instructions for each field.

AR/COC- 600290

FRIDGE #3 SHELF #2

FRIDGE #4 SHELF #2

Dept. No./Mail Stop: 6133/1147
Project/Task Manager: Bob Galloway
Project Name: Site 2 VCM
Record Center Code: ER/1303/002/DAT
Logbook Ref. No.: ER028
Service Order No.: 98-156

Date Samples Shipped: _____ SMO USE
Carrier/Waybill No.: _____
Lab Contact: Warren Strong
Lab Destination: ER Chemistry Lab
SMO Contact/Phone: N/A
Send Report to SMO: N/A

Contract No.: N/A
Case No.: 7218.282000
SMO Authorization N/A
Bill to: Sandia National Laboratories
Supplier Services, Dept. N/A
P.O. Box 5800 MS 0154

Location Tech Area TA-2
Building N/A Room N/A

Reference LOV (available at SMO)

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	LAB USE Lab Sample
	TA2-2-TRE6-SL09-000-S	NA	2	6/8/98 0730	S	G	2 x 125 ml	4°C	G	SA	VOCs (EPA 8260), Total Metals (see instr)	
	TA2-2-TRE6-SL22-000-S	NA	2	6/8/98 1240	S	G	2 x 125 ml	4°C	G	SA	VOCs (EPA 8260), Total Metals (see instr)	
	TA2-2-TRE6-SL22-000-DUP	NA	2	6/8/98 1240	S	G	2 x 125 ml	4°C	G	DU	VOCs (EPA 8260), Total Metals (see instr)	

RMMA ☒Yes ☐No Ref. No. _____
Sample Disposal ☒Return to Client ☐Disposal by lab

Sample Tracking SMO USE
Date Entered (mm/dd/yy) _____
Entered by: _____

Special Instructions/QC Requirements
EDD ☒Yes ☐No
Raw data package ☐Yes ☒No

Metals analysis: 8 RCRA, Be, Ni (EPA 6010/7000)

Pleas e list as separate report.

Abnormal Conditions on Receipt LAB USE

Turnaround Time ☐Normal ☒Rush Required Report Date _____ QC Inits

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	T. WINTON	J. Troy Winton	JTW	IT/6133/284-4144
	C. BIRNEY	Curtis Birney	CB	IT/6133/284-4144

1. Relinquished by	J. Troy Winton	Org. IT	Date 6/11/98	Time 1335	4. Relinquished by	Org.	Date
1. Received by	James L. Barnett	Org. IT	Date 6/11/98	Time 1335	4. Received by	Org.	Date
2. Relinquished by		Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by		Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by		Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by		Org.	Date	Time	6. Received by	Org.	Date

Original To Accompany Samples, Laboratory Copy (White) | 1st Copy To Accompany Samples, Return to SMO (Blue) | 2nd Copy SMO Suspense Copy (Yellow) | 3rd Copy Field Copy (Pink)

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers

AR/COC No. 600292 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-034 ⇒ Acetone, MBK, and MEK. ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: J. Jeffrey A. Rabe

Date: 8/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-14 ⇒ no results for Ba ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable, LCS duplicate was not analyzed with the submitted samples.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-14 ⇒ no results for Ba ②
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable.
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for acetone, MBK, and MEK were biased low in LCS SU0C-034. None of the above listed analytes were detected in the submitted samples. However,

Reviewed by: Anthony G. Rabe

Date: 8/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

There is an uncertainty associated with the MDL's of these analytes.

② Percent recoveries and RPD values were not reported for Ba in the MS/MSD samples.

JR 8/12/98

Reviewed by: Jeffrey A. Rabe

Date: 8/12/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 8/12/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600292 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OVAS-SL05,	67-64-1	UJ, A	
SL11, SL13-000-S	591-78-6	UJ, A	
↓	78-93-3	UJ, A	
↓	7440-39-3	J, P2	

8/12/98 JR

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 8/12/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev.
Attac A
November 1995

Signed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600292 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA				
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: [signature] Date: 8/12/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-TRE7-SL08, SL13, and SL25-000-S

AR/COC No. 600296 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		Note: 4°C exceeded for Hg
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	SVOC-035 ⇒ acetone, MBK and MEK. ⓞ
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: [signature]

Date: 8/11/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-015 ⇒ no results reported for Ba. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable; LCS duplicate was not analyzed with the submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-015 ⇒ no results reported for Ba. ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	S198-015 ⇒ "J" values reported for Pb and Hg. ②.
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable.
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for acetone, MBK and MEK were biased low in the LCS (SV0C-035). None of the above analytes were detected in the submitted samples. However,

Reviewed by: Jeffrey A. Rabe

Date: 8/11/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

There is an uncertainty associated with the MDLs for the above listed analytes:

② Percent recoveries and RPD values were not reported for Ba (MS/MSD).

③ Pb and Hg were detected between the MDL and PQL in associated LMB's (5198-015). "J" values reported in submitted samples are qualified as ND (not detected).

JR
8/11/98

Reviewed by: Jeffrey A. Rabe

Date: 8/11/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahe

Date: 8/11/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600296 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
All submitted Samples	67-64-1	UJ, A	
TA2-2-TRET-SL08, SL13, and SL25-000-S	591-78-6	UJ, A	
	78-93-3	UJ, A	
	7440-39-3	J, P2	
	7439-97-6	U1	

JR 8/11/98

Quick Response 7-18-00

4/11/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470.1, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rake Date: 8/11/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev.
Attach A
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name Site 2 VCM Case No. 7218.282000

AR/COC No. 600296 Analytical Lab ERCL SDG No. NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey J. Rake Date: 8/11/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282

Sample Numbers TA2-2-TRET-SL37-000-S, TA2-2-TRET-SL49-000-S, TA2-2-TRET-SL55-000-S

AR/COC No. 600299 Analytical laboratory ERCL SDG No. N/A

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓ TN	✓	0 VOCs were diluted. TN MDLs & PQLs are elevated.
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Tim Jackson

Date: 8/28/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		
6) Precision a) Laboratory control sample precision reported and met for all samples?	N/A		No LCS duplicate sample analyzed
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	(1) Cr was detected > MDL in the LMB.
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	N/A		(2) No trip blank submitted with samples.
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

(1) Cr was detected > MDL in the LMB.

(2) No trip blank submitted with samples. No VOCs were detected > MDL

Reviewed by: Tim Jarboe

Date: 5/26/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

(1) All VOCs associated with batch ID # 5VOC-040 were diluted > 5X. All associated MDLs and PQLs are elevated.

TJ
6/24/98

Reviewed by: Tim Jackson

Date: 6/28/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
		TJ	
		8/28/98	

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: T. Jackson

Date: 8/28/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600299 Data Classification: DV2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE7-SL37-000-S	(VOCs) 8260	Q	MDLs and PQL are elevated due dilution
TA2-2-TRE7-SL49-000-S	↓	↓	↓
TA2-2-TRE7-SL55-000-S	↓	↓	↓
		TP	
		4/28/99	

AMT 2/16/99

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: T Sanchez Date: 9/28/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. [illegible] 1 A
November 1995

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name SITE 2 VCM Case No. 7218.282

AR/COC No. 600299 Analytical Lab ERCL SDG No. N/A

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	✓				
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	N/A				
1.7	Condition upon receipt information provided	✓		see narrative		
1.8	Trilium Screen data provided (Rad labs)	✓		see memo dated 6/26/96, P. Shuia to W. Strong		

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)	✓				
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		not requested, data reported		
2.6	Narrative provided	✓				
2.7	TAT met	N/A		N/A		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Tim Jackson Date: 8/28/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282

Sample Numbers TA2-2-TREB-SL01-000-S; TA2-2-TREB-SL14-000-S

AR/COC No. 600301 Analytical laboratory ERCL SDG No. N/A

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	TA ✓	✓	(1) VOCs were diluted > 5X. MDLs and PQLs are elevated
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Tim Jacks

Date: 8/28/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		
6) Precision a) Laboratory control sample precision reported and met for all samples?	N/A		No LSC duplicate analyzed.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	(2) Cr detected > MDL in LMB
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	N/A		(2) No trip blank submitted
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

(1) Cr detected in LMB at a concentration > MDL.

(2) No trip blank sample submitted. No VOCs detected in env. samples.

Reviewed by: Tim Anderson

Date: 6/25/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

① All VOCs associated with Batch ID # SVOC-040 were diluted > 5X. The assoc. MDLs and PQLs are elevated.

6/28/98

Reviewed by: Tim Gardner

Date: 6/28/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
		TJ	
		8/28/94	

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Tim Jackson

Date: 8/28/94

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600301 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRE8-SL01-000-S	All VOCs 8260	Q	MDLs and PQLs are elevated due to dilution
TA2-2-TRE8-SL14-000-S	↓	↓	↓

4mT 2/16/99

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: T. Sanchez Date: 8/28/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev
Attac hl A
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282

AR/COC No.: 600 301 | Analytical Lab: ERCL | SDG No.: n/a

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	✓				
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	N/A		n/a		
1.7	Condition upon receipt information provided	✓		see narrative		
1.8	Tritium Screen data provided (Rad labs)	✓		see memo dated 6/26/98, P. Slavin to W. Strong		

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)	✓				
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		not requested, data provided		
2.6	Narrative provided	✓				
2.7	TAT met	N/A		n/a		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Tim Rodden Date: _____ Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282

Sample Numbers TA2-2-TRE8-SL07-000-S, TA2-2-TRE8-SL21-000-S, TA2-2-TRE8-SL24-000-S

AR/COC No. 600303 Analytical laboratory ERCI SDG No. N/A

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓	✓ T1	① VOCs diluted >5X. The MDLs and PQL are elevated
4) Quantitation limit met for all samples?		✓	
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: T. Jacobs

Date: 6/28/94

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	N/A		Data reported. Data w/in QC limits
6) Precision a) Laboratory control sample precision reported and met for all samples?	N/A		LCS duplicate not analyzed
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	N/A		① Data reported by lab is w/in QC limits
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	② Cd, Hg, and Pb were detected > MDL in the LMB
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	N/A		③ No trip blank submitted
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① All VOCs analyzed with batch ID SVOC-041 were diluted > 5X. The MDLs and PQLs are elevated. All results were ND at MDL.

Reviewed by: T. Hodic

Date: 6/28/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

(2) Cd, Hg, and Pb were detected at conc. > MDL in the LMB.

(3) No trip blanks submitted. No VOCs were detected in environmental samples.

4/24/98

Reviewed by: T. Indelicato

Date: 9/28/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
		TA	
		8/26/94	

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: T=/wd/ls

Date: 8/26/94

SAMPLE FINDINGS SUMMARY

5 of 5

Site: Site 2 VCM

AR COC: 600303 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
✓ TA2-2-TRE8-SL07-000-S	All VOCs 8260	Q	MDLs and PQLs were elevated due to dilution
✓ TA2-2-TRE8-SL21-000-S	↓	↓	↓
✓ TA2-2-TRE8-SL29-000-S	↓	↓	↓

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: T. Sanchez Date: 8/26/98

AMT 2/4/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. [redacted] Attac[redacted] A
Novem[redacted] 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No: 7218.282

AR/COC No.: 600303 | Analytical Lab: EPLL | SDG No.: N/A

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	✓				
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	N/A		N/A		
1.7	Condition upon receipt information provided	✓		See narrative		
1.8	Trilium Screen data provided (Rad labs)	✓		See memo dated 8/2/98, from P. Slavin to R. Strong		

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)	✓				
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	N/A		~~Not required, data not reported~~ TJ		
2.6	Narrative provided	✓				
2.7	TAT met	N/A		N/A		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Tim Jackson Date: 8/28/98 Closed by: _____ Date: _____

SAMPLE FINDINGS SUMMARY

Site: RVCM

AR/COC: 600459 Data Classification: Organic / Inorganic

Sample Fraction No.	Analysis	DV Qualifiers	Comments
	No data qualified. Data is acceptable		
	QC measures appear adequate.		
VOC	No data qualified. Data is acceptable.		
	QC measures appear adequate.		
organics TAN-X-TRB1-0006-EB	U (uranium)	J, B	
	Data is acceptable QC measures appear adequate.		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 5-25-99

Verified

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-OU01-SL01, -OUD2-SL02, -ACF5-SL06

AR/COC No. 600461 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rab

Date: 10/13/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	S198-21 ⇒ No MS/MSD results reported for Ba ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable; LCS duplicate was not analyzed with the submitted samples.
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	S198-21 ⇒ No results reported for Ba ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for Be were not reported in the MS and MSD samples. The relative percent difference could not be calculated.

Reviewed by: Jeffrey A. Rabe

Date: 10/13/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

JR 10/13/98

Reviewed by: Jeffrey A. Rabe

Date: 10/13/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

JR 10/13/98 5 see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 10/13/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: ~~60049T~~ 600461 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
✓ TA2-2-OUD1-SL01-000-S	7440-39-3	J, P2	
✓ TA2-2-OUD2-SL02-000-S	〃	〃	
✓ TA2-2-ACF5-SL06-000-S	〃	〃	

JR 10/13/98

Amt 3/16/99

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 10/13/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

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Reviewed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600461 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓				
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rake Date: 10/13/98 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282 000

Sample Numbers TA2-2-TRD1-SL02, -SL06, -SL09, -SL12, -000-S

AR/COC No. 600463 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: A. Hoffman A. Robb

Date: 10/13/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-21 => No MS/MSD results for Ba. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable; LCS duplicate was not analyzed with the submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-21 => No results reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

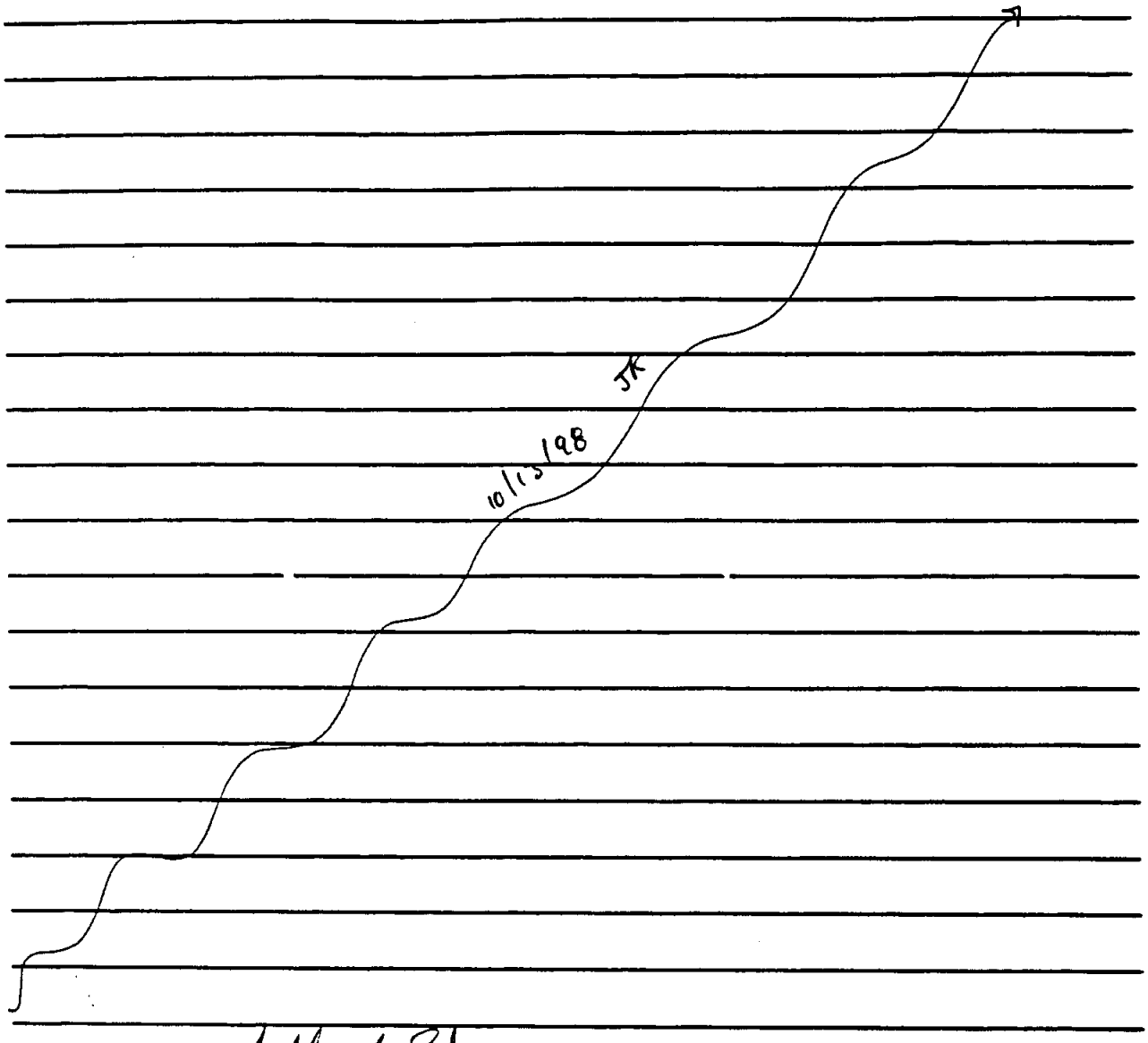
① Percent recoveries for Ba were not reported in the MS and MSD samples. No relative percent difference for the MS/MSD pair could be calculated

Reviewed by: Jeffrey A. Kale

Date: 10/13/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey A. Role

Date: 10/13/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

10/13/98 JK

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 10/13/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600463 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRD1-SL02-000-S	7440-39-3	J, P2	
SL06-000-S	〃	〃	
SL09-000-S	〃	〃	
SL12-000-S	〃	〃	

INFORMATION ONLY
JR
10/13/98

Jmt 3/11/99

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 10/13/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP
Rev.
Attachment A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600463 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: Not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rabe Date: 10/13/98 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-TRD2-SL01 (SL05)-000-S, TA2-2-OUD3-SL01-000-S

AR/COC No. 600465 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rahe

Date: 10/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	S198-21 ⇒ Ba (No results reported). ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable; LCS duplicate was not analyzed with the submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	S198-21 ⇒ No results reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

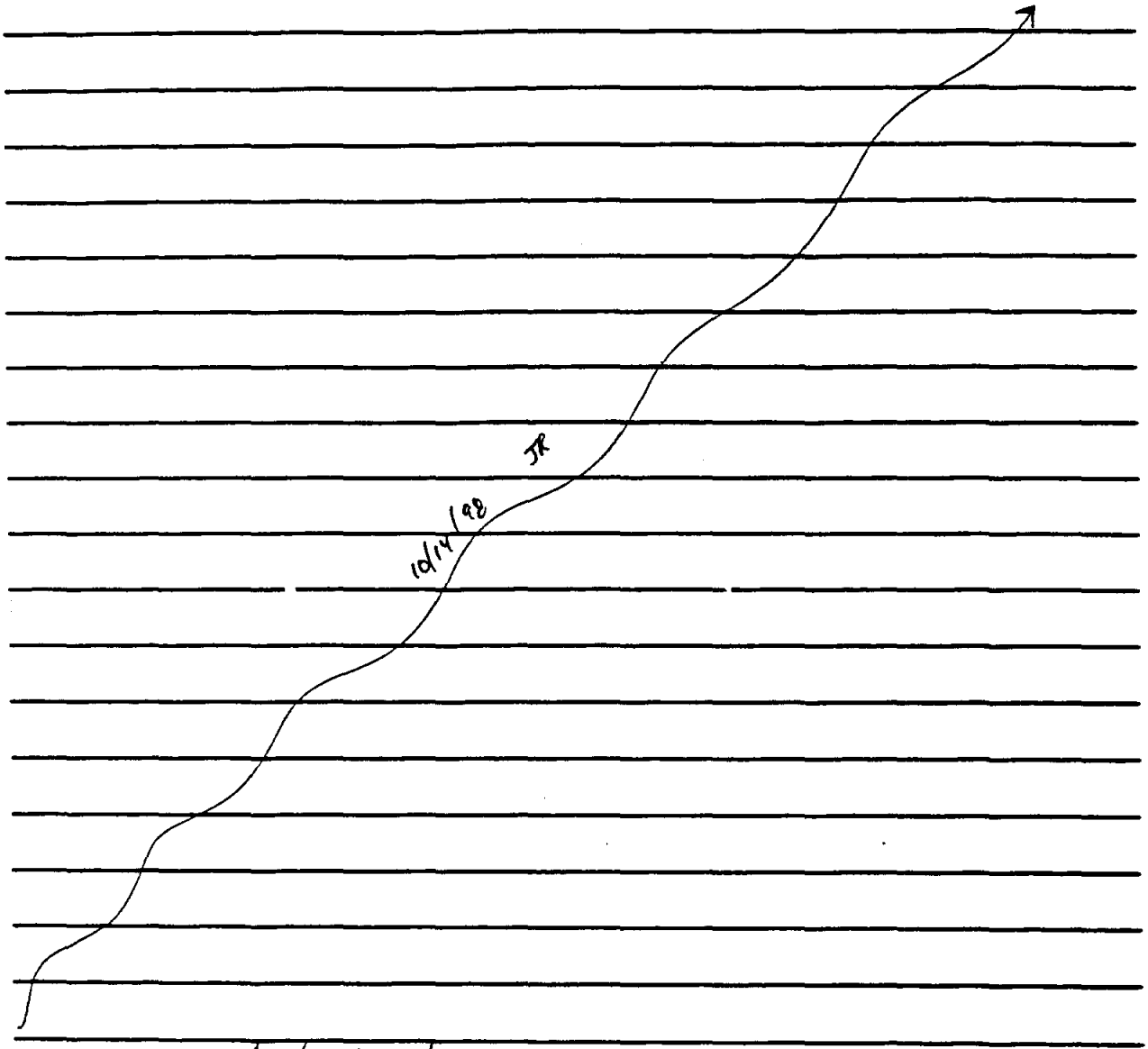
① Percent recoveries for Ba were not reported in the MS and MSD samples. The relative percent difference was not calculated.

Reviewed by: Jeffrey A. Rabe

Date: 10/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey J. Rabe

Date: 10/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 10/14/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600465 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRD2-SL01-000-S	7440-39-3	J A2,P2	
TA2-2-TR02-SL05-000-S	〃	〃	
TA2-2-OUD3-SL01-000-S	〃	〃	

JR 10/14/98

SMS 3/11/99

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 10/14/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TO[illegible]
Rev[illegible]
Attac[illegible]nt A
November 1995

Rvwd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No: 7218.282000

AR/COC No: 600465 | Analytical Lab: ERCL | SDG No: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rabe Date: 10/14/98 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-TRD3-SL03, SL06, SL12-000-5

AR/COC No. 600467 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 10/7/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	SVOC-050 ⇒ no MS/MSD results for barium. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable; LCS duplicate was not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	SVOC-050 ⇒ no MS/MSD results for barium. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① MS/MSD results were not reported for barium (SVOC-050).

Reviewed by: Jeffrey A. Kale

Date: 10/7/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

JR
10/7/98

Reviewed by: Jeffrey A. Rabe

Date: 10/7/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

10/7/98 see page 5 of 5 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey G. Rabe

Date: 10/7/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600467 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
✓ TA2-2-TRD3-SL03-000-S,	✓ 7440-39-3	J, PZ	
✓ SL06-000-S, ✓ SL12-000-S.	}	}	
(Samples submitted for metals analysis)			

JR 10/7/98

[signature] 7-19-00

AN 3/25/99

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 10/7/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. Attach A Novem. 1995

Dmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600467 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓		Note: Sample team member initals missing		
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 10/7/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-TRD4-SL03*, SL05*, SL07, SL14-000-S (*-DUP)

AR/COC No. 600470 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 10/18/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59828 ⇒ No results for Ba ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable; LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59828 ⇒ No results for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① MS and MSD percent recoveries and the relative percent difference were not reported for Ba. This analyte was detected in all of the submitted samples.

Reviewed by: Jeffrey A. Rabe

Date: 10/18/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

JR 10/18/98

Reviewed by: Jeffrey A. Rob

Date: 10/18/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

JR
5 of 5
see page
10/18/98

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Anthony A. Rahe

Date: 10/18/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600470 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TR04-SL03-000-S	7440-39-3	J A2,P2	
SL03-000-S-DUP			
SL07-000-S			
SL05-000-S			
SL14-000-S			
SL05-000-DUP			

10/18/98 JR

3/11/99

Sample No.. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 10/18/98

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP[illegible]
Rev[illegible]
Attac[illegible]nt A
November 1995

Mmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600470 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey J. Rale Date: 10/18/98 Closed by: _____ Date: _____

SAMPLE FINDINGS SUMMARY

Site: 2 VCM

AR COC: 600472 Data Classification:

Sample/ Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRD6-0015-EB	EPA 8270	UJ	svoc
	75-09-2	1.1 U	Methylene Chloride
	74-83-9	UJ	Bromomethane
	78-93-3	UJ	2-butanone
	591-78-6	UJ	2-hexanone
	67-64-1	R	acetone
	110-75-8	R	2-chloroethyl vinyl ether - Not reported
TA2-2-TRD6-0015-TB	EPA 8270	UJ	
	75-09-2	1.5 U	
	74-83-9	UJ	
	78-93-3	UJ	
	591-78-6	UJ	
	67-64-1	R	
	110-75-8	R	Not Reported

No SVOC's for Trace Blank verified off of COC

[signature] 7.31.00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470/1. EPA8015B. EPA8081. EPA8260, EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: [signature] Date: 4/15/99

Verified RJ

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-0UD4-SL03-, TA2-2-TRD6-SL03 (SL08, SL15, SL19, SL23)-000-5

AR/COC No. 600474 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		Note: power outage / VOC / Metals analysis (see case narrative).
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 10/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	5198-21 ⇒ Ba (biased high in both MS and MSD samples) ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable, LCS duplicate not analyzed with submitted samples
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	5198-21 ⇒ Ba (biased high). ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were biased high for Ba in both the MS / MSD samples. The RPD for the analyte was also biased high for the MS/MSD pair.

Reviewed by: Jeffrey J. Kahl

Date: 10/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

JR
10/14/98

Reviewed by: Jeffrey A. Rabe

Date: 10/14/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

10/14/98 JR see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: J. Hoffman-Rabb

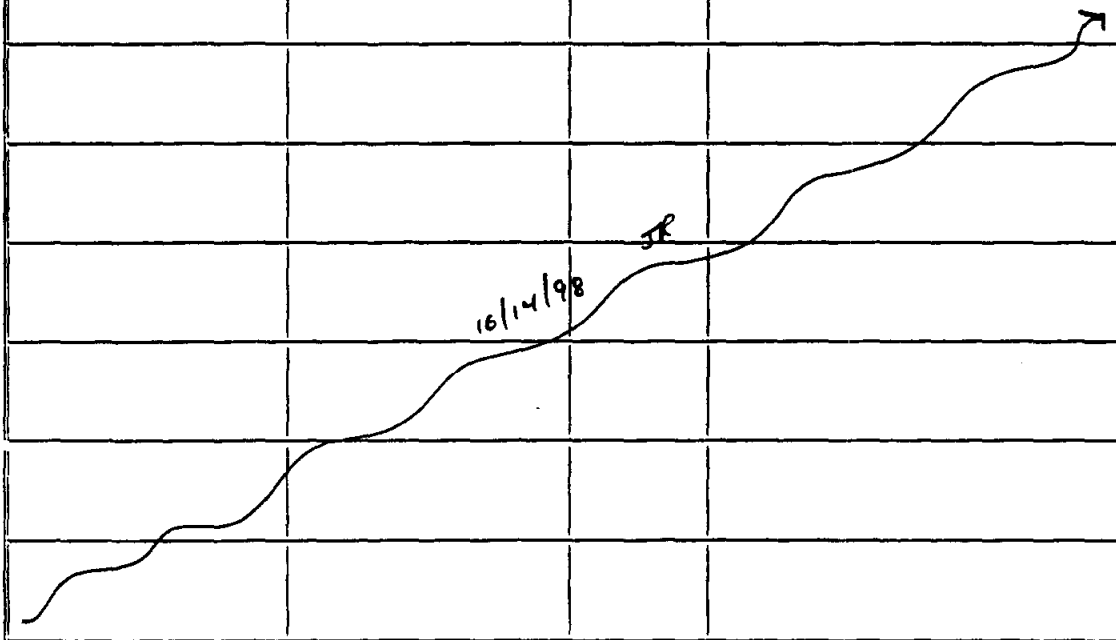
Date: 10/14/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600474 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OVD4-SL03-000-S	7440-39-3	J A2, P1	
TA2-2-TRD6-SL03-000-S			
SL08-000-S			
SL15-000-S			
SL19-000-S			
SL23-000-S			



dnt 3/11/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rade Date: 10/14/98

Rev. 4
Attach A
November 1995

Rvwd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No: 7218.282000

AR/COC No.: 600474 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓		Note: power outage / VOC analysis / Metals		
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey L. Rale Date: 10/14/98 Closed by: _____ Date: _____

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-0V07 (0V08)-SL02-000-S, TA2-2-TRD7-SL03 (SL11, SL13, SL23) -000-S

AR/COC No. 600489 Analytical laboratory ERCC SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 12/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59833 ⇒ no results reported for Ba, Cd biased low in the MSD sample. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59833 ⇒ no result reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	M-59833 ⇒ J value for Cr and Hg (LMB). U-59856 ⇒ J value for methylene chloride (LMB). ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable.
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and the RPD were not reported for Ba in the MS/MSD samples (M-59833). Precision can not be determined. The percent recovery for cadmium

Reviewed by: Jeffrey A. Kalo

Date: 12/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

was biased low in the MSD sample (M-59833) %R was 74%, QC limits are 75-125%. The RPD for the MS/MSD pair was within limits.

② J values were reported for Cr and Hg in the metals LMB (M-59833). Analytical results from the submitted samples were greater than 5x the blank contamination for Cr. Hg was detected between the MDL and the PQL in all but two samples (TA2-2-OVD7 (OVD8)-SL02-000-S. All detected values are less than 5x the blank contamination. Methylene chloride was detected between the MDL and PQL in the LMB (V-59856). Analytical results from the submitted samples were all less than 10x the blank contamination.

12/16/98 JR

Reviewed by: Jeffrey A. Rake

Date: 12/16/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 12/16/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 JCM

AR COC: 600489 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OV07 (OV08)-SL02-	75-09-2	U	Methylene chloride
000-S TA2-2-TR07-	7440-43-9	J, A2	Cd MSO sample
SL03 (SL11, SL13, ~~S~~L23)-000-S	7440-39-3	J, P2	Ba
(All submitted Samples)	↓	↓	
TA2-2-TR07-SL03 (SL11, SL13, SL23)-000-S	7439-97-6	U1	Hg
(4 samples)	↓	↓	
TA2-2-OV07 (OV08)-SL02-	7439-97-6	B	Hg
000-S (2 samples)	↓	↓	
	12/16/98 JR		[signature] 71900

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 12/16/98

JR 4/20/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Signed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600489 | Analytical Lab: ERC | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records continuous and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Trilium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—				
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rake Date: 12/16/98 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-SLPE-SL39, 41-000-S

AR/COC No. 600493 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate analytes reported and met for all organic samples analyzed by a gas chromatograph technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 11/19/98

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59833 ⇒ no MS/MSD results reported for Ba, Cd biased low in the MSD sample ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59833 ⇒ no RPD value reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	M-59833 (LMB) ⇒ J values reported for Cr and Hg ② V-59857 (LMB) ⇒ J methylene chloride
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and the RPD were not reported for Ba in the MS/MSD samples (M-59833) Precision can not be determined.

Reviewed by: Jeffrey A. Rabe

Date: 11/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

① The percent recovery for Cd in the MSD sample (M-59833) was biased low (%R was 74%, QC limits are 75-125%). The RPD for the MS/MSD pair was within limits.

② J values were reported for Cr and Hg in the metals LMB (M-59833). Analytical results from the submitted samples (TA2-2-SLPE-SL39(41)-000-S) were greater than 5x the blank contamination for Cr. Hg was not detected in either of the submitted samples. Methylene chloride was detected between the MDL and the PQL in the LMB (V-59857). Analytical results from the submitted samples (TA2-2-SLPE-SL39(41)-000-S) were less than 10x the blank contamination for this analyte.

11/19/98

Reviewed by: Jeffry A. Rake

Date: 11/19/98

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 11/19/98

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600493 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-SLPE -SL39-000-S	7440-39-3	J, P2	
and TA2-2-SLPE	7439-97-6	B	
-SL41-000-S	75-09-2	U	
"	7440-43-9	J, A2	MSD sample

11/19/98

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 11/19/98

Jeff. 3/15/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600493 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested, ran on submitted sample		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rake Date: 11/19/98 Closed by: _____ Date _____

SAMPLE FINDINGS SUMMARY

Site: 2

AR/COC: 600494 Data Classification: Organic

Sample/ Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRD8-0025-CB	2,4-dinitrophenol 51-28-5	KJ	CCV >40%
"	7440-39-3 Ba	JB3	

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 4/15/99

verified
RB

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-TR08-SL04 (-SL16) (-SL27) (-SL33) (-SL45) - 000-S
TA2-2-TR08-SL01-049-S (-DUP)

AR/COC No. 600502 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 1/25/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59834 ⇒ Ba (MS) and Ba + Cr (MSD) ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59834 ⇒ Cr ② V-59860 ⇒ benzene, toluene 1,1, Dichloroethene, Chlorobenzene + Trichloro
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recoveries for Ba were biased high in both the MS and MSD samples. The percent recovery for Cr was biased high in the MSD sample.

Reviewed by: [signature]

Date: 1/25/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② The RPD was out of criteria for Cr, and is most likely due to sample non-homogeneity (M-59834). The RPD was out of criteria for 1,1 Dichloroethene, Trichloroethene, Benzene, Toluene, and chlorobenzene. The precision for these MS/MSD pairs was most likely the result of matrix effect. None of the above organic analytes were detected in the submitted samples

1/25/99

Reviewed by: Jeffrey A Rake

Date: 1/25/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

1/25/99 JR see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

- J = Estimated quantity (provide reason)
- B = Contamination in blank (indicate which blank)
- P = Laboratory precision does not meet criteria
- R = Reporting units inappropriate
- N = There is presumptive evidence of the presence of the material
- UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
- Q = Quantitation limit does not meet criteria
- A = Laboratory accuracy does not meet criteria
- U = Analyte is undetected (indicate which analyte and reason for qualification)
- NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: J. Jeffrey J. Rabe

Date: 1/25-/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 600502 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRDB-SL04-000-S	7440-47-3	J, P1	Biased high in the MSD sample and RPD
-SL16-000-S -SL27-000-S	7440-39-3	J, A2	Biased high in the MS and MSD samples
-SL33-000-S -SL45-000-S	71-43-2	UJ, P1	
-SL01-049-S -SL01-049-DUP	108-90-7	UJ, P1	
	75-35-4	UJ, P1	
	108-88-3	UJ, P1	
	79-01-6	UJ, P1	

1-19-00

2/2/99 dmt

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 I. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rahn Date: 1/25/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Rmnd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.282000

AR/COC No.: 600502 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA				
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Laboratory sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rake Date: 1/25/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-SLPE-SL44-000-S, TA2-2-TRC9-SL01 (SL05, SL19)-000-S

AR/COC No. 600505 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	—		
2) Holding times met for all samples?	—		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	—		
4) Quantitation limit met for all samples?	—		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	—		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	—		

Reviewed by: Jeffrey A. Rabe

Date: 1/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59836 ⇒ no results reported for Ba ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59836 ⇒ RPD value for Ba not reported ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

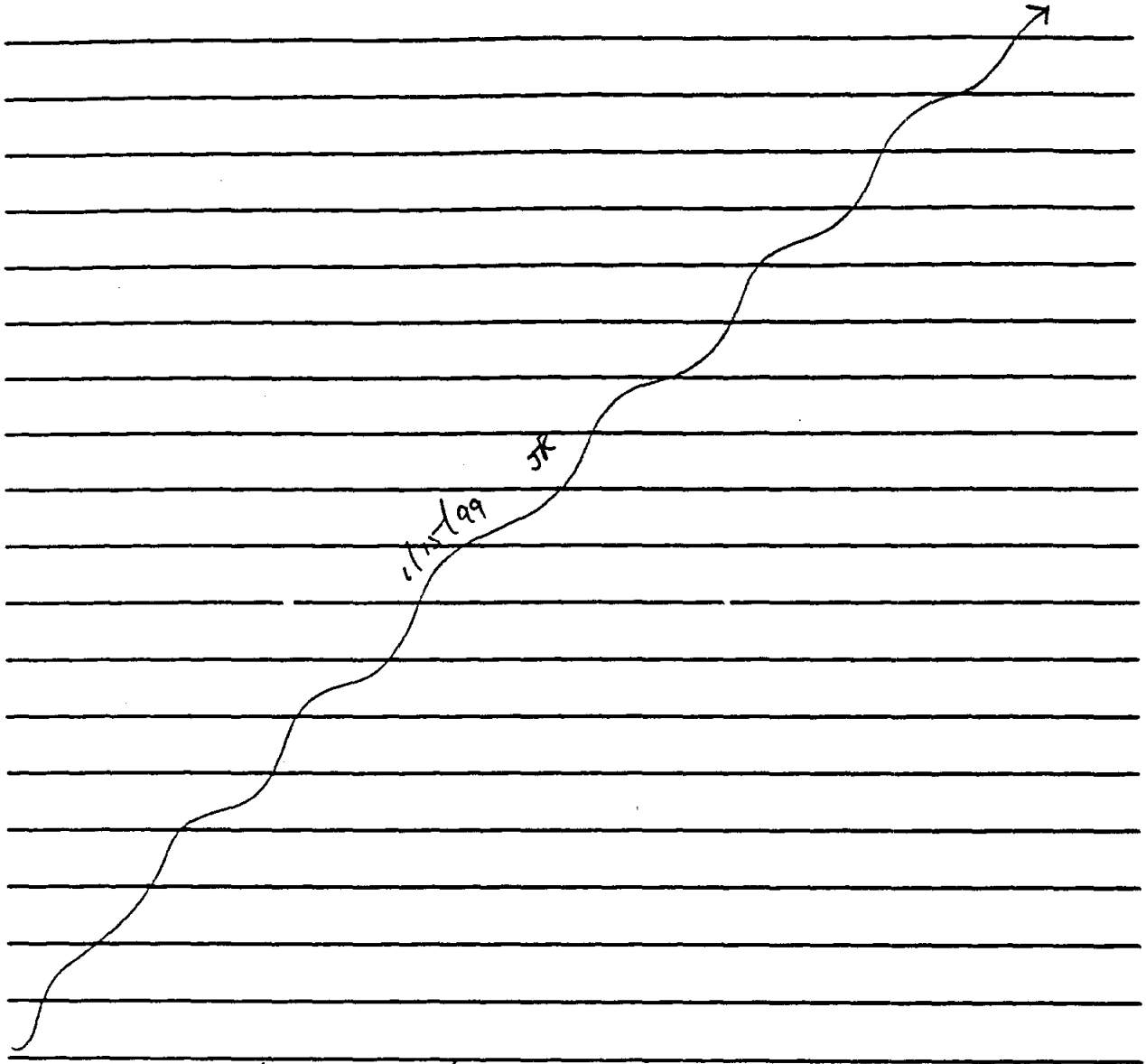
① Percent recoveries and the RPD value not reported for Ba (unable to determine laboratory precision).

Reviewed by: Jeffrey A. Kalen

Date: 1/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey A. Rabe

Date: 1/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

1/15/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 1/15/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 600505 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-SLPE-SL44 -000-S	7440-39-3	J, P2	
TA2-2-TRC9-SL01 -000-S			
TA2-2-TRC9-SL05 -000-S			
TA2-2-TRC9-SL19 -000-S			

1/15/99 JR

Vicki P. Lyons 7-19-00

2/2/99 AMT

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-MB, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 1/15/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.282000

AR/COC No.: 600505 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records continuous and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Trilium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—		Note: not requested		
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rake Date: 11/15/99 Closed by: _____ Date: _____

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR/COC: 600506

Data Classification: Organics (EPA 8260A/B)

Sample Fraction No.	Analysis	DV Qualifiers	Comments
163-002 TA2-2-TRC9-SL01-000-SP	67-64-1	R	
164-001 -TB	(acetone)		
163-002 -SP	75-15-0		
164-001 -TB	(carbon disulfide)		
163-002 -SP	75-35-4	UJ	
164-001 -TB	(1,1-dichloroethene)		
163-002 -SP	75-09-2		
	(methylene chloride)		
	Data is acceptable (except as noted above).		
	QC Measures appear to be adequate. 3-2800		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: _____ Date: 6/3/99

SAMPLE FINDINGS SUMMARY

will not accept

Site: Site 2 VCM

AR/COC: 600506 Data Classification: Inorganics (EPA 6010B ↓ 7471 ↓ 6020)

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRC9 -SL01-000-SP	7440-22-4 (silver (Ag))	J, B, B3	
↓ //	U (uranium)	J, A	
-S only			
	Data is acceptable.		
	QC Measures appear to be adequate.		

)163-001

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 6/3/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282000

Sample Numbers TA2-2-TRC9-SL24 (-SL42) (-SL57) (-SL71) -000-S

AR/COC No. 601134 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rohe

Date: 1/26/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59837 ⇒ no results for Ba. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59837 ⇒ no results for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD were not reported for Ba in the MS/MSD samples.

Reviewed by: Jeffrey J. Rabe

Date: 1/26/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

JR
1/26/99

Reviewed by: Anthony A. Robb

Date: 1/26/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

JR 1/26/99

see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 1/26/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 601134 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRC9 -SL24-000-S	7440-39-3	J, P2	
-SL42-000-S			
-SL57-000-S			
-SL71-000-S			
		JR	

1/26/99

4/8/99

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470 1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 1/26/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway Project Name: Site 2 UCM Case No: 7218.282000

AR/COC No.: 601134 Analytical Lab: ERCL SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records continuous and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Trilium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—		Note: not requested but analyzed on sample		
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete [—] Yes [ ] No

If no, provide: correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rabe Date: 1/26/99 Closed by: _____ Date _____

Site: 2 VCM

AR/COC: 601139 Data Classification: Organics/Inorganic

Sample Fraction No.	Analysis	DV Qualifiers	Comments
	No Data Qualified		
	Data is acceptable QC measures appear adequate		
	No Data Qualified		
	Data is acceptable. QC measures appear adequate.		
TA2-2-TRC7-0003-000-EB	7440-22-4 (Silver)	J, B	
	7439-97-6 (mercury)	J, B	
	Data is acceptable		
	QC measures appear adequate.		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-MS, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: _____ Date: 5-4-99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282

Sample Numbers TA-2-TRC(7,8,9)-SL(01,04,11,17,21,83)-000-S

AR/COC No. 601143 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Anthony A. Rohe

Date: 3/5/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59902 ⇒ no results reported for Ba and Cr. As and Se biased high (MS/MSD), Be biased high (MS) ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59902 ⇒ no results reported for Ba and Cr ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD values were not reported for barium and chromium in the MS and MSD samples (M-59902). Arsenic and selenium were biased high

Reviewed by: Jeffrey A Rabe

Date: 3/5/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

in both the MS and MSD samples. Beryllium was also biased high in the MS sample (M-59902). The RPD values for arsenic, selenium, and beryllium were all within QC control limits.

JR 3/5/99

Reviewed by: Jeffry A. Rabe

Date: 3/5/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

3/5/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 3/5/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 601143 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
(All Metal Samples)	7440-47-3	J, P2	
TA-2-TRC9-SL83-000-S	7440-39-3	J, P2	
TA-2-TRC8-SL04-000-S	7440-38-2	J, A2	Biased high in both the MS and MSD sample
TA-2-TRC8-SL11-000-S	7782-49-2	J, A2	Biased high in both the MS and MSD samples
TA-2-TRC8-SL17-000-S	7440-41-7	J, A2	Biased high in the MS sample
TA-2-TRC7-SL01-000-S			
TA-2-TRC7-SL21-000-S			

3/5/99 TR

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 3/5/99

Amt 4/15/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev[redacted]
Atta[redacted] A
Nove[redacted] 1995

11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No: 7218.282

AR/COC No.: 601143 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested but ran on samples		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ ~~Yes~~ ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffry A. Rabe | Date: 3/5/99 | Closed by: _____ | Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.282

Sample Numbers TA2-2-TRC6-SL07-000-S

AR/COC No. 601145 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 3/5/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no. Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-S9902 ⇒ no results reported ① for Ba and Cr. As and Co biased high (MS/MSO), Be biased high (MS)
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-S9902 ⇒ no results reported for Ba and Cr. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM lab No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD values were not reported for barium and chromium in the MS and MSO samples (M-S9902). Arsenic and selenium were biased high

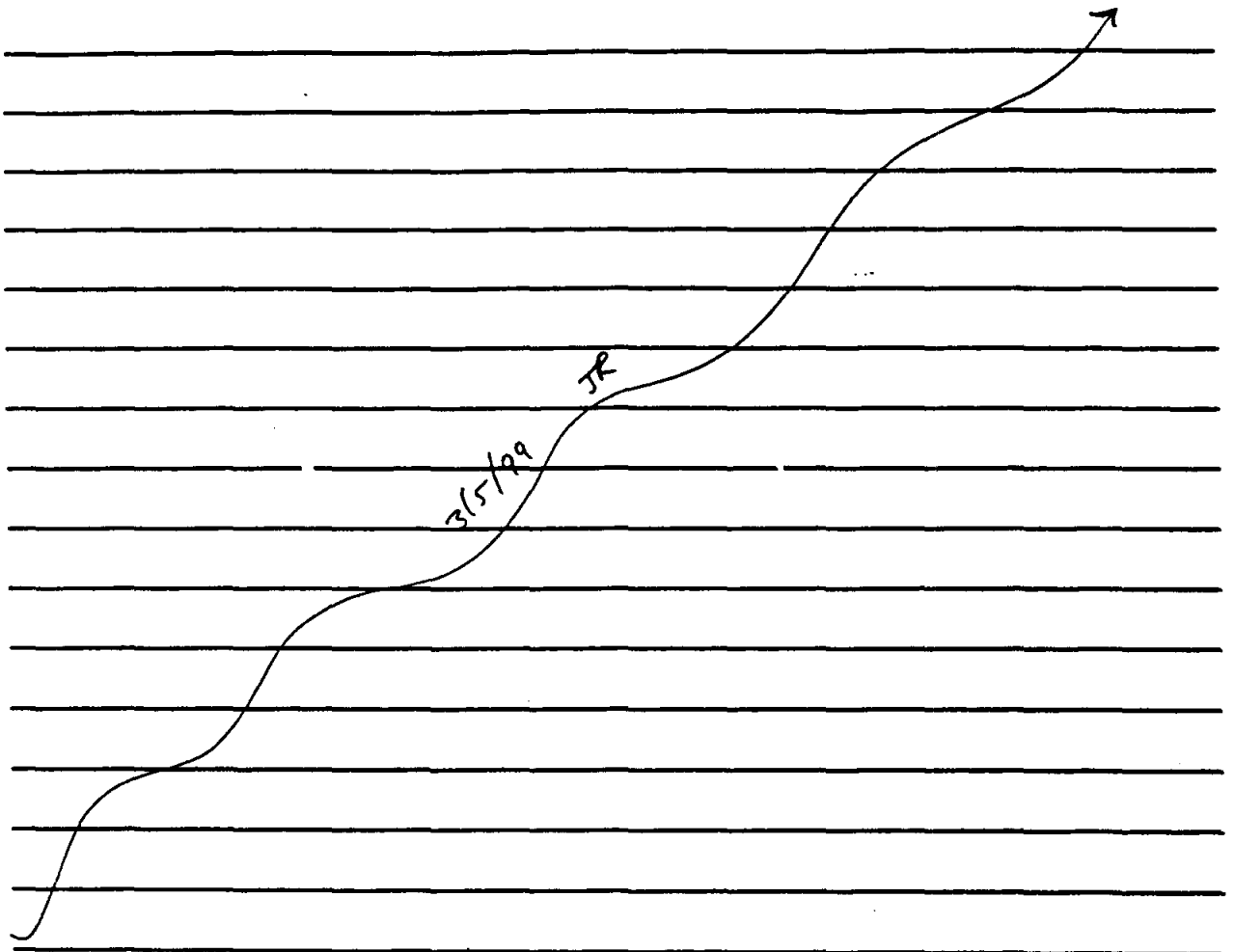
Reviewed by: Jeffry J. Rabe

Date: 3/5/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

in both the MS and MSD samples. Beryllium was also biased high in the MS sample. The RPD values for arsenic, selenium and beryllium were within control limits. (M-59902).



Reviewed by: Jeffrey A. Rabe

Date: 3/5/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional samples

QUALIFIERS:

- J = Estimated quantity (provide reason)
- B = Contamination in blank (indicate which blank)
- P = Laboratory precision does not meet criteria
- R = Reporting units inappropriate
- N = There is presumptive evidence of the presence of the material
- UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
- Q = Quantitation limit does not meet criteria
- A = Laboratory accuracy does not meet criteria
- U = Analyte is undetected (indicate which analyte and reason for qualification)
- NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: J. Hoy A. Rak

Date: 3/5/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 601145 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRC6-SL07-000-S	7440-47-3	J, P2	
	7440-39-3	J, P2	
	7440-38-2	J, A2	Biased high in both the MS and MSD samples
	7782-49-2	J, A2	Biased high in both the MS and MSD samples
	7440-41-7	J, A2	Biased high in the MS sample

4/15/99

3/5/99 JR

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Tina A. Rabe Date: 3/5/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. [redacted] A
Attac[redacted]
Nove[redacted] 1995

Rmnd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name Site 2 VCM Case No. 7218.282

AR/COC No. 601145 Analytical Lab ERCL SDG No. NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records continuous and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Tritium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—		Note: not requested		
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: J. Hoy A. Rabe Date: 3/5-/99 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-TRC5-SL07-000-5

AR/COC No. 601154 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	✓		

Reviewed by: Jeffrey A. Rabe

Date: 4/8/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-S9905 ⇒ Hg biased high (MS sample) ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-S9905 ⇒ Hg. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

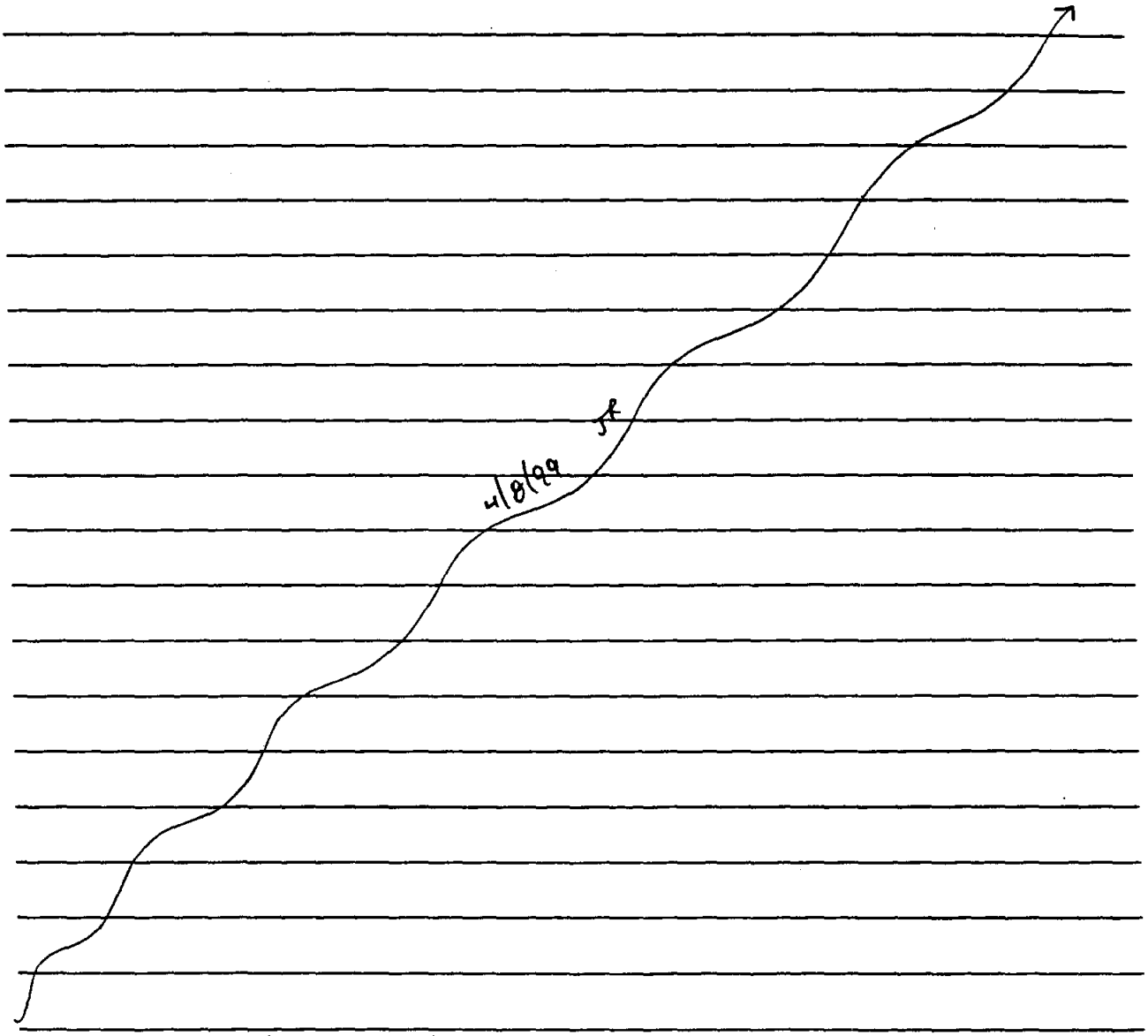
① The percent recovery for Hg was biased high in the MS sample (M-S9905). The RPD for Hg was also outside of QC windows for the MS/MSD pair (M-S9905).

Reviewed by: Jeffry J. Rabe

Date: 4/8/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey A. Rabe

Date: 4/8/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

4/8/99 JP see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

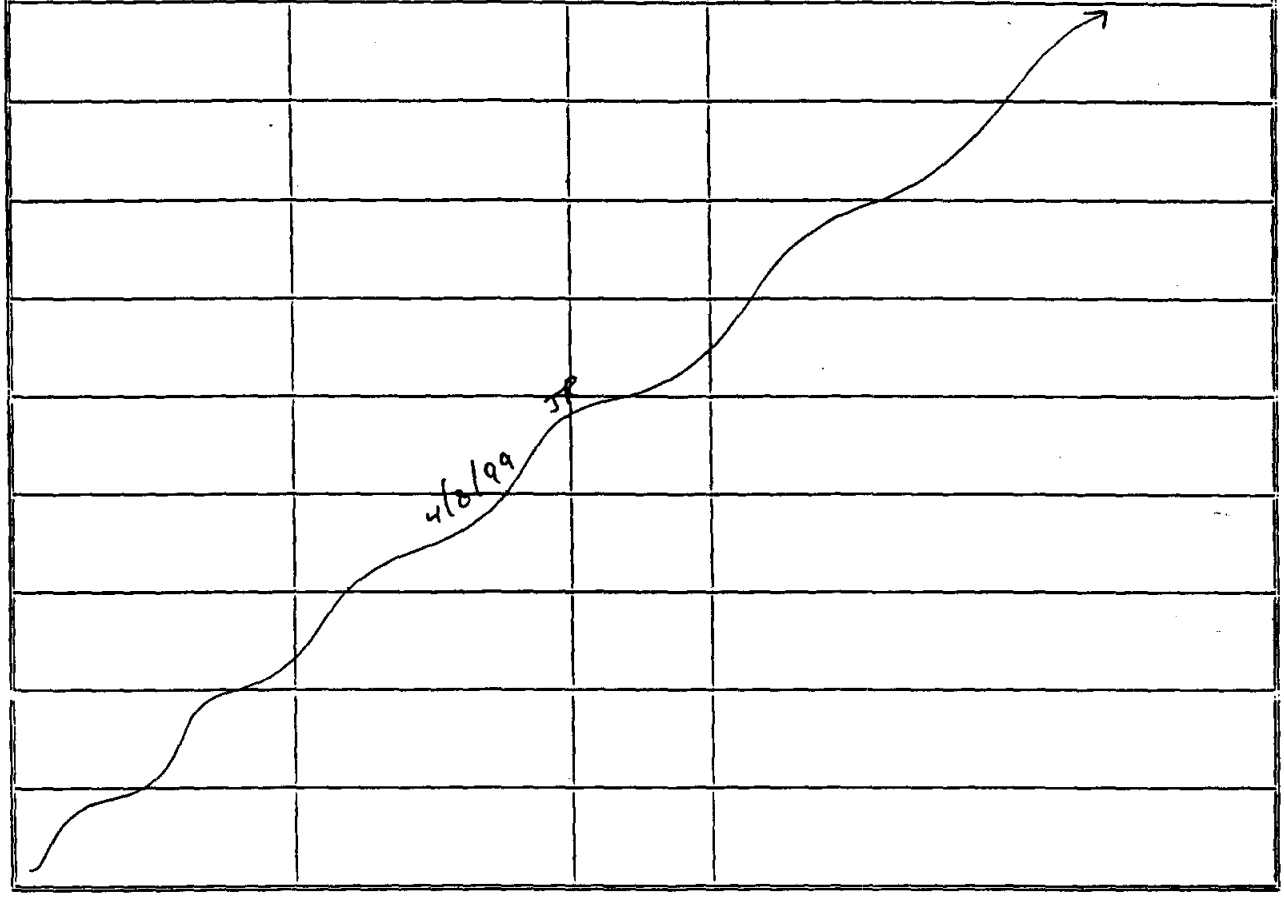
Date: 4/8/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 601154 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRC5-SL04-000-5	7439-97-6	J A2, P1	



Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rake Date: 4/8/99

verified

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attach
Novem 1995

Dmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway Project Name: Site 2 UCM Case No.: 7218.282000

AR/COC No.: 601154 Analytical Lab: ERCL SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA				
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓			
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 4/6/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.282000

Sample Numbers TA2-2-TRD8 (-TRC9, -TRC8)-C1F-BIN-S, TA2-2-TRC7-C6-BIN-S

AR/COC No. 601594 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		Note: nonconformance stated in case narrative due to power outage
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Role

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59906 ⇒ J value reported for Cr. ①
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Chromium was detected between the MDL and PQL in the LMB (M-59906). Chromium was detected in all of the submitted samples at concentrations greater than 5x the

Reviewed by: Jeffrey A. Kale

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

blank value.

JK 5/7/99

Reviewed by: A. Hay A. Rabe

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

5/7/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rahe

Date: 5/7/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 601594 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments

JR 5/7/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260; EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rake Date: 5/7/99

QC-SME RJ

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 JCM | Case No: 7218.282000

AR/COC No.: 601594 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	NA		Not applicable		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey J. Rahe Date: 5/7/99 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.2202

Sample Numbers TA2-TRC4-SL08-000-S, TA2-2-TRC3-SL04-000-S and TA2-2-1600-SORT-SEG-S

AR/COC No. 601596 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: A. Hoy A. Rabe

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?	✓		
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59906 ⇒ J value reported for Cr.
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

© Chromium was detected between the MDL and PQL in the LMB (M-59906). The analytical results show that chromium was detected in two of the three

Reviewed by: Jeffry A. Rabe

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

submitted samples. The results for samples TA2-2-TRC4-SL08-000-S and TA2-TRC3-SL04-000-S were greater than 5X the method blank value.

5/7/99

Reviewed by: Jeffrey A. Rabe

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

Attach continuation sheet for additional entries

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 5/7/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 601596 Data Classification: DV2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-1600-SORT-SEG-S	7440-47-3	B	

JR 5/7/99

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 5/7/99

Verified

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Alla [illegible] A
November 1995

DocuSigned 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.2202

AR/COC No.: 601596 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	NA		Not applicable		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 5/7/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TRC3-SC12-000-5

COC/COC No. 601601 Analytical laboratory ERCL SDG No. NA

COC/COC No. _____ Analytical laboratory _____ SDG No. _____

COC/COC No. _____ Analytical laboratory _____ SDG No. _____

COC/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-S9910 ⇒ Hg biased high (MS) No results reported for Ba and Pb. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-S9910 ⇒ No results reported for Ba and Pb. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		Note: cobalt (not requested analyte) detected between the MDL and PQL.
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Mercury was biased high in the MS sample. The percent recovery in the MSD and the RPD value were within QC windows. Percent recoveries and RPD's

Reviewed by: Jeffrey A. Pike

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

were not reported for Ba and Pb.

JR
5/7/99

Reviewed by: Jeffrey A-Rabe

Date: 5/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

5/7/99 JR
see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

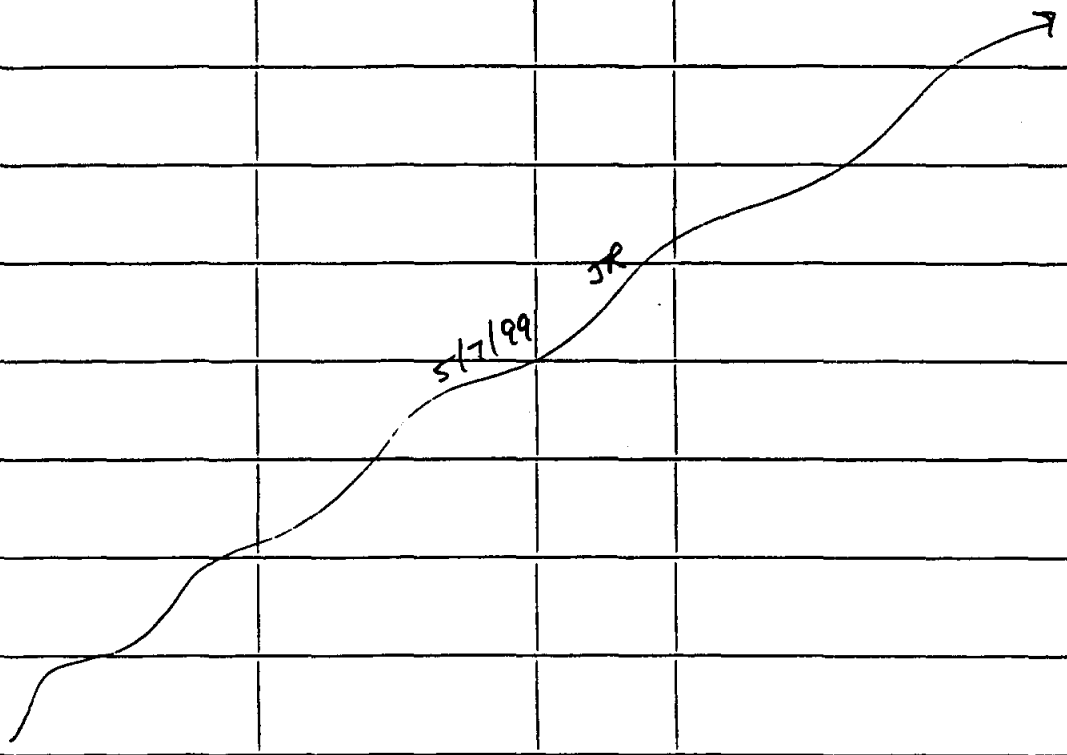
Date: 5/7/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 601601 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRC3-SL12-0000-S	7440-39-3	J, P2	
	7439-92-1	J, P2	
	7439-97-6	J, A2	



Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 5/7/99

Verify

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev
Att: nt A
November 1995

Rvwd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.2202

AR/COC No: 601601 | Analytical Lab: ERCL | SDG No: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - date entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	NA		Not applicable		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 5/7/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TRC2-SL02-000-S

AR/COC No. 601603 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	M-59911 ⇒ Hg biased low ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59911 ⇒ Results not reported for Cr and Pb. Ba and Cd biased high in MS and MSD samples. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59911 ⇒ No results reported for Cr and Pb. ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59911 ⇒ J value reported for Pb. in the LMB. ③
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for Hg was biased low in the LCS (M-59911).

Reviewed by: Jeffrey A. Kahe

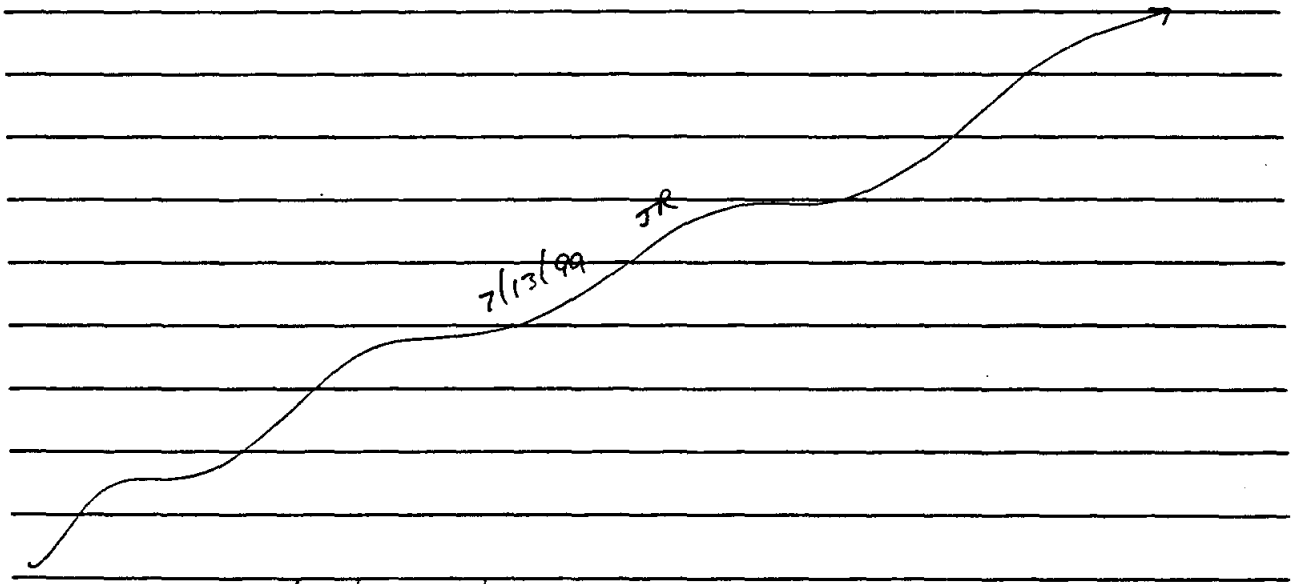
Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② Percent recoveries and RPD values were not reported for Cr and Pb in the MS and MSD samples (M-59911). Percent recoveries for Ba and Cd were biased high in both the MS and MSD samples. The RPD values for Ba and Cd in the MS/MSD pair were within QC windows. (M-59911).

③ Pb was detected between the MDL and PQL in the LMB (M-59911). The analytical result for Pb was greater than 5x the blank contamination.



Reviewed by: Jeffrey A Rahn

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 7/13/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahe

Date: 7/13/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 601603 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRC2-SL02-000-5	7440-39-3	J, A2	
	7440-43-9	J, A2	
	7440-47-3	J, P2	
	7439-97-6	UJ, A	
	7439-92-1	J, P2	

J.R 7/13/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey J. Rab Date: 7/13/99

verified RZ

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.2202

AR/COC No.: 601603 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A-Rahe Date: 7/13/99 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.2202

Sample Numbers TA2-2-TRC1-SL06-000-S

AR/COC No. 601605 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	M-S9911 ⇒ Hg biased low in the LCS. ©
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59911 ⇒ Results not reported for Cr and Pb. Ba and Cd %R were biased high in MS and MSD. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59911 ⇒ Results not reported for Cr and Pb. ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	M-59911 ⇒ J value reported for Pb in the LMB. ③
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for Hg was biased low in the LCS (M-59911).

Reviewed by: Jeffrey A. Kahn

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② Percent recoveries and RPD values were not reported for Cr and Pb in the MS and MSD samples (M-59911). Percent recoveries for Ba and Cd were biased high in both the MS and MSD samples. The RPD values for Ba and Cd in the MS/MSD pair were within QC windows (M-59911).

③ Pb was detected between the MDL and PQL in the LMB (M-59911). The analytical result for Pb was greater than 5x the blank concentration.

JR 7/13/99

Reviewed by: Jeffrey A. Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 7/13/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rahe

Date: 7/13/99

Site: Site 2 UCM

AR COC: 601605 Data Classification: DU-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TKC1-SL06-000-S	7440-39-3	J, A2	
	7440-43-9	J, A2	
	7440-47-3	J, P2	
	7439-97-6	UJ, A	
	7439-92-1	J, P2	

7/13/99 JR

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rahe Date: 7/13/99

verified RM

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP... 01
Re...
Att... ment A
November 1995

Mod 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway Project Name: Site 2 UCM Case No.: 7218.2202

AR/COC No.: 601605 Analytical Lab: ERCL SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - date only clearly labeled and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ ~~Yes~~ ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rahe Date: 7/13/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TRB1-SL03-000-S

AR/COC No. 601607 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?		✓	M-59911 ⇒ Hg biased low in the LCS ①
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Geoffrey A. Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59911 ⇒ Results not reported for Cr and Pb. Ba and Cd biased high in the MS and MSD samples. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59911 ⇒ Results not reported for Cr and Pb. ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59911 ⇒ J value reported for Pb in the LMB. ③
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for Hg was biased low in the LCS (M-59911).

Reviewed by: Jeffry J. Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② Percent recoveries and RPD values were not reported for Cr and Pb in the MS and MSD samples (M1-59911). Percent recoveries for Ba and Cd were biased high in both the MS and MSD samples. The RPD values for Ba and Cd in the MS/MSD pair were within QC windows (M1-59911).

③ Pb was detected between the MDL and PQL in the LMB (M1-59911). The analytical result for Pb was greater than 5x the blank contamination.

JR 7/13/99

Reviewed by: Jeffry A. Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 7/13/99 JP

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahe

Date: 7/13/99

Site: Site 2 VCM

AR COC: 601607 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRB1-SL03-000-S	7440-39-3	J, A2	
	7440-43-9	J, A2	
	7440-47-3	J, P2	
	7439-97-6	J, A	
	7439-92-1	J, P2	

JR 7/13/99

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 7/13/99

Verified RB

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Re[redacted]
Att[redacted]ent A
November 1995

DocumentationCompletenessChecklist
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.2202

AR/COC No.: 601607 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 7/13/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM
Case Number 7218.2202
Sample Numbers TA2-2-OUB1-SL01-000-S

AR/COC No. 601726 Analytical laboratory EECL SDG No. NA
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe
Date: 7/12/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59912 ⇒ No results reported for Ba, Hg, and Pb. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59912 ⇒ No results reported for Ba, Hg, and Pb. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

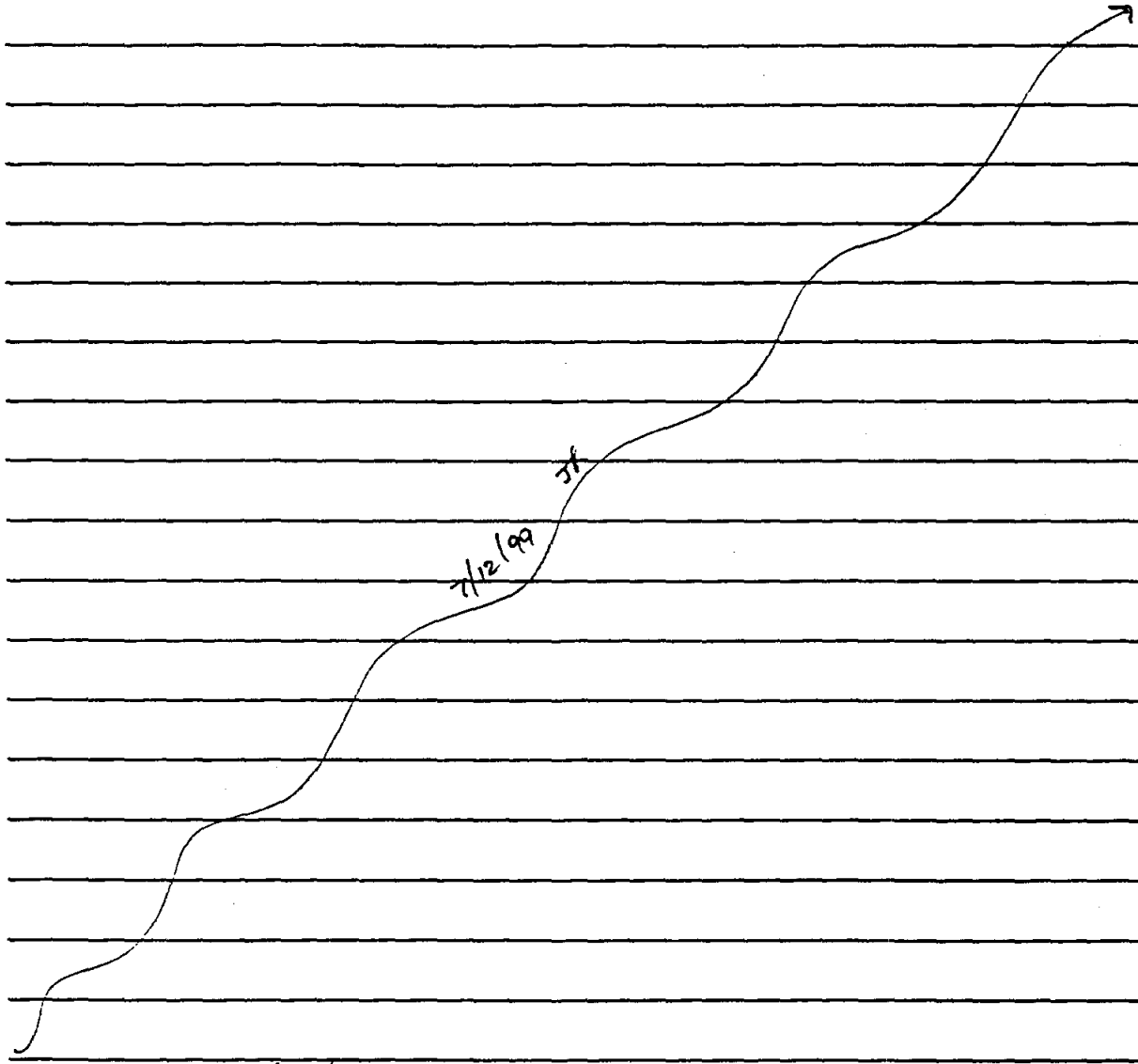
① Percent recoverres and RPD values were not reported for Ba, Hg, and Pb in the MS/MSD samples (M-59912).

Reviewed by: Jeffry A. Rabi

Date: 7/12/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey A. Rabe

Date: 7/12/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 7/12/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 7/12/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 601726 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OUB1-SL01-000-S	7440-39-3	J, P2	
〃	7439-92-1	J, P2	
〃	7439-97-6	UJ, P2	

7/12/99 JR

Sample No. Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rale Date: 7/12/99

verified JR

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 6
Attach
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway Project Name: Site 2 UCM Case No: 7218.2202

AR/COC No: 601726 Analytical Lab: ERCL SDG No: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA				
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rahe Date: 7/12/99 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TRB2-SL01-000-S

AR/COC No. 601728 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 7/12/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59912 ⇒ No results reported for Ba, Hg, and Pb. ©
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59912 ⇒ No results reported for Ba, Hg, and Pb. ©
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

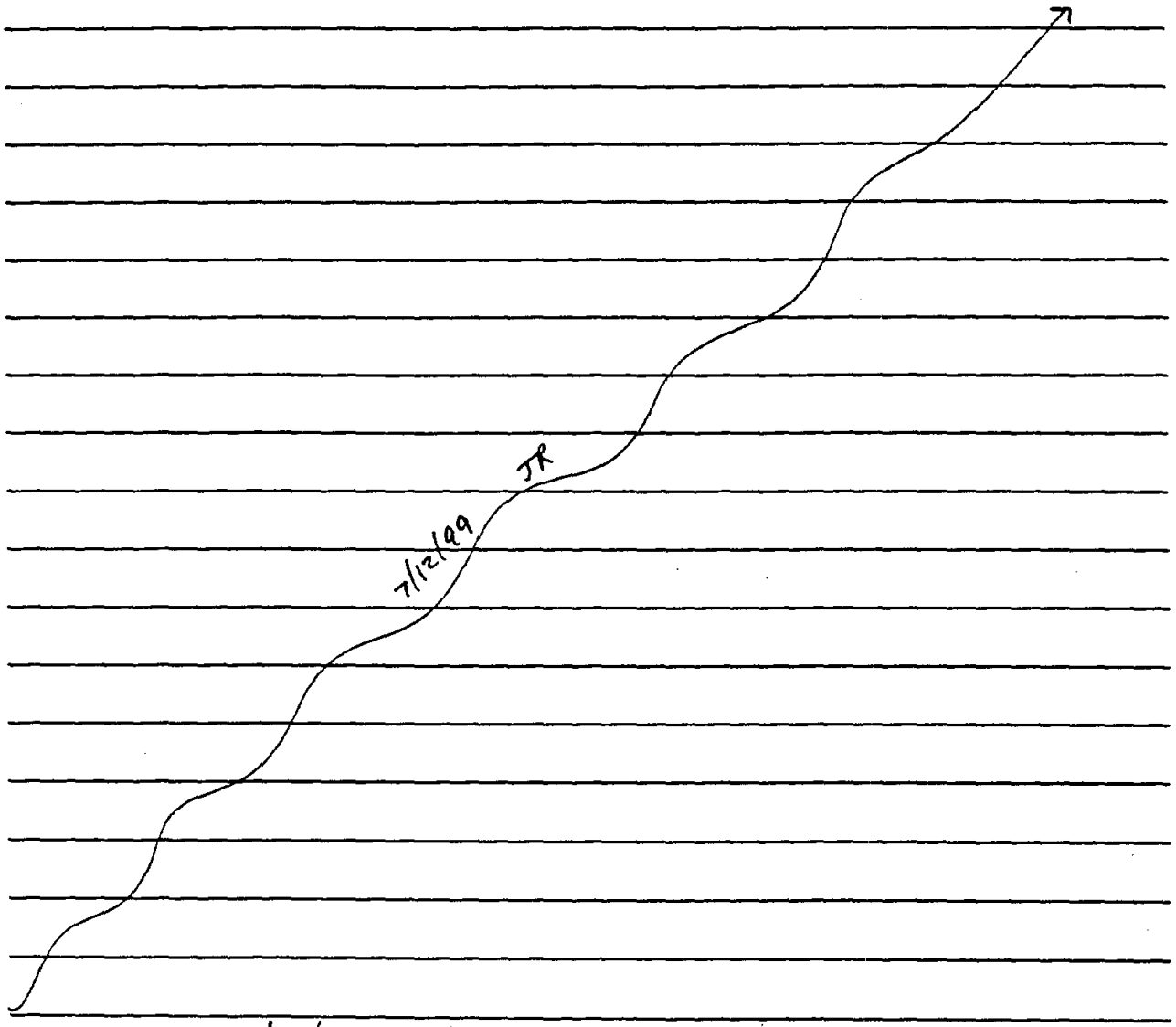
© Percent recoveries and RPD values were not reported for Ba, Hg, and Pb in the MS/MSD samples (M-59912).

Reviewed by: Jeffry A. Kobe

Date: 7/12/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey A. Rabe

Date: 7/12/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 7/12/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 7/12/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 601728 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRB2-SL01-000-5	7440-39-3	J, P2	
≀	7439-97-6	J, P2	
≀	7439-92-1	J, P2	

7/12/99 JR

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-MB, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 7/12/99

QC verified JR

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Received 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.2202

AR/COC No.: 601728 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rabe Date: 7/12/99 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.2202

Sample Numbers TA2-2-TRB3-SL01-000-S

AR/COC No. 601731 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		

Reviewed by: Jeffrey A. Rahe

Date: 7/13/99

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59912 ⇒ Results not reported for Ba, Hg, and Pb. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59912 ⇒ Results not reported for Ba, Hg, and Pb. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?		✓	

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

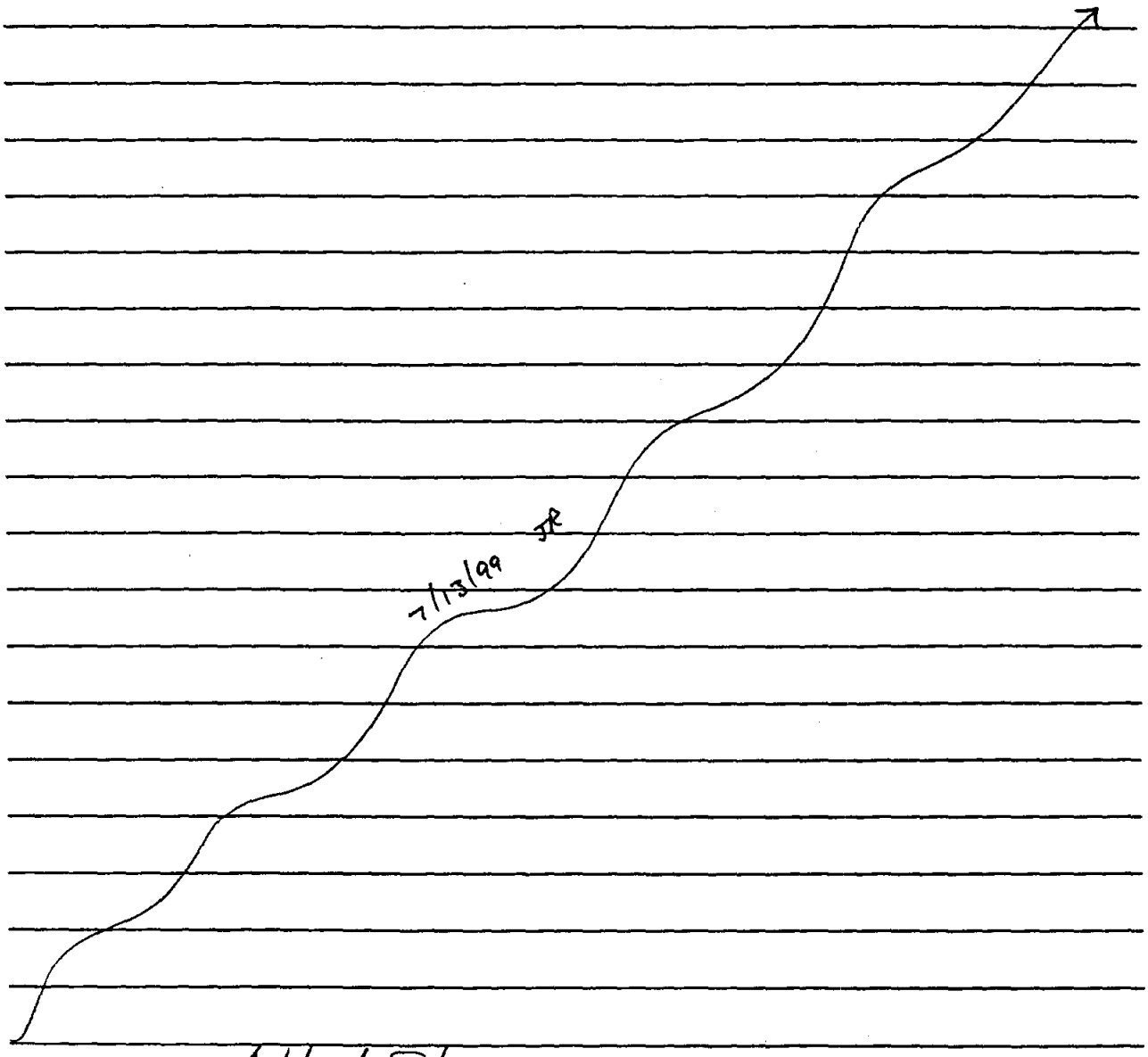
① Percent recoveries and RPD values were not reported for Ba, Hg, and Pb in the MS/MSD samples (M-59912).

Reviewed by: Jeffrey A. Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey A-Rabe

Date: 7/13/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

7/13/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffry J. Rabe

Date: 7/13/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 601731 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRB3-SL01-000-5	7440-39-3	J, P2	
	7439-97-6	P2	
	7439-92-1	J, P2	
		JR	
		7/13/99	

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 7/13/99

verified

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment A
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.2202

AR/COC No.: 601731 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe | Date: 7/13/99 | Closed by: _____ | Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM
Case Number 7218.2202
Sample Numbers TA2-2-TRB3-SL16-000-S

AR/COC No. 601743 Analytical laboratory ERCL SDG No. NA
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	—		
2) Holding times met for all samples?	—		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	—		
4) Quantitation limit met for all samples?	—		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	—		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffry A. Rabe
Date: 9/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59923 ⇒ no results reported for Ba. Se, Cd, and Hg outside of windows (MS/MSD). Ni ⇒ MSD. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	—		
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD values were not reported for Ba in the MS/MSD samples. The following analytes were outside of QC limits in the MS/MSD samples: Se, Cd, and Hg.

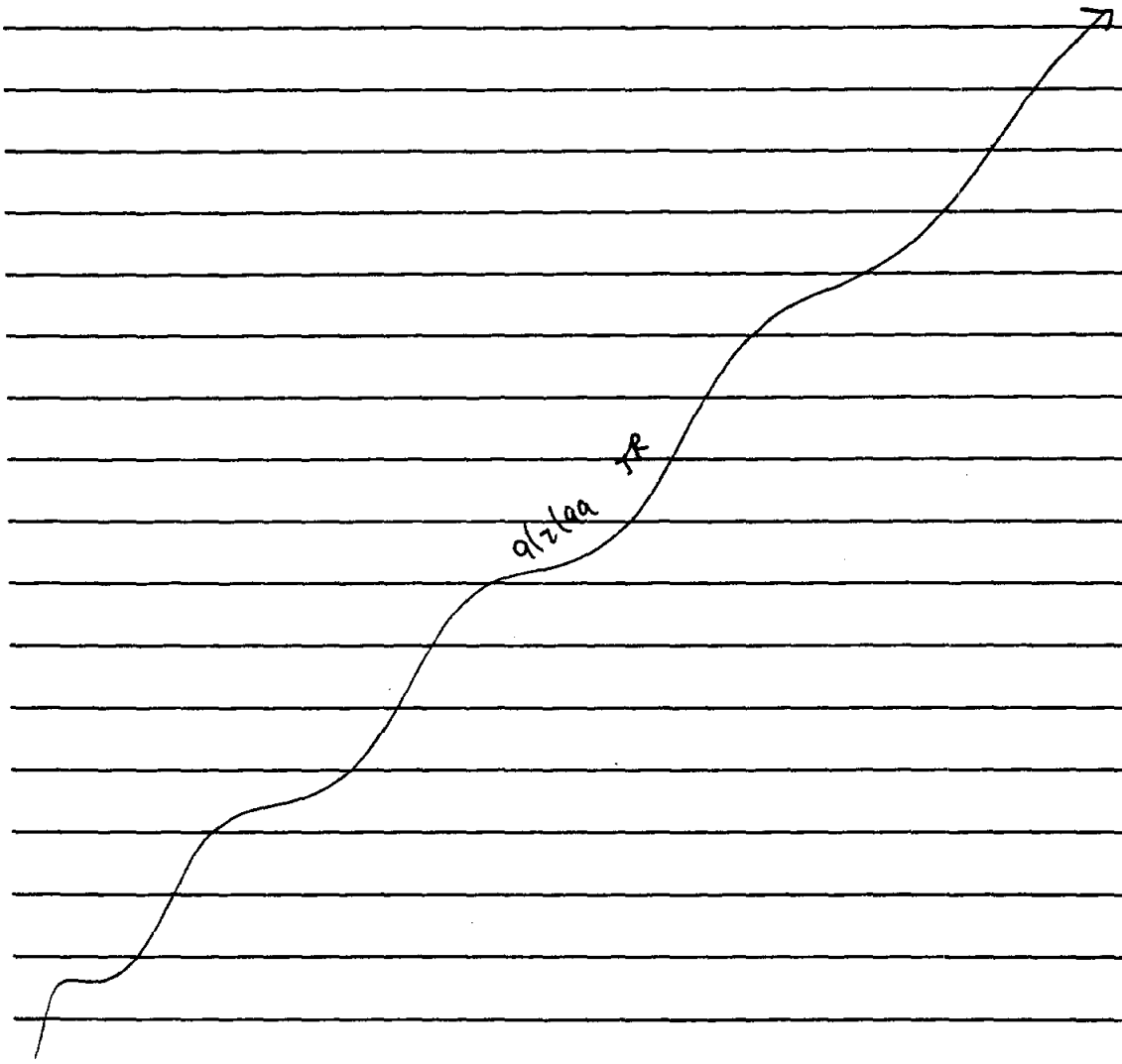
Reviewed by: 4-Hy 4. Rola

Date: 9/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

Ni was outside of QC limits in the MSD sample (biased low). (M-59923).



Reviewed by: Jeffrey A. Rabe

Date: 9/7/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

9/7/99 JR See page 5 F5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: J. Hy G. Rahe

Date: 9/7/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 601743 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRB3-SL16-000-S	7440-39-3	J, P2	
	7440-43-9	J, A2	
	7439-97-6	J, A2	
	7440-02-0	J, A2	
	7782-49-2	J, A2	

9/7/99 JR

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 9/7/99

verified KM

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. Attach
Novem 95
Rmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.2202

AR/COC No.: 602082 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested.		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ ~~Yes~~ ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rabe Date: 8/18/99 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.2202

Sample Numbers TA2-2-TRA3-SL02-000-S

AR/COC No. 602082 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rake

Date: 8/18/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59922 ⇒ no results reported for Hg. Ba biased high (MS) Pb biased high (MS/MSD). ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59922 ⇒ Pb biased high. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59922 ⇒ J value reported for Se. ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD value were not reported for Hg in the MS/MSD samples. Percent recoveries for Ba and Pb were biased high in the MS sample. The percent recovery

Reviewed by: Jeffrey A. Rabe

Date: 8/18/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

for Pb was biased high in the MSD sample and the RPD for the MS/MSD pair was also outside of QC windows (M-59922).

② Se was detected between the MDL and the PQL in the LMB (M-59922). The analytical result for Se in the submitted sample TA2-2-TRA3-SL02-000-S was less than 5x the blank contamination result.

JR 8/18/99

Reviewed by: Jeffrey A. Rake

Date: 8/18/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 8/18/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 8/18/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602082 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRA3-SL02-000-S	7782-49-2	U1 ✓	
	7439-97-6	J, P2 ✓	
	7440-39-3	J, A2 ✓	
	7439-92-1	J A2, P1 ✓	
		JR	
	8/18/99		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rake Date: 8/18/99

verified RJ

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TRA3-SL07-600-5

AR/COC No. 602088 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	✓		
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 8/18/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-S9922 ⇒ no results reported for Hg. Ba biased high (MS) Pb biased high (MS/MSD). ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-S9922 ⇒ Pb biased high ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-S9922 ⇒ J value reported for Se ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD value were not reported for Hg in the MS/MSD samples. Percent recoveries for Ba and Pb were biased high in the MS sample. The

Reviewed by: Jeffrey J. Kato

Date: 8/18/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

percent recovery for Pb was also biased high in the MSD sample. The RPD for Pb in the MS (MSD pair was also outside of QC windows. (M-59922).

(2) Se was detected between the MDL and PQL in the LMB (M-59922).

8/18/99 JK

Reviewed by: Jeffrey A. Rake

Date: 8/18/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

8/18/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey T. Rabe

Date: 8/18/99

Site: Site 2 UCM

AR COC: 602088 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRA3-SL07-000-S	7782-49-2	UI	
	7439-97-6	J, PZ	
	7440-39-3	J, A2	
	7439-92-1	J A2, P1	

8/18/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 8/18/99

verified

Rev. Attachment A November 1995

Signed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.2202

AR/COC No.: 602088 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rabe Date: 8/18/99 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TRA2-SL06-000-S, TA2-2-OVA2(-OVA3)-SL01-000-S

AR/COC No. 602093 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	—		
2) Holding times met for all samples?	—		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	—		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	—		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 10/20/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59932 ⇒ results not reported for Ba. Pb biased high (MS). ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59932 ⇒ results not reported for Ba. Pb biased high. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59932 ⇒ J values reported for Ag and Cd. Be was detected above the PQL. ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD values were not repoted for Ba in the MS and MSD samples (M-59932). The percent recovery for Pb was biased high in the MS sample. The RPD value

Reviewed by: Jeffry A. Rabe

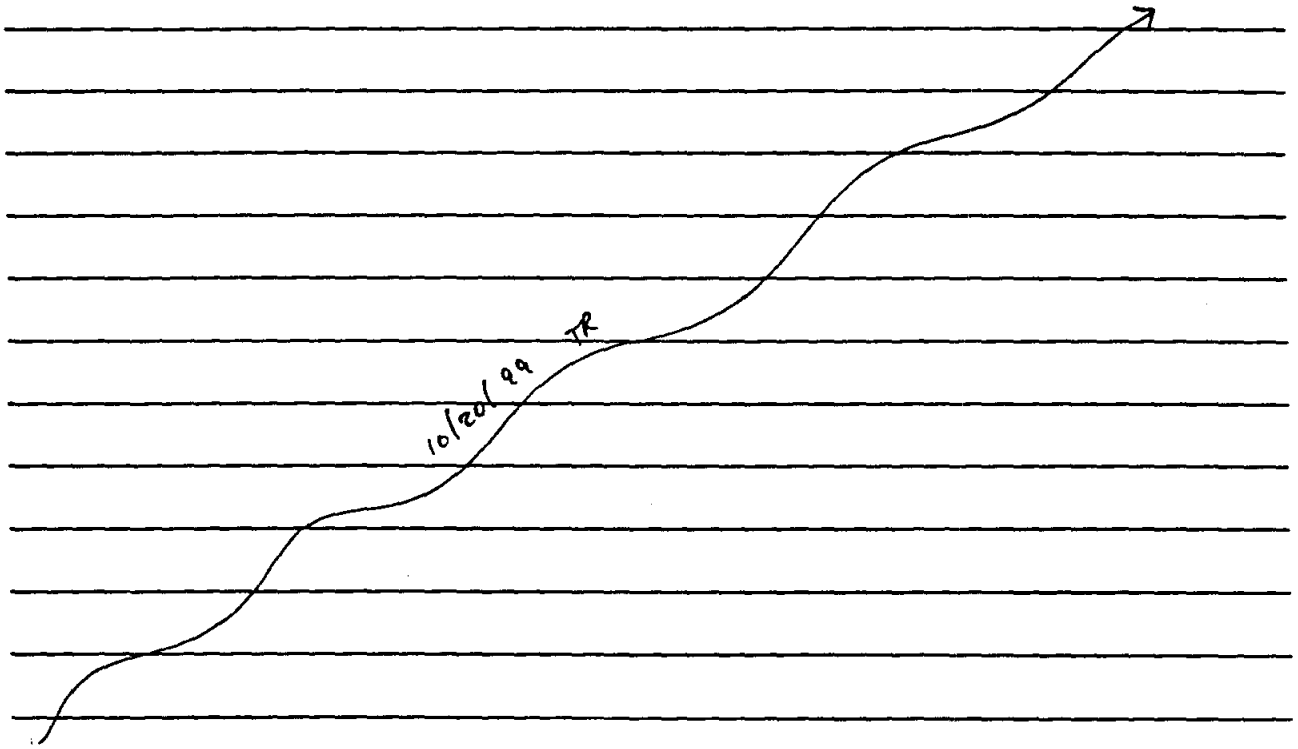
Date: 10/20/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

for Pb in the MS/MSD pair was also biased high

② Silver and cadmium were detected between the MDL and PQL in the LMB. Beryllium was detected above the PQL in the same LMB (M-S9932). See page 5 of 5 for data validation qualifiers regarding the above listed analytes.



Reviewed by: Jeffrey A. Rake

Date: 10/20/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5 FS 10/20/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 10/20/99

Site: Site 2 UCM

AR COC: 602093 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TRA2 -SL06 -000-S	7440 -22-4	U1	Ag
	7440-41-7	U1	Be
	7440-39-3	J,P2	Ba
	7439-92-1	J A2,P1	Pb
TA2-2-OVA2 -SL01-000-S	7440-22-4	B	Ag Derek Rodgers 2-29-00
and TA2-2-OVA3	7440-41-7	U1	Be Derek Rodgers 1-30-01
-SL01-000-S	7440-39-3	J,P2	Ba Qualifiers apply to both samples.
	7439-92-1	J A2,P1	Pb J. Rake 2/20/01
			10/20/99 TS

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rake Date: 10/20/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev
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Nove r 1995

Reviewed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.2202

AR/COC No.: 602093 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA				
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records consistent and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Tritium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—		Note: not requested		
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 10/20/9 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TRA1-SL01-005, TA2-2-FILL-DIRT-1/2(2/2)-5

AR/COC No. 2099 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffry A. Rabe

Date: 11/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59921 ⇒ results not reported for Hg and Ba ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59921 ⇒ results not reported for Hg and Ba ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

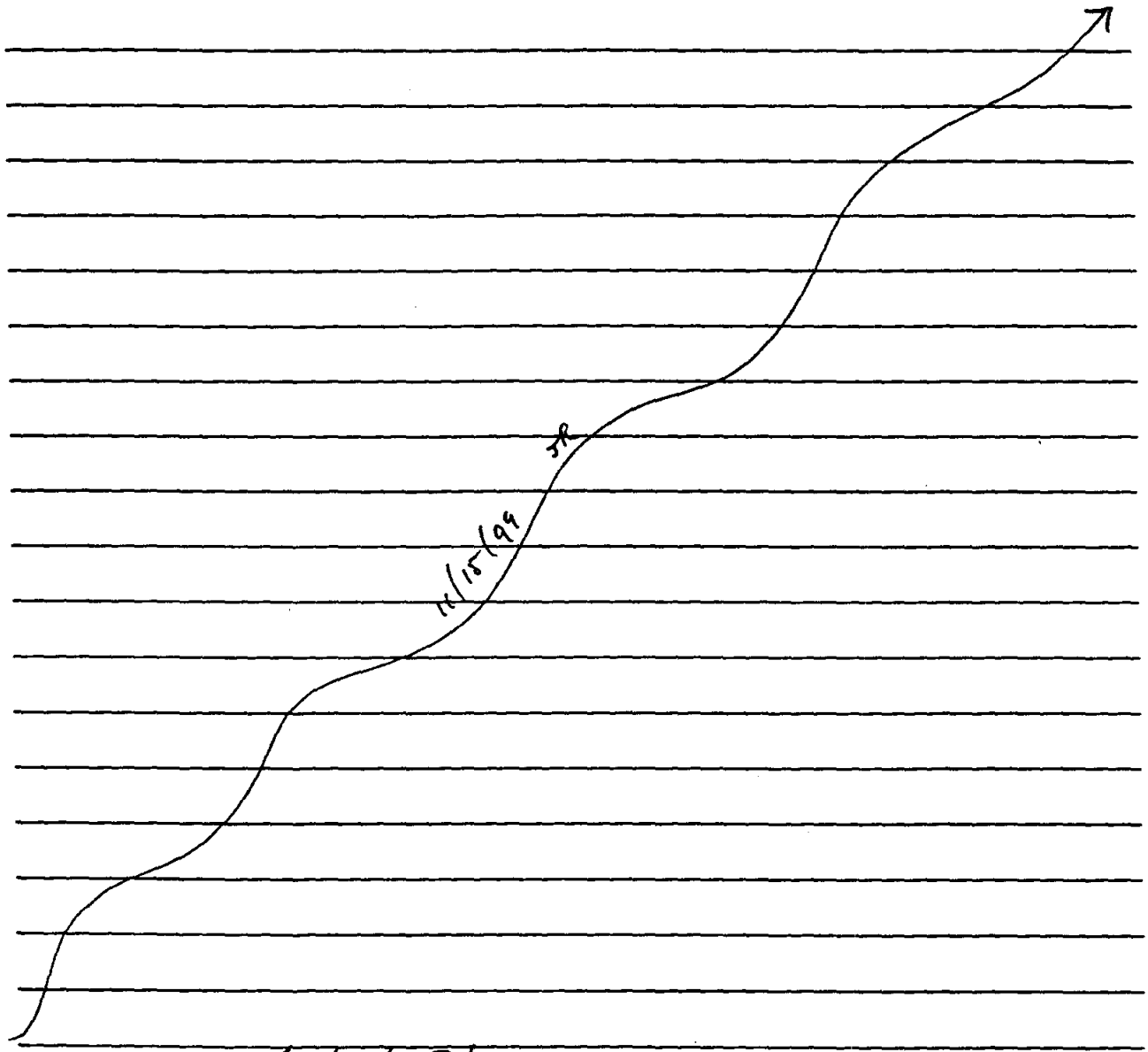
① Percent recoveries and RPD values were not reported for Ba and Hg in the MS and MSD samples (M-59921). Laboratory precision can not be determined for these analyte.

Reviewed by: Jeffrey A. Rabe

Date: 11/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: Jeffrey A. Rabe

Date: 11/15-199

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

11/15/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffry A. Rake

Date: 11/15/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602099 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
(All samples)	7440-39-3	J3,P2	Both qualifiers apply to all samples Ba
[redacted]	7439-97-6	J3,P2	Hg
[redacted]	}	}	
[redacted]	↓	↓	
			1/10/2000
		JR	
	11/15/99		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470\1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rake Date: 11/15/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attach A
Novem 995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No: 7218.2202

AR/COC No.: 602099 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Not requested/analyzed on submitted sample		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ ~~Yes~~ ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffry A. Rabe Date: 11/15/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-0VA1-SL06-000-S, TA2-2-OVT2 (OVT3)-P12 (P10)-SL1-S

AR/COC No. 602591 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	—		
2) Holding times met for all samples?	—		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	—		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	—		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 11/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59933 ⇒ Cr biased low (MSD) Ba biased high in MS and low in MSD. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59933 ⇒ Ba out of QC acceptance limits MS/MSD. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59933 ⇒ J values reported for As, Be, Cd, Cr, Ni, and Se ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery was biased low for chromium in the MSD sample. The percent recoveries for barium were outside of acceptance limits in both the MS and MSD

Reviewed by: Jeffrey A. Rabe

Date: 11/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

samples. In addition, the RPD for barium was outside of acceptance limits for the MS/MSD pair (M-59933).

② The following analytes were detected between the MDL and PQL in the LMB (M-59933): As, Be, Cd, Cr, Ni, and Se. See page 5 of 5 for data validation qualifiers regarding the above listed analytes.

JK 11/15/99

Reviewed by: Jeffrey A. Rabe

Date: 11/15/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

11/15-199 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 11/15/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602591 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-OVA1-SL06-000-S	7440-38-2	U1	Qualifiers apply to all three samples AS
TA2-2-OVT2-P12-SL1-S	7440-47-3	J, A2	Cr
TA2-2-OVT3-P10-SL1-S	7782-49-2	U1	Verified by: 1/3/2000 1-30-04 Se
}	7440-39-3	(J A2, P1	Ba
Verified 2/20/01			
No additional changes J. Rabe			
		JR 11/15/99	

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 11/15/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attachment
November 1995

Reviewed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.2202

AR/COC No.: 602591 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffry A. Rake Date: 11/15/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.2202

Sample Numbers TA2-2-TR3-P10-SL1-S

AR/COC No. 602597 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey J. Rabe

Date: 11/2/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59933 ⇒ Cr biased low MSD Ba biased high MS, biased low MSD. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59933 ⇒ Ba biased high ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59933 ⇒ J values reported for As, Be, Cd, Cr, Ni, and Se. ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for Cr was biased low in the MSD sample. The MS percent recovery and RPD were within acceptance limits. (M-59933). The percent recovery for Ba

Reviewed by: Kathy A. Robb

Date: 11/2/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

was biased high in the MS sample and biased low in the MSD sample. Additionally the MS/MSD RPD was out of criteria (biased high) M-59933.

② The following analytes were detected between the MDL and PQL in the LMB (M-59933): As, Be, Cd, Cr, Ni, and Se. See page 5 of 5 for data validation qualifiers regarding the above listed analytes.

Reviewed by: Jeffrey A. Rabe

Date: 11/2/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
		JR	
	11/2/99		

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 11/2/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602597 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TR3-P10-SL1-S	7440-38-2	UI	
	7782-49-2	UI	
	7440-47-3	J, A2	%R biased low in the MSD Sample
	7440-39-3	J A2, P1	Verified By [illegible] 1/14/2000
		JR	

11/2/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rake Date: 11/2/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

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11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7218.2202

AR/COC No.: 602597 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffry A. Rake Date: 11/2/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.2202

Sample Numbers TA2-2-COBL-GR12-TRA-S and -DUP

AR/COC No. 602600 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 11/2/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59933 ⇒ Cr biased low in MSD, Ba biased high in MS biased low in MSD ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59933 ⇒ Ba biased high ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59933 ⇒ J values reported for As, Be, Cd, Cr, Ni, and Se. ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① The percent recovery for Cr was biased low in the MSD sample. The MS percent recovery and RPD were within acceptance limits. The percent recovery for Ba was high and out of

Reviewed by: Jeffrey A. Rabe

Date: 11/2/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

criteria in the MS and low and out of criteria in the MSD sample. Additionally, the MS/MSD RPD was out of criteria (M-59933).

② The following analytes were detected between the MDL and PQL in the LMB (M-59933): As, Be, Cd, Cr, Ni, and Se. See page 5 of 5 for data validation qualifiers regarding the above listed analytes.

JR 11/2/99

Reviewed by: Jeffrey A. Rabe

Date: 11/2/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

11/2/99 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 11/2/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602600 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-COBL-GR12-TRA-S	7440-38-2	U1 ✓	
and - DUP	7782-49-2	U1 ✓	
	7440-47-3	J, A2 ✓	[illegible]
	7440-39-3	J A2, P1 ✓	

11/2/99

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470 1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 11/2/99

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attac[illegible] A
Novell [illegible]995
Rec'd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.2202

AR/COC No.: 602600 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed on submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 11/2/99 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7218.2202

Sample Numbers TA2-2-TR2-P12-SL6(-S,-DU), TA2-2-EAST-FNCE-001(-S,-DU)

AR/COC No. 602606 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?		✓	U-S9924 ⇒ Dibromofluoromethane 9908-602606-01 / -07. @

Reviewed by: J. Rabe

Date: 1/3/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59934 ⇒ results not reported for Ba, Hg biased high in MS and MSD. ②
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59934 ⇒ result not reported for Ba, Hg biased high ②
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	M-59934 ⇒ Ni detected between MDL and PQL. ③
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Recovery was high and out of criteria for the surrogate Dibromofluoromethane in two samples: Lab ID's 9908-602606-01 / -07. Percent recoveries were both at

Reviewed by: Kathy A. Rabe

Date: 1/3/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

121%, upper QC limit is 120%. Because all submitted samples were non-detect with respect to the analytes monitored by this surrogate, the data were not affected, (V-59924).

② Percent recoveries and RPD value were not reported for Ba in the MS and MSD samples. In addition Hg was biased high in both the MS and MSD samples as well as the RPD value for the MS/MSD pair, (M-59934).

③ Ni was detected between the MDL and PQL in the LMB, (M-59934). Analytical results were greater than 5x the blank contamination in all of the submitted samples.

Reviewed by: Jeffrey A. Rake

Date: 1/3/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

see page 5 of 5

1/3/00 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rabe

Date: 1/3/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602606 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	
[redacted]			
[redacted]			
[redacted]			2-24-00
[redacted]	[redacted]	[redacted]	
[redacted]			
[redacted]			
[redacted]			
	1/31/00	JR	

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Kale Date: 1/31/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attachm
November 1995

Rcvd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name Site 2 VCM Case No. 7218.2202

AR/COC No. 602606 Analytical Lab ERCL SDG No. NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested/analyzed on sample		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffry J. Rahe Date: 1/3/00 Closed by: _____ Date: _____

Site: Site 2 VCM

AR/COC: 602607 Data Classification: Organics (EPA 8260A/B ↓ 8270B 8330)

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	108-10-1 (4-methyl-2-pentanone)	R	
[redacted]	[redacted]		
[redacted]	[redacted]		
[redacted]	[redacted]		
[redacted]	[redacted] (tetrachloroethene)		
[redacted]	[redacted]		
[redacted]	108-95-2 (phenol)	UJ	
[redacted]	[redacted]		
[redacted]	117-81-7 (bis(2-ethylhexyl)phthalate)	UJ	
[redacted]	[redacted]		
	Data are acceptable.		
	QC Measures appear to be adequate.		

11/11/2000

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010. EPA6020. EPA7470'1. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_ NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: [signature] Date: 11/16/99

Site: Site 2 VCM

AR/COC: 602607 Data Classification: Inorganics (EPA 6010B ↓ 7471A 6020)

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	(cadmium)		
[redacted]	(nickel)		
[redacted]	(silver)		
[redacted]	(lead)		
	Data are acceptable.		
QC	Measures appear to be adequate.		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 11/16/99

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

DC: 602607 Data Classification: Radiological (EPA 906.0)

Sample/ Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted] (tritium)	[redacted]	
[redacted]	↓	↓	
	Data are acceptable.		
	QC Measures appear to be adequate.		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 11/16/99

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7218.2202

Sample Numbers TA2-2-TR1-P6-SL10-S and TA2-2-OU1-P6-SL1-S

AR/COC No. 602617 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Kathy A. Rabe

Date: 1/31/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59936 ⇒ Results not reported for Ba. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59936 ⇒ Results not reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

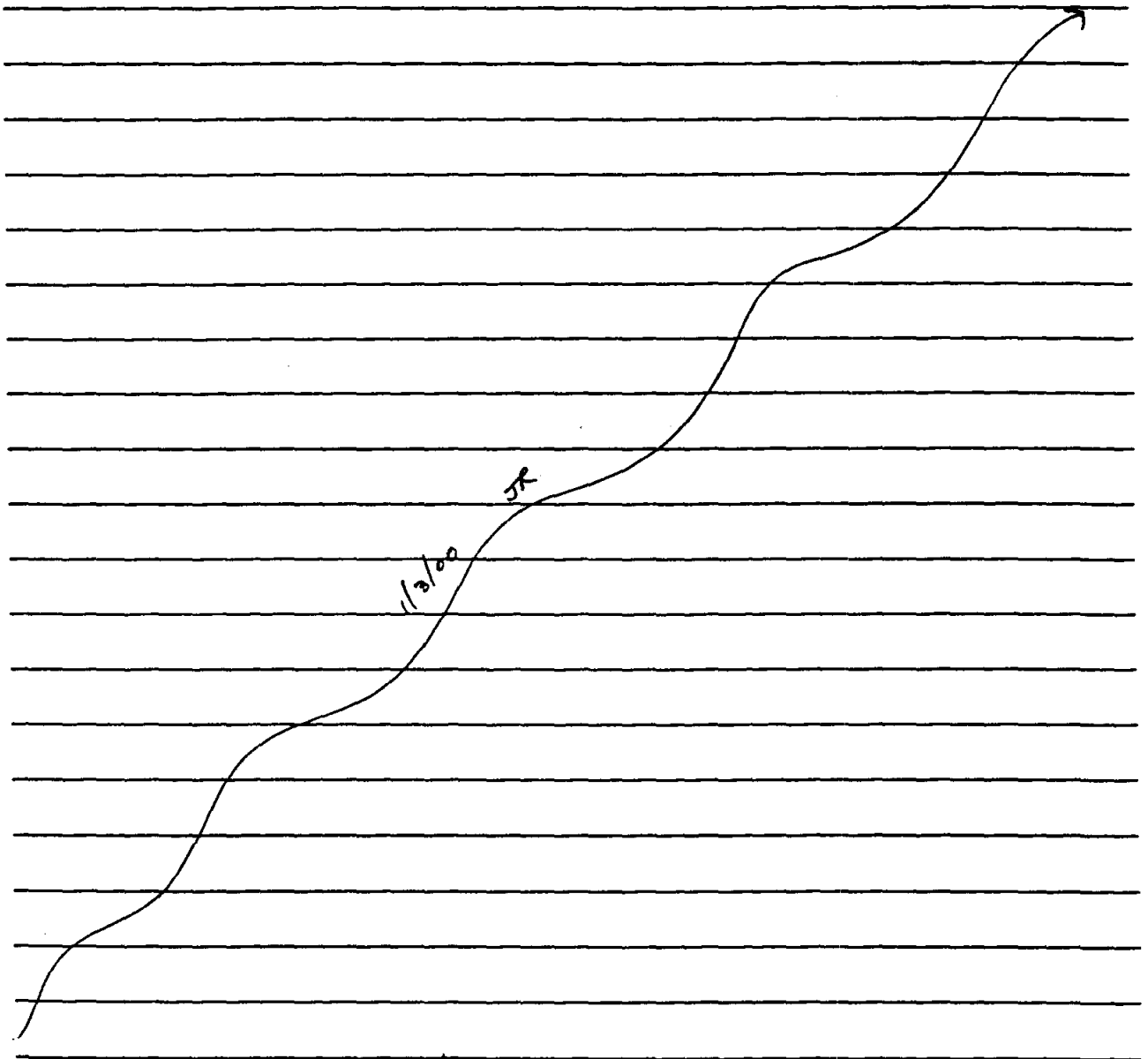
① Percent recoveries and RPD value were not reported for Ba in the MS/MSD samples. Therefore, laboratory precision could not be determined for this analyte

Reviewed by: Jeffrey A. Rake

Date: 1/31/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET



Reviewed by: 4-Hy 4-Rahe

Date: 1/3/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

1/3/00 JA

see page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahe

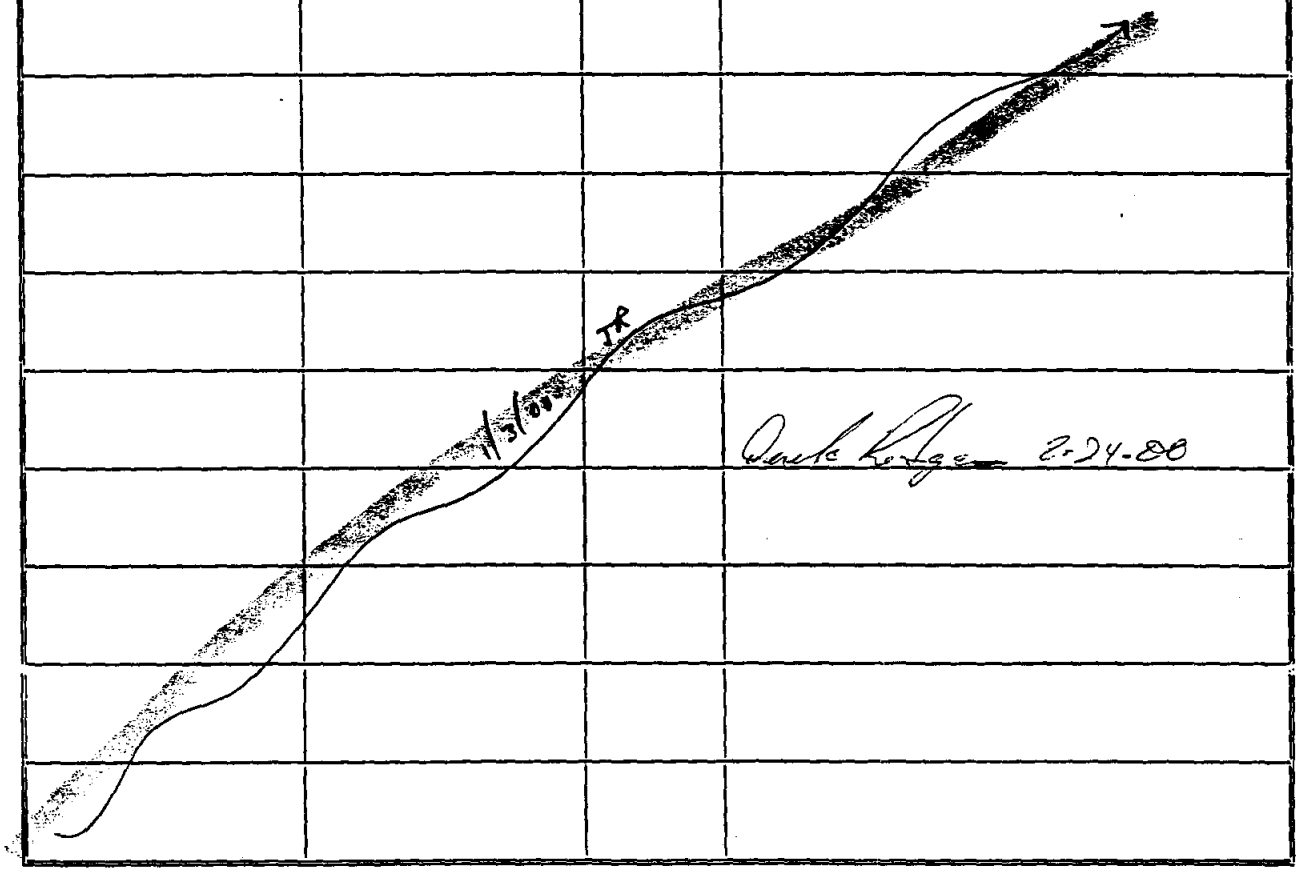
Date: 1/3/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602617 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	



Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rahe Date: 1/31/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

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Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7218.2202

AR/COC No.: 602617 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested / analyzed on sample		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffry A. Rake Date: 1/3/00 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7217.02.02.02

Sample Numbers _____

AR/COC No. 602784 Analytical laboratory ERCL SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 1/31/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59936 => Results not reported for Ba. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59936 => Result not reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	—		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD value were not reported for Ba in the MS and MSD samples (M-59936). Therefore Laboratory precision could not be determined for this analyte.

Reviewed by: Jeffry A. Rabe

Date: 1/31/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 602784 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]		
[redacted]	[redacted]		2.24.00

1/3/00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 1/3/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attachm
November 1995

Signed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name Site 2 UCM Case No. 7217.02.02.02

AR/COC No. 602784 Analytical Lab ERCL SDG No. NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Radium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 1/3/00 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7217.02.02.02

Sample Numbers TA2-2-OUT1-P3-SL1-S, TA2-2-OUT1-P2-SL1-S and TA2-2-TR1-P3-SL2-S

AR/COC No. 602791 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 1/26/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59938 ⇒ Results not reported for Ba. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		—	M-59938 ⇒ Results not reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	M-59938 ⇒ J value reported for Cr ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD value were not reported for Ba in the MS and MSD samples (M-59938).

Reviewed by: Jeffrey A. Kahe

Date: 1/26/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② Chromium was detected between the MDL and PQL in the LMB (M-59938). Analytical results were greater than 5x the blank contamination value for submitted samples.

JR 1/26/00

Reviewed by: Jeffrey A. Robb

Date: 1/26/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5 1/26/00 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahe

Date: 1/26/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602791 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	
[redacted]	↓	↓	
[redacted]			
			Derek Rutherford 2-23-00
		JR	
	1/26/00		

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 1/26/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

TOP Object
Rev.
Attac. A
November 1995

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7217.02.02.02

AR/COC No.: 602791 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide: correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 11/26/00 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM
Case Number 7217.02.02.02
Sample Numbers TA2-2-TR1-P2-SL3-S

AR/COC No. 602792 Analytical laboratory ERCL SDG No. NA
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe
Date: 1/26/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59938 ⇒ Results not reported for Ba ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59938 ⇒ Results not reported for Ba ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59938 ⇒ J value reported for Cr. ①
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD value were not reported for Ba in the MS and MSD samples (M-59938).

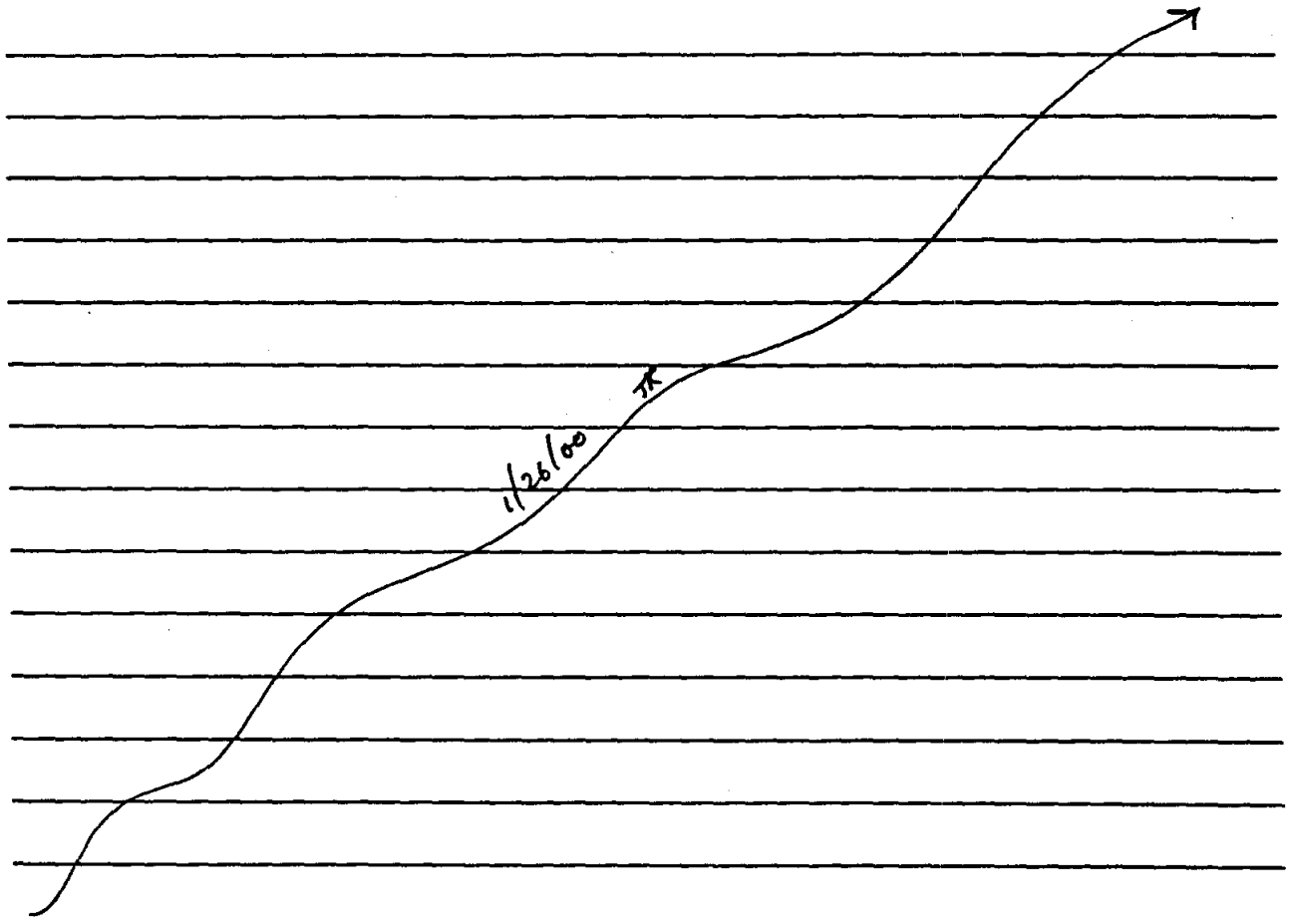
Reviewed by: Jeffrey A. Rabe

Date: 1/26/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② Chromium was detected between the MDL and PQL in the LMB (M-59938). The analytical result for the submitted sample TA2-2-TR1-P2-SL3-S was greater than 5x the blank contamination value.



Reviewed by: 4-Rate

Date: 1/26/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

1/26/00

JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rahe

Date: 1/26/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 602792 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]		
			Deb Rolfes 2-23-00
		JR	
			1/26/00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rolfes Date: 1/26/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Attachment
November 1995

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Reviewed 11-9-95

Leader Bob Galloway Project Name Site 2 VCM Case No. 7217.02.02.02

COC No. 602792 Analytical Lab ERCL SDG No. NA

ables below, mark any information that is missing or incorrect and give an explanation.

nalysis Request and Chain of Custody Record

Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
Container type(s) correct for analyses requested	✓				
Sample volume adequate for # and types of analyses requested	✓				
Preservative correct for analyses requested	✓				
Custody records continuous and complete	✓				
Lab sample number(s) provided	✓				
Condition upon receipt information provided	✓				
Trilium Screen data provided (Rad labs)	✓				

.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested / analyzed on sample		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Jeffrey A. Rabe Date: 11/26/00 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7217.02.02.02

Sample Numbers TA2-2-TRC9-SL83-(002-S through 005-S), TA2-2-TRB3-SL16(-002-S through -005-S) and TA2-2-C08L-GRAB (-002-S through -005-S)

AR/COC No. 602796 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rabe

Date: 2/9/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59938 and M-59939 ⇒ Results not reported for Ba. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59938 and M-59939 ⇒ Results not reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59938 ⇒ J value Cr ② M-59939 ⇒ J values Cd and Cr
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD value were not reported for Ba in the MS and MSD samples (M-59938 and M-59939). Laboratory precision could not be determined for this analyte.

Reviewed by: Jeffrey A. Rabe

Date: 2/9/00

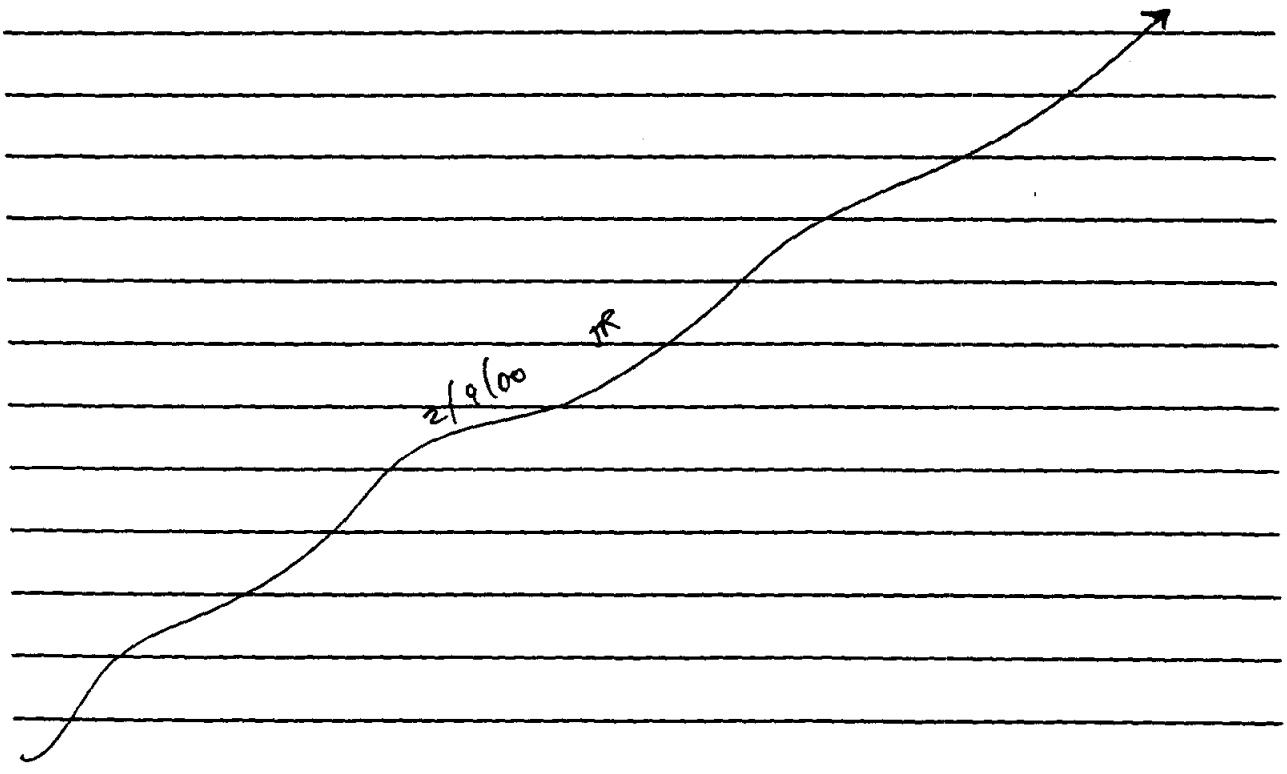
DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② The Following analytes were detected between the MDL and PQL in their respective LMB's.

M-59938 ⇒ Chromium and M-59939 ⇒ Cadmium and Chromium.

Note: Analytical results for the above listed analytes were greater than 5x the blank contamination value for all submitted samples.



Reviewed by: Jeffry A. Rake

Date: 2/9/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

2/9/00 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 2/9/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602796 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	
[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			
[redacted]			

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 2/9/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
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Revised 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7217.02.02.02

AR/COC No.: 602796 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested/analyzed with M-59939		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rake Date: 2/9/00 Closed by: _____ Date: _____

Sample Findings Summary

Site: Site 2 VCM AR/COC: [redacted] Data Classification: Radiological (EPA 906.0)

COC # 602797

ER Sample ID	Analysis	DV Qualifiers	Comments
	[redacted]		
			Data are acceptable.
			[signature] 8-16-00
			QC Measures appear to be adequate.

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 2/25/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7217.02.02-02

Sample Numbers TA2-2-TR1-P2-SL7-S and TA2-2-OUT 1-P1-SL1-S

AR/COC No. 602800 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: [signature] A. Rale

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		—	M-59941 ⇒ Ba biased high in the MS and MSD samples @
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	—		
7) Blank data a) Method or reagent blank data reported and met for all samples?		—	M-59941 ⇒ J values reported for Be and Se. @
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	—		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

@ Percent recoveries were biased high and out of acceptance limits for Ba in the MS and MSD samples. The RPD for Ba in the MS/MSD pair was within acceptance limits, (M-59941).

Reviewed by: Jeffry J. Kahe

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② Beryllium and selenium were detected between the MDL and PQL in the LMB (M-S9941). See page 5 of 5 for data validation qualifiers regarding the above listed analytes

2/8/00 JF

Reviewed by: J. Rabe

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments
		✓	
			JR
		2/8/00	

See page 5 of 5

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey J. Rabe

Date: 2/8/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 602800 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[illegible]	[illegible]	[illegible]	
↓	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
↓	[illegible]		2-27-00

TR

2/8/00

Sample No.-Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rahe Date: 2/8/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attach
Novemb... 995

Signed 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 UCM | Case No.: 7217.02.02.02

AR/COC No.: 602800 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffry A. Rabe Date: 2/8/00 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM
Case Number 7217.02.02.02
Sample Numbers TA2-2-TRI-PI-SLI-S

AR/COC No. 602804 Analytical laboratory ERCL SDG No. NA
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____
AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: [signature]
Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59939 ⇒ Results not reported for Ba. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	M-59939 ⇒ Results not reported for Ba. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59939 ⇒ J values reported for Cd and Cr. ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD value were not reported for Ba in the MS and MSD samples. Therefore, laboratory precision could not be determined for this analyte (M-59939).

Reviewed by: Jeffry A. Rahe

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

@ Cadmium and chromium were detected between the MDL and PQL in the LMB (M-59939). Analytical results were greater than 5x the blank contamination value for both cadmium and chromium.

JR
2/8/00

Reviewed by: Jeffrey A. Rabe

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

2/8/00 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffry A. Rale

Date: 2/8/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602804 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
TA2-2-TR1-P1 [redacted]	2440-39-3	J,P2	

2/8/00

2-25-00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: J. Rale Date: 2/8/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attachm
November 1995

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7217.02.02.02

AR/COC No.: 602804 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: J. J. Rake Date: 2/8/00 Closed by: _____ Date: _____

Sample Findings Summary

Site: Site 58/UCS AR/COC: 603810 Data Classification: Organics (EPA 8260A/B)

ER Sample ID	Analysis	DV Qualifiers	Comments
=> Note: See attached spreadsheet for data qualifications.			
	Data are acceptable.		
	QC Measures appear to be adequate.		Mark Kovac 5-19-01

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 11/26/01

603810

ARCOC #~~60884~~

Organic Analyses (VOCs)

ER Sample ID	67-64-1 (acetone)	71-55-6 (1,1,1-trichloroethane)	56-23-5 (carbon tetrachloride)	75-27-4 (bromodichloromethane)	78-87-5 (1,2-dichloropropane)	10061-01-5 (cis-1,3-dichloropropene)	79-01-6 (trichloroethene)	124-48-1 (dibromochloromethane)	79-00-5 (1,1,2-trichloroethane)	71-43-2 (benzene)	10061-02-6 (trans-1,3-dichloropropene)	75-25-2 (bromoform)
054075-002	[redacted]											
054076-002	[redacted]											
054090-002	[redacted]											
054097-002	[redacted]											
054105-002	[redacted]											

Sample Findings Summary

Site: Site 58/UCS AR/COC: 603810 Data Classification: Inorganics (EPA SW 7470/1A)

ER Sample ID	Analysis	DV Qualifiers	Comments
054075-001 [redacted]	[redacted] (mercury)	[redacted]	
6- [redacted]	↓	↓	
5- [redacted]	[redacted] (barium)	[redacted]	
6- [redacted]	↓	↓	
	Data are acceptable.		
	QC Measures appear to be adequate.		

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [redacted] Date: 1/26/01

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7217.02.02-02

Sample Numbers TA2-2-OUT2-P10-SL1-S and TA2-2-TR2-P10-SL1-S

AR/COC No. 602921 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: J. Hy J. Rale

Date: 2/25/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59941 ⇒ Ba bracted high in MS and MSD samples ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		/
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59941 ⇒ J values reported For Be and Se. ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries for Ba were bracted high in both the MS and MSD samples, percent recoveries were 248 and 172 % respectively, LOC acceptance criteria

Reviewed by: Jeffrey A. Rabe

Date: 2/25/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

is 75 to 125%), (M-S9941). Laboratory precision for Ba in the MS/MSD pair was within acceptance limits.

② Beryllium and selenium were detected between the MDL and PQL in the LMB (M-S9941). See page 5 of 5 for data validation qualifiers regarding the above listed analytes.

2/25/00 JR

Reviewed by: Jeffrey A Rabe

Date: 2/25/00

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

2/25/00 TR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rade

Date: 2/25/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602922 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	
↓	[redacted]		
			1-23-00

2/8/00 JF

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-M3. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeff 4-Rake Date: 2/8/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 602921 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	7440-39-3	J, A2	
↓	[redacted]	[redacted]	
TA2-2-TR2 - P10-SG1-S	7440-39-3	J, A2	
↓	7440-41-7	U1	
↓	7782-49-2	[redacted]	

TR 2/25/00

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 2/25/00

Rev. [redacted] A
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway | Project Name: Site 2 VCM | Case No.: 7217.02.02.02

AR/COC No.: 602921 | Analytical Lab: ERCL | SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Trilium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed on submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested / analyzed on sample		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted _____

Reviewed by: Jeffrey A. Rabe Date: 2/25/00 Closed by: _____ Date _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number _____

Sample Numbers _____

AR/COC No. 602922 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: Jeffrey A. Rake

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59941 ⇒ Ba biased high in the MS and MSD samples. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59941 ⇒ J values reported for Be and Se. ①
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were biased high for Ba in the MS and MSD samples. The RPD value for Ba in the MS/MSD pair was within acceptance criteria (M-59941).

Reviewed by: Kathy A. Rabe

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

@ Beryllium and selenium were detected between the MDL and PQL in the LMB (M-59941) See page 5 of 5 for data validation qualifiers regarding the above listed analytes.

2/8/00 JR

Reviewed by: 4-Ray 4-Rake

Date: 2/8/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

2/8/00 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahe

Date: 2/8/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev.
Attachm A
November 1995

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway Project Name: Site 2 VCM Case No.: 7217.02.02.02

AR/COC No.: 602922 Analytical Lab: ERCL SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	✓				
1.3	Sample volume adequate for # and types of analyses requested	✓				
1.4	Preservative correct for analyses requested	✓				
1.5	Custody records continuous and complete	✓				
1.6	Lab sample number(s) provided	✓				
1.7	Condition upon receipt information provided	✓				
1.8	Tritium Screen data provided (Rad labs)	✓				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	✓				
2.2	Date samples received	✓				
2.3	Method reference number(s) complete and correct	✓				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		✓	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	✓		Note: not requested.		
2.6	Narrative provided	✓				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	✓				
2.9	All requested result data provided	✓				

Based on the review, this data package is complete ☑ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 2/8/00 Closed by: _____ Date: _____

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 VCM

Case Number 7217-02.02.02

Sample Numbers TA2-2-OUT2-P8-SL1-S and TA2-2-TR2-P8-SL1-S

AR/COC No. 602940 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: [signature] 4. Rabe

Date: 2/7/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	M-59941 ⇒ Ba biased high in MS and MSD. ①
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?	✓		
7) Blank data a) Method or reagent blank data reported and met for all samples?		✓	M-59941 ⇒ J values reported for Be and Se. ②
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries were biased high in both the MS and MSD samples for Ba. The RPD for Ba in the MS/MSD pair was within acceptance limits (M-59941).

Reviewed by: Jeffrey A. Rahe

Date: 2/7/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

② The following analytes were detected between the MDL and PQL in the LMB (M-59941). See page 5 of 5 for data validation qualifiers regarding the above listed analytes.

2/7/00

Reviewed by: Jeffry A. Rake

Date: 2/7/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

2/7/00 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Rahe

Date: 2/7/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 VCM

AR COC: 602940 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	2-25-00

2/7/00 JR

Sample No.Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method. use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed. contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate. needs modification because of an unusual circumstance. or additional clarification is warranted.

Test Methods - Anions_CE. EPA6010. EPA6020. EPA7470A. EPA8015B. EPA8081. EPA8260. EPA8260-MS. EPA8270. HACH_ALK. HACH_NO2. HACH_NO3. MEKC_HE. PCBRISC

Reviewed by: Jeffrey A. Rake Date: 2/7/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev.
Atta[illegible] A
November 1995

Mund 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader: Bob Galloway Project Name: Site 2 UCM Case No.: 7217.02.02.02

AR/COC No.: 602940 Analytical Lab: ERCL SDG No.: NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records continuous and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Tritium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—		Note: not requested		
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rake Date: 2/7/00 Closed by: _____ Date: _____

Sample Findings Summary

Site: Site 2 VCM AR/COC: 602967 Data Classification: Inorganic

COC# 602967

ER Sample ID	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: J. Rabe Date: 3/3/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Data Validation Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02.02. # of Samples: 4 Matrix: Soil

AR/COC #: 602967 Laboratory Sample IDs: 001-602967-01 through -04

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				Inorganics				RAD	ICP Other MS
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA	NA	NA	NA	NA	NA	NA	NA	NA	✓
2. Calibrations	↓	↓	↓	↓	↓	↓	↓	↓	↓	NA
3. Method Blanks	↓	↓	↓	↓	↓	↓	↓	↓	↓	✓
4. MS/MSD	↓	↓	↓	↓	↓	↓	↓	↓	↓	J
5. Laboratory Control Samples	↓	↓	↓	↓	↓	↓	↓	↓	↓	✓
6. Replicates	↓	↓	↓	↓						NA
7. Surrogates	↓	↓	↓	↓						↓
8. Internal Standards	↓	↓								
9. TCL Compound Identification	↓	↓								
10. ICP Interference Check Sample										
11. ICP Serial Dilution										
12. Carrier/Chemical Tracer Recoveries									↓	
13. Other QC	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey A. Rake Date: 3/3/00

Inorganic Metals

Site/Project: Site 2 VCM AR/COC #: _____ Laboratory Sample IDs: 001-602967-01 through -04

Laboratory: ERCL Laboratory Report #: _____

Methods: EPA 8260 RCRA Metals + Be, Ni, and U

# of Samples: 4 Matrix: Soil Batch #s: M-50002

CAS # / Analyte	QC Element: NA																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al								NA	NA											
7440-39-3 Ba						✓	✓			7	7	7								
7440-41-7 Be						✓	✓			✓	✓	✓								
7440-43-9 Cd						✓	✓			261	48	90								
7440-70-2 Ca																				
7440-47-3 Cr						✓	✓			235	✓	62								
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni						✓	✓			✓	✓	21								
7440-09-7 K																				
7440-22-4 Ag						✓	✓			✓	✓	✓								
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
Uranium						✓	✓			✓	✓	✓								
7439-92-1 Pb						✓	✓			✓	✓	✓								
7782-49-2 Se						✓	✓			✓	✓	✓								
7440-38-2 As						✓	✓			✓	✓	✓								
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg						✓	✓	✓	✓	✓	✓	✓								
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg / kg = µg / g : [(µg / g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

Reviewed By: Jeffrey A. Rabe Date: 3/3/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 602968 Data Classification: Inorganics

ER Sample ID	Analysis	DV Qualifiers	Comments
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			
[redacted]			
		[redacted] 3-14-00	
	3/3/00 TR		

COC # 602968

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 3/3/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 602968 Laboratory Sample IDs: 001-602968-01 through -05

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA 6020 RCRA Metals + Be, Ni, and U

# of Samples: 5 Matrix: Soil Batch #s: M-S0001

CAS # / Analyte	QC Element: NA																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al								NA	NA											
7440-39-3 Ba						✓	✓			?	?	?								
7440-41-7 Be						✓	✓			✓	✓	✓								
7440-43-9 Cd						✓	✓			160	✓	29								
7440-70-2 Ca																				
7440-47-3 Cr						✓	✓			✓	✓	✓								
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni						✓	✓			✓	✓	✓								
7440-09-7 K																				
7440-22-4 Ag						✓	✓			✓	✓	✓								
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
Uranium						✓	✓			✓	✓	✓								
7439-92-1 Pb						✓	✓			✓	✓	✓								
7782-49-2 Se						✓	✓			✓	✓	✓								
7440-38-2 As						✓	✓			✓	✓	✓								
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg	✓					✓	✓	↓	↓	✓	128	✓								
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass {g} / sample vol. {ml}) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

Comments:

Reviewed By: Jeffrey J. Rahe Date: 3/3/00

Data V[illegible]tion Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02.02.0C # of Samples: 5 Matrix: Soil

AR/COC #: 602968 Laboratory Sample IDs: 001-602968-01 through -05

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				Inorganics				RAD	ICP Other MS
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
2. Calibrations	↓	↓	↓	↓	↓	↓	↓	↓	↓	NA
3. Method Blanks	↓	↓	↓	↓	↓	↓	↓	↓	↓	—
4. MS/MSD	↓	↓	↓	↓	↓	↓	↓	↓	↓	J
5. Laboratory Control Samples	↓	↓	↓	↓	↓	↓	↓	↓	↓	—
6. Replicates	↓	↓	↓	↓	↓	↓	↓	↓	↓	NA
7. Surrogates	↓	↓	↓	↓						↓
8. Internal Standards	↓	↓								↓
9. TCL Compound Identification	↓	↓								↓
10. ICP Interference Check Sample					↓					↓
11. ICP Serial Dilution					↓					↓
12. Carrier/Chemical Tracer Recoveries									↓	↓
13. Other QC	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey J. Rabe Date: 3/3/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Project Name Site 2 UCM

Case Number 7217.02.02.02

Sample Numbers TA2-2-TR2-P6-SL4-S

AR/COC No. 602970 Analytical laboratory ERCL SDG No. NA

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

AR/COC No. _____ Analytical laboratory _____ SDG No. _____

1.0 EVALUATION

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
1) Sample volume, container, and preservation correct?	✓		
2) Holding times met for all samples?	✓		
3) Reporting units appropriate for the matrix and meet project-specific requirements?	NA		Not applicable
4) Quantitation limit met for all samples?	✓		
5) Accuracy a) Laboratory control sample accuracy reported and met for all samples?	✓		
b) Surrogate data reported and met for all organic samples analyzed by a gas chromatography technique?	NA		Not applicable

Reviewed by: [signature]

Date: 2/15/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

Item	Yes	No	If no, Sample ID No./Fraction(s) and Analysis
c) Matrix spike recovery data reported and met for all samples for which it was requested?		✓	MS-S002 ⇒ Cr biased high MS Cd biased high MS biased low ① MSD
6) Precision a) Laboratory control sample precision reported and met for all samples?	NA		Not applicable
b) Matrix spike duplicate RPD data reported and met for all samples for which it was requested?		✓	MS-S0002 ⇒ Cr, Ni, and Cd out of acceptance criteria. ①
7) Blank data a) Method or reagent blank data reported and met for all samples?	✓		
b) Sampling blank (e.g., field, trip, and equipment) data reported and met?	NA		Not applicable
8) Narrative included, correct, and complete?	✓		

2.0 COMMENTS: All items marked "No" above must be explained in this section. For each item, give SNL/NM ID No. and the analysis, if appropriate, of all samples affected by the finding.

① Percent recoveries and RPD values were out of acceptance limits for the following analytes:
Cr ⇒ biased high MS, RPD out of acceptance limits

Reviewed by: Jeffrey A. Rabe

Date: 2/15/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

2.0 COMMENTS CONTINUATION SHEET

Ni → RPD out of acceptance limits

Cd => biased high MS, biased low MSD, and RPD out of acceptance limits.

JK 2/15/00

Reviewed by: Jeffrey A. Rabe

Date: 2/15/00

DATA QUALITY INDICATOR CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 2—DV2)

3.0 SUMMARY: Summarize the findings in the table below. List only samples/fractions for which deficiencies have been noted. Use the qualifiers given at the end of the table if possible. Explain any other qualifiers in the comments column.

Sample/ Fraction No.	Analysis	Qualifiers	Comments

See page 5 of 5

2/15/00 JR

Attach continuation sheet for additional samples

QUALIFIERS:

J = Estimated quantity (provide reason)
B = Contamination in blank (indicate which blank)
P = Laboratory precision does not meet criteria
R = Reporting units inappropriate
N = There is presumptive evidence of the presence of the material
UJ = The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
Q = Quantitation limit does not meet criteria
A = Laboratory accuracy does not meet criteria
U = Analyte is undetected (indicate which analyte and reason for qualification)
NJ = There is presumptive evidence of the presence of the material at an estimated quantity.

Reviewed by: Jeffrey A. Robe

Date: 2/15/00

SAMPLE FINDINGS SUMMARY

Site: Site 2 UCM

AR COC: 602970 Data Classification: DV-2

Sample Fraction No.	Analysis	DV Qualifiers	Comments
[redacted] - P6-SL4-S	7440-47-3	J, P1	✓
	7440-02-0	J, P1	✓
	7440-43-9	J A2, P1	✓

2/15/00

Sample No./Fraction No. - This value is located on the Chain of Custody in the ER Sample Id field.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470A, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 2/15/00

Data Validation Qualifiers and Descriptive Flags*

Note: Qualifiers may be used in conjunction with descriptive flags [e.g., J,A; UJ,P; U,B].

Qualifiers	Comment
J	The associated value is an estimated quantity.
J1	The method requirements for sample preservation/temperature were not met for the sample analysis. The associated value is an estimated quantity.
J2	The holding time was exceeded for the associated sample analysis. The associated value is an estimated quantity.
UJ	The analyte was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
U	The associated result is less than ten times the concentration in any blank and is determined to be non-detect. The analyte is a common laboratory contaminant.
U1	The associated result is less than five times the concentration in any blank and is determined to be non-detect.
R	The data are unusable for their intended purpose. The analyte may or may not be present. (Note: Resampling and reanalysis is necessary for verification.)

Descriptive Flags	
A	Laboratory accuracy and/or bias measurements for the associated Laboratory Control Sample and/or duplicate (LCS/LCSD) do not meet acceptance criteria.
A1	Laboratory accuracy and/or bias measurements for the associated Surrogate Spike do not meet acceptance criteria.
A2	Laboratory accuracy and/or bias measurements for the associated Matrix Spike and/or duplicate (MS/MSD) do not meet acceptance criteria.
A3	Insufficient quality control data to determine laboratory accuracy.
B	Analyte present in laboratory method blank
B1	Analyte present in trip blank.
B2	Analyte present in equipment blank.
B3	Analyte present in calibration blank.
P	Laboratory precision measurements for the Laboratory Control Sample and duplicate (LCS/LCSD) do not meet acceptance criteria.
P1	Laboratory precision measurements for the Matrix Spike Sample and associated duplicate (MS/MSD) do not meet acceptance criteria.
P2	Insufficient quality control data to determine laboratory precision.

* This is not a definitive list. Other qualifiers are potentially available, see TOP 94-03. Notify Tina Sanchez to revise list. **Updated: September 14, 1999**

Rev. 1
Attachm
Novembe 5

Wmd 11-9-95

DOCUMENTATION COMPLETENESS CHECKLIST
(DATA VERIFICATION/VALIDATION LEVEL 1 - DV1)

Project Leader Bob Galloway Project Name Site 2 UCM Case No. 7217.02.02.02

AR/COC No. 602970 Analytical Lab ERCL SDG No. NA

In the tables below, mark any information that is missing or incorrect and give an explanation.

1.0 Analysis Request and Chain of Custody Record

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
1.1	All items on COC complete - data entry clerk initialed and dated	NA		Not applicable		
1.2	Container type(s) correct for analyses requested	—				
1.3	Sample volume adequate for # and types of analyses requested	—				
1.4	Preservative correct for analyses requested	—				
1.5	Custody records continuous and complete	—				
1.6	Lab sample number(s) provided	—				
1.7	Condition upon receipt information provided	—				
1.8	Tritium Screen data provided (Rad labs)	—				

2.0 Analytical Laboratory Report

Line No.	Item	Complete? Yes	Complete? No	If no, explain	Resolved? Yes	Resolved? No
2.1	Data reviewed, signature	—				
2.2	Date samples received	—				
2.3	Method reference number(s) complete and correct	—				
2.4	Quality control data provided (MB, LCS, LCD, Detection Limit)		—	LCD not analyzed with submitted samples		
2.5	Matrix spike/matrix spike duplicate data provided(if requested)	—		Note: not requested		
2.6	Narrative provided	—				
2.7	TAT met	NA		Not applicable		
2.8	Hold times met	—				
2.9	All requested result data provided	—				

Based on the review, this data package is complete ☒ Yes ☐ No

If no, provide : correction request tracking # _____ and date correction request was submitted: _____

Reviewed by: Jeffrey A. Rabe Date: 2/15/00 Closed by: _____ Date: _____

Sample Findi Summary

Site: Site 2 VCM AR/COC: 602974 Data Classification: Inorgan.

ER Sample ID	Analysis	DV Qualifiers	Comments
TA2-2-TR2-P543-SL1-S	7440-39-3	J, PZ	Qualifiers apply to all 4 samples submitted for metals analysis.
TA2-2-TR2-P543-SL1-DV	7439-97-6	J, A, A2, P1	
TA2-2-P225-3C/F-BIN-S	7439-92-1	J, A2, P1	
TA2-2-P225-2C/F-BIN-S	↓	↓	
	4/22/00 TR		
			Chuck Kenyon 6-13-00

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: A. Rabe Date: 4/22/00

MEMORANDUM

DATE: 4-22-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 602974 and Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The samples were prepared and analyzed with accepted procedures and specified method (ICP/MS- EPA6020). All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

1. ICP/MS Analysis: Percent recoveries in the laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) were biased high for the following analytes. Percent recoveries (%) for mercury (Hg) were biased high the LCS (204%), MS/MSD (1183 % and 863 % respectively), the relative percent difference (RPD) for Hg in the MS/MSD pair was also high and outside of acceptance criteria. These high recoveries for Hg were due to the out of specification Hg standard used in the spike solution and sample non-homogeneity. The percent recovery for lead (Pb) was high and outside of acceptance criteria in the MS sample (192%). The RPD for Pb in the MS/MSD pair was also high and outside of acceptance criteria. Percent recoveries for barium (Ba) were not reported in the MS/MSD samples. Analytical sample results for the above listed analytes were all detected values and will be qualified as follow; Ba "J, P2", Hg "J, A, A2, P1", and Pb "J, A2, P1."

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: No target analytes were detected in the laboratory method blank (LMB).

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria except for Hg as noted above in the summary section. A laboratory control sample duplicate (LCSD) was not analyzed.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS/MSD met QC acceptance criteria except for Hg and Pb as noted above in the summary section. Barium sample concentrations are greater than (>) 4x the spike concentration; spike recovery limits do not apply. However, because a LCSD was not analyzed laboratory precision could not be determined.

Other QC

No equipment blank (EB) or field blank (FB), was submitted on the analysis request/chain-of-custody (ARCOC). One duplicate sample was collected and submitted (TA2-2-TR2-P543-SL1-S and TA2-2-TR2-P543-SL1-DU. The RPD values are presented on Attachment 1.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Attachment 1

Relative Percent Difference					
Analyte	Analytical Result TA2-2-TR2-P543-SL1-S	Analytical Result TA2-2-TR2-P543-SL1-DU	RPD %	Mean	Difference
Ag	0.57	0.53	7.3	0.6	0.0
As	2.9	3.5	18.8	3.2	0.6
Ba	360	250	36.1	305.0	110.0
Be	0.39	0.38	2.6	0.4	0.0
Cd	26	15	53.7	20.5	11.0
Cr	35	18	64.2	26.5	17.0
Hg	6.8	6.7	1.5	6.8	0.1
Ni	30	10	100.0	20.0	20.0
Pb	340	240	34.5	290.0	100.0
Se	0.71	0.72	1.4	0.7	0.0
U	1.1	1.2	8.7	1.2	0.1

Data V[illegible]tion Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02-02-02 # of Samples: 4 Matrix: Soil

AR/COC #: 602974 Laboratory Sample IDs: 0002- 602974-01 Through -04

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				MS Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA	NA	NA	NA	✓	NA	NA	NA	NA	
2. Calibrations					NA					
3. Method Blanks					✓					
4. MS/MSD					J/✓					
5. Laboratory Control Samples					J/✓					
6. Replicates					✓					
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					NA					
11. ICP Serial Dilution					NA					
12. Carrier/Chemical Tracer Recoveries										
13. Other QC					NA					

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey A. Rabe Date: 4/22/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 602974 Laboratory Sample IDs: 0002-602974-01 through-04

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA 6020

# of Samples: 4 Matrix: Soil Batch #s: M-50004

CAS # / Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilution	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA							NA	NA				NA							
7440-39-3 Ba						—	—			2	2	7								
7440-41-7 Be						—	—			—	—	—								
7440-43-9 Cd						—	—			—	—	—								
7440-70-2 Ca																				
7440-47-3 Cr						—	—			—	—	—								
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni						—	—			—	—	—								
7440-09-7 K																				
7440-22-4 Ag						—	—			—	—	—								
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
7439-92-1 Pb						—	—			192	—	23								
7782-49-2 Se						—	—			—	—	—								
7440-38-2 As						—	—			—	—	—								
7440-36-0 Sb																				
7440-28-0 Tl																				
Uranium						—	—			—	—	—								
7439-97-6 Hg						—	ZCM			1183	863	24								
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg / kg = µg / g : [(µg / g) x (sample mass {g} / sample vol. {ml}) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

Reviewed By: Jeffrey A. Rake Date: 4/22/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 602975 Data Classification: Inorganics (6010B 6020 7470/1A)

ER Sample ID	Analysis	DV Qualifiers	Comments
Note: See attached spreadsheet for data qualifications.			
	Data are acceptable (except as noted on spreadsheet).		
QC	Measures appear to be adequate.		

COC # 602975

COC # 602975

6-12-00

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Date: 4/20/00

ARCOC #602975 Inorganic Analyses ER Sample ID	7440-22-4 (Ag)	7440-43-9 (Cd)	7440-47-3 (Cr)	7440-02-0 (Ni)	7439-92-1 (Pb)	7782-49-2 (Se)												
051125-001 TA2-2-P225-2C/F-BIN-S		J	J,A2	J	J	J,B3												
051126-001 TA2-2-P225-2C/F-BIN-S	R,A2																	
051127-001 TA2-2-P225-3C/F-BIN-S	R,A2																	
051128-001 TA2-2-P225-3C/F-BIN-DU	R,A2																	

4/2eVOC

Sample Findings Summary

Site: Site 2 UCM AR/COC: 602978 Data Classification: Inorganic

ER Sample ID	Analysis	DV Qualifiers	Comments
TA2-2-TR2-P543-SL4/-SL5-S	7440-39-3	J, P2	Qualifiers apply to both submitted samples
↓	7439-97-6	J, A, A2, P1	↓
↓	7439-92-1	J, A2, P1	↓
	4/14/00 TR		
			5.4-00

COC# 602978

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] J. Rabe Date: 4/14/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603057 Data Classification:

ER Sample ID	Analysis	DV Qualifiers	Comments
TA2-2-TR2-P2I1-SL1-S	7440-39-3	J, P2	
TA2-2TR2-P2/1-SL1-DU			
TA2-2-TR2-P2I1-SL4-S			
TA2-2-TR3-P2/3-SL2-S			
TA2-2-TR3-P2/3-SL3-S			
TA2-2-OUT3-P2/3-SL1-S			
TA2-2-OUT3-P2/3-SL1-DU			
TA2-2-OUT3-P456-SL1-S			BLF 7/28/00

SDG # 603057

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 7/18/00

MEMORANDUM

DATE: 7-18-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 603057
Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The sample was prepared and analyzed with accepted procedures and specified methods Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA 6020. All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

ICP/MS Analysis:

1. Percent recoveries and relative percent difference (RPD) value were not calculated for barium (Ba) in the matrix spike/matrix spike duplicate (MS/MSD) samples. Matrix spike recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. However, because a laboratory control sample duplicate was not analyzed with either quality control (QC) batch (M-S0013 and M-S0014) laboratory precision could not be determined for Ba. Analytical results will be qualified as estimated (J).

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: No target analytes were detected in the laboratory method blanks.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria. An LCSD was not analyzed with either QC Batch.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS/MSD met QC acceptance criteria except for Ba as noted in the summary section.

Other QC

ICP/MS Analysis: No equipment blank or field blank was submitted on the analysis request/chain-of-custody. Two duplicate samples were collected and submitted (TA2-2-TR2-P2/1-SL1-S / DU and TA2-2-OVT3-P2/3-SL1-S / DU). RPD values for these duplicate samples are presented on Attachment 1.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-TR2-P2/1-SL1-S Analytical Result	TA2-2-TR2-P2/1-SL1-DU Analytical Result	RPD %	Mean	Difference
Ag	0.18	0.18	0.0	0.2	0.0
As	3.1	3.5	12.1	3.3	0.4
Ba	170	170	0.0	170.0	0.0
Be	0.37	0.49	27.9	0.4	0.1
Cd	7.1	7.6	6.8	7.4	0.5
Cr	14	20	35.3	17.0	6.0
Hg	0.71	0.68	4.3	0.7	0.0
Ni	10	16	46.2	13.0	6.0
Pb	26	32	20.7	29.0	6.0
Se	0.42 J (1.2)	0.73 J (1.1)	NC	NC	NC
U	0.84	1.5	56.4	1.2	0.7

Relative Percent Difference					
Analyte	TA2-2-OVT3-P2/3-SL1-S Analytical Result	TA2-2-OVT3-P2/3-SL1-DU Analytical Result	RPD %	Mean	Difference
Ag	ND (0.039)	0.063 J (0.16)	NC	NC	NC
As	3.3	4.1	21.6	3.7	0.8
Ba	130	220	51.4	175.0	90.0
Be	0.48	0.54	11.8	0.5	0.1
Cd	0.51	1	64.9	0.8	0.5
Cr	11	9.3	16.7	10.2	1.7
Hg	0.15 J (0.16)	0.22	NC	NC	NC
Ni	8.6	12	33.0	10.3	3.4
Pb	5.9	6.6	11.2	6.3	0.7
Se	0.6 J (1.2)	0.77 J (1.2)	NC	NC	NC
U	0.84	1.3	43.0	1.1	0.5

Analytical Results are in milligrams per kilogram
J = The analytical result is an estimated quantity greater than or equal to the method detection limit but is less than the practical quantitation limit, shown in parenthesis.
NC = Not calculated for non-detected or laboratory estimated values.
ND = Not detected above the method detection limit, shown in parenthesis..

Data Validation Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02.02-02 # of Samples: 8 Matrix: Soil

AR/COC #: 603057 Laboratory Sample IDs: 0002-603057-01 through -08

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				MS Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA				✓	NA				
2. Calibrations					NA					
3. Method Blanks					✓					
4. MS/MSD					J					
5. Laboratory Control Samples					✓					
6. Replicates					NA					
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					NA					
11. ICP Serial Dilution					NA					
12. Carrier/Chemical Tracer Recoveries										
13. Other QC					NA					

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey A. Rabe Date: 7/18/00

Inorganic Metals

Site/Project: Site 2 VCM AR/COC #: 603057 Laboratory Sample IDs: 0002-603057-01 through -08

Laboratory: ERCL Laboratory Report #: NA

Methods: SW846 EPA Method 6020 ICP-MS

# of Samples: 8 Matrix: Soil Batch #s: M-50013 and M-50014

CAS #/ Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilution	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA							NA	NA				NA				NA			
7440-39-3 Ba																				
7440-41-7 Be																				
7440-43-9 Cd																				
7440-70-2 Ca																				
7440-47-3 Cr																				
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni																				
7440-09-7 K																				
7440-22-4 Ag																				
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
Uranium																				
7439-92-1 Pb																				
7782-49-2 Se																				
7440-38-2 As																				
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg																				
Cyanide CN																				

See Attachment 1

Notes: Shaded rows are RCRA metals. **Solids-to-aqueous conversion:** mg / kg = µg / g : [(µg / g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

Reviewed By: Jeffrey A. Rahe Date: 7/18/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603068 Data Classification: Inorganic

ER Sample ID	Analysis	DV Qualifiers	Comments
TA2-2-TR3-P456-SL1-S	7440-39-3	J, P2	
TA2-2-TR3-P456-SL4-S			
TA2-2-TR3-P456-SL5-S			
TA2-2-TR3-P456-SL5-DU			
TA2-2-OUT3-P789-SL1-S			
TA2-2-OUT3-P789-SL2-S			
TA2-2-OUT3-P789-SL2-DU			
			BJT 7/28/00

COC# 603068

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A Rale Date: 7/19/00

MEMORANDUM

DATE: 7-19-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 603068
Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The sample was prepared and analyzed with accepted procedures and specified methods Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA 6020. All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

ICP/MS Analysis:

1. Percent recoveries and relative percent difference (RPD) value were not calculated for barium (Ba) in the matrix spike/matrix spike duplicate (MS/MSD) samples. Matrix spike recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. However, because a laboratory control sample duplicate was not analyzed with the quality control (QC) batch (M-S0013) laboratory precision could not be determined for Ba. Analytical results will be qualified as estimated (J).

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: No target analytes were detected in the laboratory method blank.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria. An LCSD was not analyzed with the QC Batch.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS/MSD met QC acceptance criteria except for Ba as noted in the summary section.

Other QC

ICP/MS Analysis: No equipment blank or field blank was submitted on the analysis request/chain-of-custody. Two duplicate samples were collected and submitted (TA2-2-TR3-P456-SL5-S / DU and TA2-2-OVT3-P789-SL2-S / DU). RPD values for these duplicate samples are presented on Attachment 1.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-TR3-P456-SL5-S Analytical Result	TA2-2-TR3-P456-SL5-DU Analytical Result	RPD %	Mean	Difference
Ag	1.1	1.2	8.7	1.2	0.1
As	4	3.6	10.5	3.8	0.4
Ba	240	210	13.3	225.0	30.0
Be	0.43	0.42	2.4	0.4	0.0
Cd	2.8	6	72.7	4.4	3.2
Cr	12	13	8.0	12.5	1.0
Hg	0.76	1.4	59.3	1.1	0.6
Ni	9.7	9.5	2.1	9.6	0.2
Pb	11	7.3	40.4	9.2	3.7
Se	0.6 J (1.2)	0.56 J (1.2)	NC	NC	NC
U	1.3	1.2	8.0	1.3	0.1

Relative Percent Difference					
Analyte	TA2-2-OVT3-P789-SL2-S Analytical Result	TA2-2-OVT3-P789-SL2-DU Analytical Result	RPD %	Mean	Difference
Ag	0.044 J (0.16)	0.6	NC	NC	NC
As	3.2	3.5	9.0	3.4	0.3
Ba	160	310	63.8	235.0	150.0
Be	0.41	0.46	11.5	0.4	0.1
Cd	0.39	7.1	179.2	3.7	6.7
Cr	8.4	15	56.4	11.7	6.6
Hg	0.13 J (0.16)	2.2	NC	NC	NC
Ni	9.3	12	25.4	10.7	2.7
Pb	5.7	12	71.2	8.9	6.3
Se	0.43 J (1.2)	0.46 J (1.1)	NC	NC	NC
U	1.2	1.2	0.0	1.2	0.0

Analytical Results are in milligrams per kilogram
J = The analytical result is an estimated quantity greater than or equal to the method detection limit but is less than the practical quantitation limit, shown in parenthesis.
NC = Not calculated for non-detected or laboratory estimated values.
ND = Not detected above the method detection limit, shown in parenthesis..

Data Validation Summary

Site/Project: Site 2 UCM Project/Task #: 7217.02.02.02 # of Samples: 7 Matrix: Soil

AR/COC #: 603068 Laboratory Sample IDs: 0003 -603068-01 through -07

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				MS Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA				✓	NA				
2. Calibrations					NA					
3. Method Blanks					✓					
4. MS/MSD					J					
5. Laboratory Control Samples					✓					
6. Replicates					NA					
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					NA					
11. ICP Serial Dilution					NA					
12. Carrier/Chemical Tracer Recoveries										
13. Other QC					NA					

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey A. Rahn Date: 7/19/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 603068 Laboratory Sample IDs: 0003-603068-01 through -07

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA SW846 Method 6020 ICP-MS

# of Samples: 7 Matrix: Soil Batch #s: M-50013

CAS #/ Analyte	QC Element																		
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks	
7429-90-5 Al	NA							NA	NA				NA				NA	NA	
7440-39-3 Ba										?	?	?							
7440-41-7 Be																			
7440-43-9 Cd																			
7440-70-2 Ca																			
7440-47-3 Cr																			
7440-48-4 Co																			
7440-50-8 Cu																			
7439-89-6 Fe																			
7439-95-4 Mg																			
7439-96-5 Mn																			
7440-02-0 Ni																			
7440-09-7 K																			
7440-22-4 Ag																			
7440-23-5 Na																			
7440-62-2 V																			
7440-66-6 Zn																			
Uranium																			
7439-92-1 Pb																			
7782-49-2 Se																			
7440-38-2 As																			
7440-36-0 Sb																			
7440-28-0 Tl																			
7439-97-6 Hg																			
Cyanide CN																			

See Attachment 1

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

Comments:

Reviewed By: Jeffrey A. Rahe Date: 7/19/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603070 Data Classification: Inorganics (6010B 6020 7471A)

ER Sample ID	Analysis	DV Qualifiers	Comments
⇒ Note: See attached spreadsheet	for data qualifications.		
	Data are acceptable.		
QC	Measures appear to be adequate.		
			BLS 5/19/00

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 5/12/00

ARCOC #603070 Inorganic Analyses ER Sample ID	7440-22-4 (Ag)	7439-92-1 (Pb)	7782-49-2 (Se)		7439-97-6 (Hg)												
051157-001 TA2-2-TR3-P456-SL1-S	J	J	J,B3		J												
051157-002 TA2-2-TR3-P456-SL1-DU	J	J	J,B3		J												
051160-001 TA2-2-TR3-P456-SL4-S	J	J	J,B3		J												
051160-002 TA2-2-TR3-P456-SL4-DU	J	J	J,B3		J												
051170-001 TA2-2-TR3-P789-SL2-S	J	J	J,B3		J												
051170-002 TA2-2-TR3-P789-SL2-DU	J	J	J,B3		J												
051171-001 TA2-2-TR3-P789-SL3-S	J	J	J,B3		J												
051171-002 TA2-2-TR3-P789-SL3-DU	J	J	J,B3		J												

Sample Fi[illegible]gs Summary

Site: Site 2 VCM AR/COC: 603072 Data Classification: Inorganic

ER Sample ID	Analysis	DV Qualifiers	Comments
TA2-2-TR3-P789-SL2-S	7440-39-3	J, A2	
↓	7439-97-6	↓	
↓	7439-92-1	↓	
TA2-2-TR3-P789-SL3-S	7440-39-3	↓	
↓	7439-97-6	↓	
↓	7439-92-1	↓	
			[signature] 6-13-00

COC # 603072

COC # 603072

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 5/4/00

MEMORANDUM

DATE: 5-5-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 603072 and Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The sample was prepared and analyzed with accepted procedures and specified methods (ICP/MS- EPA6020). All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

1. ICP/MS Analysis: Percent recoveries in the matrix spike/matrix spike duplicate (MS/MSD) were high and outside of acceptance criteria for barium (ba) (231% and 191 % > 125%), lead (Pb) (130% and 129% > 125%). Percent recoveries in the MS/MSD were low and outside of acceptance criteria for mercury (Hg) (8% and 28% < 75%). The relative percent difference (RPD) values for the above listed analytes were within acceptance criteria for the MS/MSD pair. Analytical sample results will be qualified as follow; Ba "J, A2", Pb "J, A2", and Hg "J, A2".

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: No target analytes were detected in the laboratory method blank (LMB).

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria. A laboratory control sample duplicate (LCSD) was not analyzed.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS met QC acceptance criteria except for Ba, Pb, and Hg as noted above in the summary section.

Other QC

ICP/MS: No equipment blank (EB), field blank (FB), or field duplicate pair was submitted on the analysis request/chain-of-custody (ARCOC).

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Data V[illegible]tion Summary

Site/Project: Site 2 UCM Project/Task #: 7217.02-02-0[illegible] # of Samples: 2 Matrix: Soil

AR/COC #: 603072 Laboratory Sample IDs: TA2-2-TR3-P789-SL2-S and TA2-2-TR3-P789-SL3-S

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				MS Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/~~AES~~	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA				—	NA				
2. Calibrations					NA					
3. Method Blanks					—					
4. MS/MSD					—					
5. Laboratory Control Samples					—					
6. Replicates					NA					
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					NA					
11. ICP Serial Dilution					NA					
12. Carrier/Chemical Tracer Recoveries										
13. Other QC					NA					

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: [signature] 4-Rale Date: 5/4/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 603072 Laboratory Sample IDs: TA2-2-TR3-P789-SL2-S and TA2-2-TR3-P789-SL3-S

Laboratory: ERCL Laboratory Report #: ERCL

Methods: EPA SW846 6020 / EPA 200.8

# of Samples: 2 Matrix: Soil Batch #s: M-50012

CAS # / Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA							NA	NA											
7440-39-3 Ba						—	—			231	191	—								
7440-41-7 Be						—	—			—	—	—								
7440-43-9 Cd						—	—			—	—	—								
7440-70-2 Ca																				
7440-47-3 Cr						—	—			—	—	—								
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni						—	—			—	—	—								
7440-09-7 K																				
7440-22-4 Ag						—	—			—	—	—								
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
7439-92-1 Pb						—	—			130	129	—								
7782-49-2 Se						—	—			—	—	—								
7440-38-2 As						—	—			—	—	—								
7440-36-0 Sb																				
7440-28-0 Tl																				
Uranium						—	—			—	—	—								
7439-97-6 Hg						—	—			8	28	—								
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg / kg = µg / g : [(µg / g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

Reviewed By: Jeffrey A. Rake Date: 5/4/00

Sample Fina[illegible]s Summary

Site: Site 2 VCM AR/COC: 603073 Data Classification: Inorganic

ER Sample ID	Analysis	DV Qualifiers	Comments
TA2-2-1LAY-DOWN-BIN-S	7440-39-3	J, PZ	
TA2-2-2LAY-DOWN-BIN-S	↓	↓	
TA2-2-3LAY-DOWN-BIN-S			
TA2-2-4LAY-DOWN-BIN-DU			
TA2-2-5LAY-DOWN-BIN-S			
TA2-2-6LAY-DOWN-BIN-S			
TA2-2-7LAY-DOWN-BIN-S			
TA2-2-7LAY-DOWN-BIN-DU			BLS 6/30/00

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/21/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603073 Data Classification: Inorganic

ER Sample ID	Analysis	DV Qualifiers	Comments
TA2-2-8LAY-DOWN-BIN-S	7440-39-3	J, P2	
TA2-2-9LAY-DOWN-BIN-S	〃	〃	
			BLF

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Jeffrey A. Rabe Date: 6/21/00

MEMORANDUM

DATE: 6-21-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 603073 Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The sample was prepared and analyzed with accepted procedures and specified methods Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA 6020. All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

ICP/MS Analysis:

1. Percent recoveries and relative percent difference (RPD) value were not calculated for barium (Ba) in the matrix spike/matrix spike duplicate (MS/MSD) samples. Matrix spike recoveries and RPD's are only calculated if the spike concentration is greater than 30% of the matrix concentration. However, because a laboratory control sample duplicate was not analyzed with the quality control (QC) batch laboratory precision could not be determined for Ba. Analytical results will be qualified as estimated "J".

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: No target analytes were detected in the laboratory method blank.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria. An LCSD was not analyzed.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS/MSD met QC acceptance criteria except for Ba as noted in the summary section.

Other QC

ICP/MS Analysis: No equipment blank or field blank was submitted on the analysis request/chain-of-custody. Two duplicate samples were collected and submitted (TA2-2-4LAY-DOWN-BIN-S and DU and TA2-2-7LAY-DOWN-BIN-S and DU). RPD values for these duplicate samples are presented on Attachment 1.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-4LAY-DOWN-BIN-S Analytical Result	TA2-2-4LAY-DOWN-BIN-DU Analytical Result	RPD %	Mean	Difference
Ag	0.97	0.75	25.6	0.9	0.2
As	3.1	3.2	3.2	3.2	0.1
Ba	250	190	27.3	220.0	60.0
Be	0.45	0.47	4.3	0.5	0.0
Cd	8.8	8.7	1.1	8.8	0.1
Cr	12	21	54.5	16.5	9.0
Hg	1.6	1.5	6.5	1.6	0.1
Ni	11	13	16.7	12.0	2.0
Pb	10	19	62.1	14.5	9.0
Se	0.5 J	0.33	NC	NC	NC
U	1	0.97	3.0	1.0	0.0

Relative Percent Difference					
Analyte	TA2-2-7LAY-DOWN-BIN-S Analytical Result	TA2-2-7LAY-DOWN-BIN-DU Analytical Result	RPD %	Mean	Difference
Ag	1	0.79	23.5	0.9	0.2
As	3.3	3.4	3.0	3.4	0.1
Ba	150	260	53.7	205.0	110.0
Be	0.6	0.62	3.3	0.6	0.0
Cd	11	10	9.5	10.5	1.0
Cr	16	15	6.5	15.5	1.0
Hg	9.2	1.8	134.5	5.5	7.4
Ni	18	16	11.8	17.0	2.0
Pb	27	19	34.8	23.0	8.0
Se	1.3	0.5 J	NC	NC	NC
U	1.3	1.4	7.4	1.4	0.1

Analytical Results are in milligrams per kilogram
NC = Not calculated for non-detected or laboratory estimated values.

Data V[illegible]tion Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02-02.0[illegible] # of Samples: 11 Matrix: Soil

AR/COC #: 603073 Laboratory Sample IDs: 0003-603073-01 through -11

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				MS Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA	NA	NA	NA	✓	NA	NA	NA	NA	
2. Calibrations					NA					
3. Method Blanks					✓					
4. MS/MSD					✓					
5. Laboratory Control Samples					✓					
6. Replicates					✓					
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					NA					
11. ICP Serial Dilution					NA					
12. Carrier/Chemical Tracer Recoveries										
13. Other QC					NA					

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey A. Rabe Date: 6/21/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: _____ Laboratory Sample IDs: 0003-603073-01 through -11

Laboratory: ERCL Laboratory Report #: _____

Methods: EPA SW-846 Methods 6020 and 2co.8

# of Samples: 11 Matrix: Soil Batch #s: M-50014

CAS #/ Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA	→	→	→	→			NA	NA				NA	→	→		NA	NA		
7440-39-3 Ba	✓					✓	✓	✓	✓	?	?	?	✓				✓	✓		
7440-41-7 Be						✓	✓			✓	✓	✓								
7440-43-9 Cd						✓	✓			✓	✓	✓								
7440-70-2 Ca																				
7440-47-3 Cr						✓	✓			✓	✓	✓								
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni						✓	✓			✓	✓	✓								
7440-09-7 K																				
7440-22-4 Ag						✓	✓			✓	✓	✓								
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
Total U						✓	✓			✓	✓	✓								
7439-92-1 Pb						✓	✓			✓	✓	✓								
7782-49-2 Se						✓	✓			✓	✓	✓								
7440-38-2 As						✓	✓			✓	✓	✓								
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg					↓	✓	✓	↓	↓	✓	✓	✓			↓		↓	↓		
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g : [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

Comments:

Reviewed By: Jeffrey A. Rabe Date: 6/21/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603077 Data Classification: Inorganics (↓ 6010B 6020 7470/1A)

ER Sample ID	Analysis	DV Qualifiers	Comments
⇒ Note: See attached spreadsheet for data qualifications.			
	Data are acceptable.		
CC	Measures appear to be adequate.		Darrel Lofgren 12-14-00

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 5/26/00

ARCOC #603077 Inorganic Analyses ER Sample ID	7440-22-4 (Ag)	7440-43-9 (Cd)	7440-47-3 (Cr)	7440-50-8 (Cu)	7440-02-0 (Ni)	7439-92-1 (Pb)	7782-49-2 (Se)	7440-66-6 (Zn)									
051174-001 TA2-2-1LAY-DOWN-BIN-S	UJ,A2		J,B3	UJ,B3				J,B									
051175-001 TA2-2-2LAY-DOWN-BIN-S	UJ,A2		J,B3	UJ,B3				J,B									
051175-002 TA2-2-2LAY-DOWN-BIN-S	J	J	J,A2		J	J											
051176-001 TA2-2-3LAY-DOWN-BIN-S	UJ,A2		J,B3	UJ,B3			J,B,B3	J,B									
051176-002 TA2-2-3LAY-DOWN-BIN-DU	UJ,A2		J,B3	UJ,B3				J,B									
051177-001 TA2-2-4LAY-DOWN-BIN-S	UJ,A2			UJ,B3				J,B									
051178-001 TA2-2-5LAY-DOWN-BIN-S	UJ,A2			UJ,B3				J,B									
051179-001 TA2-2-6LAY-DOWN-BIN-S	UJ,A2		J,B3	UJ,B3			J,B,B3	J,B									
051179-002 TA2-2-6LAY-DOWN-BIN-S	J	J	J,A2		J	J											
051180-001 TA2-2-7LAY-DOWN-BIN-S	UJ,A2		J,B3	UJ,B3			J,B,B3	J,B									
051180-002 TA2-2-7LAY-DOWN-BIN-DU	UJ,A2		J,B3	UJ,B3			J,B,B3	J,B									
051181-001 TA2-2-8LAY-DOWN-BIN-S	J,A2,B3		J,B3	UJ,B3				J,B									
051182-001 TA2-2-9LAY-DOWN-BIN-S	UJ,A2		J,B3	UJ,B3				J,B									

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
Metals EPA SW-846 6020			
TA2-2-1LAY-DOWN-BIN-N	7440-38-2 Arsenic	3.1 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-1LAY-DOWN-BIN-E	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-1LAY-DOWN-BIN-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-1LAY-DOWN-BIN-W	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.

11-3-00

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-1LAY-DOWN-BIN-WDU	7440-38-2 Arsenic	2.8 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-2LAY-DOWN-BIN-N	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-2LAY-DOWN-BIN-NDU	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-2LAY-DOWN-BIN-E	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-2LAY-DOWN-BIN-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-2LAY-DOWN-BIN-W	7440-38-2 Arsenic	3.1 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-3LAY-DOWN-BIN-N	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-3LAY-DOWN-BIN-E	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-3LAY-DOWN-BIN-EDU	7440-38-2 Arsenic	3.1 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MSD percent recovery is outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
TA2-2-3LAY-DOWN-BIN-S	7440-38-2 Arsenic	3.7 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-3LAY-DOWN-BIN-W	7440-38-2 Arsenic	4.1 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-4LAY-DOWN-BIN-N	7440-38-2 Arsenic	2.7 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-4LAY-DOWN-BIN-E	7440-38-2 Arsenic	3.5 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-4LAY-DOWN-BIN-S	7440-38-2 Arsenic	2.9 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-4LAY-DOWN-BIN-SDU	7440-38-2 Arsenic	3.1 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-4LAY-DOWN-BIN-W	7440-38-2 Arsenic	2.6 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-5LAY-DOWN-BIN-N	7440-38-2 Arsenic	2.8 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-5LAY-DOWN-BIN-NDU	7440-38-2 Arsenic	3.5 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-5LAY-DOWN-BIN-E	7440-38-2 Arsenic	3.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-5LAY-DOWN-BIN-S	7440-38-2 Arsenic	2.5 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-5LAY-DOWN-BIN-W	7440-38-2 Arsenic	3.3 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-6LAY-DOWN-BIN-N	7440-38-2 Arsenic	3 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2	MS and MSD percent recovery is outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
TA2-2-6LAY-DOWN-BIN-E	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-6LAY-DOWN-BIN-EDU	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-6LAY-DOWN-BIN-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.4 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-6LAY-DOWN-BIN-W	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-7LAY-DOWN-BIN-N	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-7LAY-DOWN-BIN-E	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-7LAY-DOWN-BIN-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-7LAY-DOWN-BIN-SDU	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
TA2-2-7LAY-DOWN-BIN-W	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
TA2-2-8LAY-DOWN-BIN-N	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-8LAY-DOWN-BIN-E	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-8LAY-DOWN-BIN-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-8LAY-DOWN-BIN-W	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-43-9 Cadmium	J, A2, P1	MSD percent recovery and RPD value are outside of acceptance criteria.
	7440-47-3 Chromium	J, A2, P1	MS percent recovery and RPD value are outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-8LAY-DOWN-BIN-WDU	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery is outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-9LAY-DOWN-BIN-N	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery is outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-8LAY-DOWN-BIN-NDU	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery is outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-9LAY-DOWN-BIN-E	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery is outside of acceptance criteria.
	7782-49-2 Selenium	1.6 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-9LAY-DOWN-BIN-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery is outside of acceptance criteria.
	7782-49-2 Selenium	1.3 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603186 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-9LAY-DOWN-BIN-W	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries are outside of acceptance criteria.
	7439-97-6 Mercury	J, A2, P1	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery is outside of acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

MEMORANDUM

DATE: 10-4-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 603186
Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The samples were prepared and analyzed with accepted procedures and specified methods for metals by Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA SW-846 6020. Multiple Quality Control (QC) Batches are associated with the submitted samples. All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

ICP/MS Analysis:

QC Batch M-S0029

1. Arsenic was detected between the method detection limit (MDL) and the practical quantitation limit (PQL) in the method blank. Analytical results less than 5x the method blank concentration will be qualified as not detected (U). Analytical results greater than 5x the method blank concentration will not be qualified.

2. The percent recovery for chromium in the matrix spike (MS) sample was high and outside of acceptance criteria (126% > 125%). The relative percent difference (RPD) for chromium in the matrix spike/matrix spike duplicate (MS/MSD) pair was also outside acceptance criteria (23 > 20). Analytical results for chromium will be qualified as estimated (J, A2, P1).

3. The percent recovery for cadmium in the matrix spike duplicate (MSD) sample was high and outside of acceptance criteria (145% > 125%). The RPD for cadmium in the MS/MSD pair was within acceptance criteria. Analytical results for cadmium will be qualified as estimated (J, A2).

4. The percent recoveries for mercury in the MS/MSD samples were high and outside of acceptance criteria (173% and 196% > 125%). The RPD for mercury in the MS/MSD pair was within acceptance criteria. Analytical results for mercury will be qualified as estimated (J, A2).

5. Percent recoveries and RPD values were not calculated for barium in the MS/MSD samples. MS recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. Because a laboratory control sample duplicate was not analyzed with the QC Batch laboratory precision could not be determined for this analyte. Analytical results will be qualified as estimated (J, P2).

ICP/MS Analysis:

QC Batch M-S0031

1. Arsenic was detected between the MDL and PQL in the method blank. Analytical results less than 5x the method blank concentration will be qualified as not detected (U). Analytical results greater than 5x the method blank concentration will not be qualified.

2. The percent recovery for cadmium in the MS/MSD samples were low and outside of acceptance criteria (20% and 30% > 75%). The RPD for cadmium in the MS/MSD pair was within acceptance criteria. Analytical results for cadmium will be qualified as estimated (J, A2).

3. The percent recoveries for mercury in the MSD sample was high and outside of acceptance criteria (537% > 125%). The RPD for mercury in the MS/MSD pair was also outside of acceptance criteria (92 > 20). Analytical results for mercury will be qualified as estimated (J, A2, P1).

4. Percent recoveries and RPD values were not calculated for barium in the MS/MSD samples. MS recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. Because a laboratory control sample duplicate was not analyzed with the QC Batch laboratory precision could not be determined for this analyte. Analytical results will be qualified as estimated (J, P2).

ICP/MS Analysis:

QC Batch M-S0032

1. Barium, beryllium, chromium, nickel, lead, and selenium were detected between the MDL and PQL in the method blank. Analytical results less than 5x the method blank concentration will be qualified as not detected (U). Analytical results greater than 5x the method blank concentration will not be qualified.

2. The percent recovery for chromium in the MS sample was high and outside of acceptance criteria (249% > 125%). The RPD for chromium in the MS/MSD pair was also outside acceptance criteria (76 > 20). Analytical results for chromium will be qualified as estimated (J, A2, P1).

3. The percent recovery for cadmium in the matrix spike duplicate (MSD) sample was high and outside of acceptance criteria (162% > 125%). The RPD for cadmium in the MS/MSD pair was also outside of acceptance criteria (36 > 20). Analytical results for cadmium will be qualified as estimated (J, A2, P1).

4. Percent recoveries and RPD values were not calculated for barium in the MS/MSD samples. MS recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. Because a laboratory control sample duplicate was not analyzed with the QC Batch laboratory precision could not be determined for this analyte. Analytical results will be qualified as estimated (J, P2).

ICP/MS Analysis:

QC Batch M-S0034

1. Silver, chromium, nickel, and selenium were detected between the MDL and PQL in the method blank. Analytical results less than 5x the method blank concentration will be qualified as not detected (U). Analytical results greater than 5x the method blank concentration will not be qualified.

2. The percent recovery for chromium in the MS and MSD samples were low and outside of acceptance criteria (12% and 15% > 75%). The RPD for chromium in the MS/MSD pair was within acceptance criteria. Analytical results for chromium will be qualified as estimated (J, A2).

3. The percent recovery for lead in the MS sample was high and outside of acceptance criteria (145% > 125%). The RPD for lead in the MS/MSD pair was within acceptance criteria. Analytical results for lead will be qualified as estimated (J, A2).

4. Percent recoveries and RPD values were not calculated for barium and mercury in the MS/MSD samples. MS recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. Because a laboratory control sample duplicate was not analyzed with the QC Batch laboratory precision could not be determined for these analytes. Analytical results will be qualified as estimated (J, P2).

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: Target analytes were detected in the laboratory method blank, see the summary section above for details.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria. An LCSD was not analyzed with either QC Batch.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS/MSD met QC acceptance criteria except for the analytes noted in the summary section.

Other QC

ICP/MS Analysis: No equipment blank or field blank was submitted on the analysis request/chain-of-custody. Nine duplicate samples were collected and submitted. RPD values for these duplicate samples are presented on Attachment 1.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-1LAY-DOWN-BIN-W Analytical Result	TA2-2-1LAY-DOWN-BIN-WDU Analytical Result	RPD %	Mean	Difference
Ag	0.68	0.5	30.5	0.6	0.2
As	3.2 B	2.8 B	13.3	3.0	0.4
Ba	170	170	0.0	170.0	0.0
Be	0.44	0.4	9.5	0.4	0.0
Cd	13	8	47.6	10.5	5.0
Cr	17	15	12.5	16.0	2.0
Hg	3	2.8	6.9	2.9	0.2
Ni	12	10	18.2	11.0	2.0
Pb	12	16	28.6	14.0	4.0
Se	2.2	1.6	31.6	1.9	0.6
U	1.5	0.89	51.0	1.2	0.6

Relative Percent Difference					
Analyte	TA2-2-2LAY-DOWN-BIN-N Analytical Result	TA2-2-2LAY-DOWN-BIN-NDU Analytical Result	RPD %	Mean	Difference
Ag	0.52	6.6	170.8	3.6	6.1
As	3.3 B	3.5 B	5.9	3.4	0.2
Ba	160	210	27.0	185.0	50.0
Be	0.51	0.66	25.6	0.6	0.2
Cd	22	13	51.4	17.5	9.0
Cr	31	23	29.6	27.0	8.0
Hg	1.5	2.6	53.7	2.1	1.1
Ni	13	21	47.1	17.0	8.0
Pb	22	19	14.6	20.5	3.0
Se	0.82 J (1.2)	1.4	NC	NC	NC
U	1.2	1.6	28.6	1.4	0.4

Relative Percent Difference					
Analyte	TA2-2-3LAY-DOWN-BIN-E Analytical Result	TA2-2-3LAY-DOWN-BIN-EDU Analytical Result	RPD %	Mean	Difference
Ag	1.2	0.8	40.0	1.0	0.4
As	3.8 B	3.1 B	20.3	3.5	0.7
Ba	200	170	16.2	185.0	30.0
Be	0.62	0.46	29.6	0.5	0.2
Cd	19	9.8	63.9	14.4	9.2
Cr	22	14	44.4	18.0	8.0
Hg	2.4	1.7	34.1	2.1	0.7
Ni	15	10	40.0	12.5	5.0
Pb	61	28	74.2	44.5	33.0
Se	0.89 J (1.2)	0.71 J (1.2)	NC	NC	NC
U	4.4	0.91	131.5	2.7	3.5

Analytical Results are in milligrams per kilogram
B = The analyte was detected in the associated method blank.
J = The analytical result is an estimated quantity greater than or equal to the method detection limit but less than the practical quantitation limit, shown in parenthesis.
NC = Not calculated for non-detected or laboratory estimated values.

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-4LAY-DOWN-BIN-S Analytical Result	TA2-2-4LAY-DOWN-BIN-SDU Analytical Result	RPD %	Mean	Difference
Ag	0.68	3.5	134.9	2.1	2.8
As	2.9 B	3.1 B	6.7	3.0	0.2
Ba	140	8100	193.2	4120.0	7960.0
Be	0.43	0.44	2.3	0.4	0.0
Cd	5.4	66	169.7	35.7	60.6
Cr	11	460	190.7	235.5	449.0
Hg	2.4	3	22.2	2.7	0.6
Ni	10	16	46.2	13.0	6.0
Pb	12	22	58.8	17.0	10.0
Se	0.67 J (1.2)	0.89 J (1.2)	NC	NC	NC
U	0.71	1.3	58.7	1.0	0.6

Relative Percent Difference					
Analyte	TA2-2-5LAY-DOWN-BIN-N Analytical Result	TA2-2-5LAY-DOWN-BIN-NDU Analytical Result	RPD %	Mean	Difference
Ag	0.73	0.83	12.8	0.8	0.1
As	2.8 B	3.5 B	22.2	3.2	0.7
Ba	150	150	0.0	150.0	0.0
Be	0.48	0.48	0.0	0.5	0.0
Cd	16	8.4	62.3	12.2	7.6
Cr	15	15	0.0	15.0	0.0
Hg	2.1	2.4	13.3	2.3	0.3
Ni	11	15	30.8	13.0	4.0
Pb	15	19	23.5	17.0	4.0
Se	0.84 J (1.2)	0.68 J (1.2)	NC	NC	NC
U	1.3	1.2	8.0	1.3	0.1

Relative Percent Difference					
Analyte	TA2-2-6LAY-DOWN-BIN-E Analytical Result	TA2-2-6LAY-DOWN-BIN-EDU Analytical Result	RPD %	Mean	Difference
Ag	0.7	0.38	59.3	0.5	0.3
As	3.2	2 J (2.4)	NC	NC	NC
Ba	200 B	240 B	18.2	220.0	40.0
Be	0.59 B	0.57 B	3.4	0.6	0.0
Cd	9.1	7.2	23.3	8.2	1.9
Cr	12 B	16 B	28.6	14.0	4.0
Hg	2.4	1.8	28.6	2.1	0.6
Ni	11 B	11 B	0.0	11.0	0.0
Pb	16 B	21 B	27.0	18.5	5.0
Se	1.1 JB (1.2)	0.98 JB (1.2)	NC	NC	NC
U	1.4	1.1	24.0	1.3	0.3

Analytical Results are in milligrams per kilogram
B = The analyte was detected in the associated method blank.
J = The analytical result is an estimated quantity greater than or equal to the method detection limit but less than the practical quantitation limit, shown in parenthesis.
NC = Not calculated for non-detected or laboratory estimated values.

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-7LAY-DOWN-BIN-S Analytical Result	TA2-2-7LAY-DOWN-BIN-SDU Analytical Result	RPD %	Mean	Difference
Ag	1.7	0.7	83.3	1.2	1.0
As	3.5	2.9	18.8	3.2	0.6
Ba	1700 B	200 B	157.9	950.0	1500.0
Be	0.56 B	0.54 B	3.6	0.6	0.0
Cd	22	24	8.7	23.0	2.0
Cr	170 B	21 B	156.0	95.5	149.0
Hg	2.4	2.7	11.8	2.6	0.3
Ni	15 B	18 B	18.2	16.5	3.0
Pb	24 B	19 B	23.3	21.5	5.0
Se	0.88 JB (1.2)	3 B	NC	NC	NC
U	1.2	1.2	0.0	1.2	0.0

Relative Percent Difference					
Analyte	TA2-2-8LAY-DOWN-BIN-W Analytical Result	TA2-2-8LAY-DOWN-BIN-WDU Analytical Result	RPD %	Mean	Difference
Ag	0.62	1.1 B	55.8	0.9	0.5
As	3.1	3.6	14.9	3.4	0.5
Ba	190 B	620	106.2	405.0	430.0
Be	0.65 B	0.82	23.1	0.7	0.2
Cd	9.4	11	15.7	10.2	1.6
Cr	16 B	62 B	117.9	39.0	46.0
Hg	2.6	5.8	76.2	4.2	3.2
Ni	14 B	15 B	6.9	14.5	1.0
Pb	27 B	32	16.9	29.5	5.0
Se	0.82 JB (1.2)	1.2 B	NC	NC	NC
U	2.6	1.3	66.7	2.0	1.3

Relative Percent Difference					
Analyte	TA2-2-9LAY-DOWN-BIN-N Analytical Result	TA2-2-9LAY-DOWN-BIN-NDU Analytical Result	RPD %	Mean	Difference
Ag	1 B	1.4 B	33.3	1.2	0.4
As	3.5	2.3 J (2.4)	NC	NC	NC
Ba	230	220	4.4	225.0	10.0
Be	0.51	0.66	25.6	0.6	0.2
Cd	23	13	55.6	18.0	10.0
Cr	26 B	14 B	60.0	20.0	12.0
Hg	3.5	2.9	18.8	3.2	0.6
Ni	17 B	13 B	26.7	15.0	4.0
Pb	86	19	127.6	52.5	67.0
Se	1.1 JB (1.2)	0.95 JB (1.2)	NC	NC	NC
U	1.2	1.2	0.0	1.2	0.0

Analytical Results are in milligrams per kilogram
B = The analyte was detected in the associated method blank.
J = The analytical result is an estimated quantity greater than or equal to the method detection limit but less than the practical quantitation limit, shown in parenthesis.
NC = Not calculated for non-detected or laboratory estimated values.

Data Validation Summary

Site/Project: Site 2 UCM Project/Task #: 7217.02.02.02 # of Samples: 45 Matrix: Soil

AR/COC #: 603186 Laboratory Sample IDs: 0006-603186-01 through -45

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				MS Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA	~	~	→	~	NA	~	~	~	→
2. Calibrations	~	~	~	~	NA	~	~	~	~	~
3. Method Blanks	~	~	~	~	U/~	~	~	~	~	~
4. MS/MSD	~	~	~	~	J/~	~	~	~	~	~
5. Laboratory Control Samples	~	~	~	~	~	~	~	~	~	~
6. Replicates					~	~	~	~	~	~
7. Surrogates	~	~	~	~						~
8. Internal Standards	~	~								~
9. TCL Compound Identification	~	~								~
10. ICP Interference Check Sample					NA					~
11. ICP Serial Dilution					NA					~
12. Carrier/Chemical Tracer Recoveries										
13. Other QC	~	~	~	~	NA	~	~	~	~	→

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey A. Rabe Date: 10/4/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 603186 Laboratory Sample IDs: 0006-603186-01 through -13

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA SW-846 6020

# of Samples: 13 Matrix: Soil Batch #s: M-500 29

CAS #/ Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilution	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA	→	→	→	→			NA	→				NA	→	→		NA	→		
7440-39-3 Ba	↓					✓	✓	↓		?	?	?	↓				↓			
7440-41-7 Be	↓					✓	✓	↓		✓	✓	✓	↓				↓			
7440-43-9 Cd	↓					✓	✓	↓		✓	145	✓	↓				↓			
7440-70-2 Ca	↓							↓					↓				↓			
7440-47-3 Cr	↓					✓	✓	↓		126	✓	23	↓				↓			
7440-48-4 Co	↓							↓					↓				↓			
7440-50-8 Cu	↓							↓					↓				↓			
7439-89-6 Fe	↓							↓					↓				↓			
7439-95-4 Mg	↓							↓					↓				↓			
7439-96-5 Mn	↓							↓					↓				↓			
7440-02-0 Ni	↓					✓	✓	↓		✓	✓	✓	↓				↓			
7440-09-7 K	↓						✓	↓					↓				↓			
7440-22-4 Ag	↓					✓	✓	↓		✓	✓	✓	↓				↓			
7440-23-5 Na	↓							↓					↓				↓			
7440-62-2 V	↓							↓					↓				↓			
7440-66-6 Zn	↓							↓					↓				↓			
Uranium	↓					✓	✓	↓		✓	✓	✓	↓				↓			
7439-92-1 Pb	↓					✓	✓	↓		✓	✓	✓	↓				↓			
7782-49-2 Se	↓					✓	✓	↓		✓	✓	✓	↓				↓			
7440-38-2 As	↓					0.63	✓	↓		✓	✓	✓	↓				↓			
7440-36-0 Sb	↓							↓					↓				↓			
7440-28-0 Tl	↓							↓					↓				↓			
	↓							↓					↓				↓			
7439-97-6 Hg	↓				↓	✓	✓	↓	↓	172	196	✓	↓		↓		↓	↓		
	↓							↓					↓				↓			
Cyanide CN	↓							↓					↓				↓			
	↓							↓					↓				↓			
	↓							↓					↓				↓			
	↓							↓					↓				↓			

See Attachment 11

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

Comments:

Reviewed By: Jeffry A. Rabe Date: 10/4/00

Inorganic Metals

Site/Project: Site 2 VCM AR/COC #: 603186 Laboratory Sample IDs: 0006-603186-14 through 26

Laboratory: ERCL Laboratory Report #: NA

Methods: ERA SW-846 6020

# of Samples: 13 Matrix: Soil Batch #s: M-50031

CAS # / Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilution	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA							NA					NA				NA			
7440-39-3 Ba										7	7	7								
7440-41-7 Be																				
7440-43-9 Cd										70	30									
7440-70-2 Ca																				
7440-47-3 Cr																				
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni																				
7440-09-7 K																				
7440-22-4 Ag																				
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
Uranium																				
7439-92-1 Pb																				
7782-49-2 Se																				
7440-38-2 As						11														
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg											537	92								
Cyanide CN																				

See Attachment

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg / kg = µg / g : [(µg / g) x (sample mass {g} / sample vol. {ml}) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

Reviewed By: Jeffrey A. Rabe Date: 10/4/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 603186 Laboratory Sample IDs: 0006-603186-27 through -39

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA SW-846 6020

# of Samples: 13 Matrix: Soil Batch #s: M-50032

CAS #/ Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA							NA					NA				NA			
7440-39-3 Ba						0.58				7	7	7								
7440-41-7 Be						0.032														
7440-43-9 Cd											162	36								
7440-70-2 Ca																				
7440-47-3 Cr						0.72				249		76								
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni						0.6														
7440-09-7 K																				
7440-22-4 Ag																				
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
Uranium																				
7439-92-1 Pb						0.5														
7782-49-2 Se						0.59														
7440-38-2 As																				
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg																				
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

Comments:

Reviewed By: Jeffrey A. Rabe Date: 10/4/00

Inorganic Metals

Site/Project: Site 2 VCM AR/COC #: 603186 Laboratory Sample IDs: 0006-603186-40 through -15

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA SW-846 6020

# of Samples: 6 Matrix: Soil Batch #s: M-50034

CAS # / Analyte	QC Element																		
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks	
7429-90-5 Al	NA							NA					NA				NA		
7440-39-3 Ba						—	—			?	?	?							
7440-41-7 Be						—	—			—	—	—							
7440-43-9 Cd						—	—			—	—	—							
7440-70-2 Ca																			
7440-47-3 Cr						5.74	—			-12	-15	—							
7440-48-4 Co																			
7440-50-8 Cu																			
7439-89-6 Fe																			
7439-95-4 Mg																			
7439-96-5 Mn																			
7440-02-0 Ni						0.31	—			—	—	—							
7440-09-7 K																			
7440-22-4 Ag						0.062	—			—	—	—							
7440-23-5 Na																			
7440-62-2 V																			
7440-66-6 Zn																			
Uranium						—	—			—	—	—							
7439-92-1 Pb						—	—			145	—	—							
7782-49-2 Se						0.64	—			—	—	—							
7440-38-2 As						—	—			—	—	—							
7440-36-0 Sb																			
7440-28-0 Tl																			
7439-97-6 Hg						—	—			?	?	?							
Cyanide CN																			

Attachment 1

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg / kg = µg / g : [(µg / g) x (sample mass {g} / sample vol. {ml}) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

Reviewed By: Jeffry J. Rabe Date: 10/4/00

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603192 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
Metals EPA SW-846 6020			
TA2-2-PIT-BURM-MIX-N-S	7440-22-4 Silver	0.16 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries were outside of acceptance criteria.
	7439-97-6 Mercury	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery was outside of acceptance criteria.
	7782-49-2 Selenium	1.7 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-PIT-BURM-MIX-E-S	7440-22-4 Silver	0.18 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries were outside of acceptance criteria.
	7439-97-6 Mercury	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery was outside of acceptance criteria.
	7782-49-2 Selenium	1.7 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-PIT-BURM-MIX-S-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries were outside of acceptance criteria.
	7439-97-6 Mercury	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery was outside of acceptance criteria.
	7782-49-2 Selenium	1.7 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Derek Rodgers
12-13-00

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603192 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-PIT-BURM-MIX-W-S	7440-22-4 Silver	0.16 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries were outside of acceptance criteria.
	7439-97-6 Mercury	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery was outside of acceptance criteria.
	7782-49-2 Selenium	1.7 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-PIT-BURM-MIX-W-DU	7440-22-4 Silver	0.16 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-47-3 Chromium	J, A2	MS and MSD percent recoveries were outside of acceptance criteria.
	7439-97-6 Mercury	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7439-92-1 Lead	J, A2	MS percent recovery was outside of acceptance criteria.
	7782-49-2 Selenium	1.7 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

MEMORANDUM

DATE: 10-3-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 603192
Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The samples were prepared and analyzed with accepted procedures and specified methods for metals by Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA SW-846 6020. All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

ICP/MS Analysis:

1. The following analytes were detected between the method detection limit and the practical quantitation limit in the method blank, silver, chromium, nickel, and selenium. Analytical results less than 5x the method blank concentration will be qualified as not detected (U). Analytical results greater than 5x the method blank concentration will not be qualified.

2. Percent recoveries for chromium in the matrix spike/matrix spike duplicate (MS/MSD) samples were low and outside of acceptance criteria (12% and 15% < 75%). The relative percent difference (RPD) for chromium in the MS/MSD pair was within acceptance criteria. Analytical results for chromium will be qualified as estimated (J, A2).

3. The percent recovery for lead in the MS sample was high and outside of acceptance criteria (145% > 125%). The relative percent difference for chromium in the MS/MSD pair was within acceptance criteria. Analytical results for lead will be qualified as estimated (J, A2).

4. Percent recoveries and RPD values were not calculated for barium and mercury in the MS/MSD samples. Matrix spike recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. Because a laboratory control sample duplicate was not analyzed with the quality control (QC) batch laboratory precision could not be determined for the above listed analyte. Analytical results will be qualified as estimated (J, P2).

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: No target analytes other than silver, chromium, nickel, and selenium were detected in the laboratory method blank.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria. An LCSD was not analyzed with either QC Batch.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS/MSD met QC acceptance criteria except for chromium, barium, mercury, and lead as noted in the summary section.

Other QC

ICP/MS Analysis: No equipment blank or field blank was submitted on the analysis request/chain-of-custody. One duplicate sample was collected and submitted (TA2-2-PIT-BURM-MIX-W-S and TA2-2-PIT-BURM-MIX-W-DU). RPD values for this duplicate sample are presented on Attachment 1.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-PIT-BURM-MIX-W-S Analytical Result	TA2-2-PIT-BURM-MIX-W-DU Analytical Result	RPD %	Mean	Difference
Ag	0.15 JB (0.16)	0.07 JB (0.16)	NC	NC	NC
As	2.5	1.8 J (2.4)	NC	NC	NC
Ba	190	140	30.3	165.0	50.0
Be	0.47	0.36	26.5	0.4	0.1
Cd	1.1	0.73	40.4	0.9	0.4
Cr	10 B	6.3 B	45.4	8.2	3.7
Hg	0.31	0.22	34.0	0.3	0.1
Ni	9.2 B	6 B	42.1	7.6	3.2
Pb	5.7	6.2	8.4	6.0	0.5
Se	0.68 JB (1.2)	0.64 JB (1.2)	NC	NC	NC
U	1.1	1.3	16.7	1.2	0.2

Analytical Results are in milligrams per kilogram
B = The analyte was detected in the associated method blank.
J = The analytical result is an estimated quantity greater than or equal to the method detection limit but less than the practical quantitation limit, shown in parenthesis.
NC = Not calculated for non-detected or laboratory estimated values.

Data V[illegible]ation Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02.02. # of Samples: 5 Matrix: Soil

AR/COC #: 603192 Laboratory Sample IDs: 0006-603192-01 through -05

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				Inorganics (MS)				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA				✓	NA				
2. Calibrations					NA					
3. Method Blanks					U/✓					
4. MS/MSD					J/✓					
5. Laboratory Control Samples					✓					
6. Replicates					✓					
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					NA					
11. ICP Serial Dilution					NA					
12. Carrier/Chemical Tracer Recoveries										
13. Other QC					NA					

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey A. Rale Date: 10/03/00

Inorganic Metals

Site/Project: Site 2 VCM AR/COC #: 603192 Laboratory Sample IDs: 0006-603192-01 Through -05

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA SW-846 6020

# of Samples: 5 Matrix: Soil Batch #s: M-50034

CAS #/ Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilu-tion	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al	NA							NA					NA				NA			
7440-39-3 Ba						✓	✓			?	?	?								
7440-41-7 Be						✓	✓			✓	✓	✓								
7440-43-9 Cd						✓	✓			✓	✓	✓								
7440-70-2 Ca																				
7440-47-3 Cr						0.74	✓			12	15	✓								
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni						0.31	✓			✓	✓	✓								
7440-09-7 K																				
7440-22-4 Ag						0.062	✓			✓	✓	✓								
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
Uranium						✓	✓			✓	✓	✓								
7439-92-1 Pb						✓	✓			145	✓	✓								
7782-49-2 Se						0.69	✓			✓	✓	✓								
7440-38-2 As						✓	✓			✓	✓	✓								
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg						✓	✓			?	?	?								
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

Comments:

Reviewed By: Jeffrey A. Rabe Date: 10/3/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603/93 Data Classification: Inorganics

ER Sample ID	Analysis	DV Qualifiers	Comments
SEE ATTACHED TABLE			
Data is Acceptable			
QC measures appear to be adequate			

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Kevin A Lambert Date: 8-31-00

	7440-43--9 (cadmium)	7439-97-6 (mercury)
ARCOC #603193		
Metals Analyses		
	J	J
052515-001 / TA2-2-PIT-BURM-MIX-N-S	J	J
052515-002 / TA2-2-PIT-BURM-MIX-N-DU	J	J
052516-001 / TA2-2-PIT-BURM-MIX-E-S	J	J
052517-001 / TA2-2-PIT-BURM-MIX-S-S	J	J
052518-001 / TA2-2-PIT-BURM-MIX-W-S	J	J

Kevin A Lambert 8-31-00

Sample Findings Summary

Site: Site 2 UCM AR/COC: 603196 Data Classification: Inorganics (EPA 6010B 6020 7471A)

ER Sample ID	Analysis	DV Qualifiers	Comments
052537-001 TA2-2-CWLF-COBL-GR2-1	7440-43-9 (Cd)	J	
38- -2			
39- -3			
40- -4			
40-002 -4DL			
41-001 -5			
42- -6			
43- -7			
44- -8			
44-003 -8DL			
45-001 -9			
46-001 TA2-2-CYLI-NDER-BRM-S			
	Data are acceptable.		Derek Rodges 12-13-00
	QC Measures appear to be adequate		

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 9/14/00

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603197 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
Metals EPA SW-846 6020			
TA2-2-CWLF-COBL-GRZ-1	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-2	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-3	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-4	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-4DU	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Derek Rodgers
12-13-00

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603197 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-CWLF-COBL-GRZ-5	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-6	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-7	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-8	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CWLF-COBL-GRZ-8DU	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

Sample Findings Summary

Site: Site 2 VCM

ARCOC: 603197 Data Classification: Inorganic

Sample Fraction No.	Analysis	DV Qualifier	Comments
TA2-2-CWLF-COBL-GRZ-9	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.
TA2-2-CYLI-NDER-BRM-S	7440-39-3 Barium	J, P2	MS/MSD percent recoveries and RPD value were not presented in the analytical report.
	7440-02-0 Nickel	J, P1	The RPD value for the MS/MSD pair was outside acceptance criteria.
	7782-49-2 Selenium	1.2 U	Analyte was detected in the associated method blank. The analytical result is less than 5x the method blank concentration.

MEMORANDUM

DATE: 10-3-2000

TO: File

FROM: Jeff Rabe

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC No. 603197
Project/Task No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

The samples were prepared and analyzed with accepted procedures and specified methods for metals by Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA SW-846 6020. All analytes were successfully analyzed. Problems were identified with the data package that result in the qualification of data.

ICP/MS Analysis:

1. Chromium and selenium were detected between the method detection limit and the practical quantitation limit in the method blank. Analytical results less than 5x the method blank concentration will be qualified as not detected (U). Analytical results greater than 5x the method blank concentration will not be qualified.

2. The relative percent difference (RPD) for nickel in the matrix spike/matrix spike duplicate (MS/MSD) pair was outside acceptance criteria (21 > 20). The percent recoveries for nickel in the MS and MSD sample were within acceptance criteria. Analytical results for nickel will be qualified as estimated (J, P1).

3. Percent recoveries and RPD values were not calculated for barium in the MS/MSD samples. Matrix spike recoveries and RPD(s) are only calculated if the spike concentration is greater than 30% of the matrix concentration. Because a laboratory control sample duplicate was not analyzed with the quality control (QC) batch laboratory precision could not be determined for this analyte. Analytical results will be qualified as estimated (J, P2).

Data is acceptable and QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

ICP/MS Analysis: The samples were analyzed within the prescribed holding times.

Blanks

ICP/MS Analysis: No target analytes other than chromium and selenium were detected in the laboratory method blank.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analyses

ICP/MS Analysis: The LCS met QC acceptance criteria. An LCSD was not analyzed with either QC Batch.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

ICP/MS Analysis: The MS/MSD met QC acceptance criteria except for barium and nickel as noted in the summary section.

Other QC

ICP/MS Analysis: No equipment blank or field blank was submitted on the analysis request/chain-of-custody. Two duplicate samples were collected and submitted (TA2-2-CWLF-COBL-GRZ-4, –4DU and TA2-2-CWLF-COBL-GRZ-8, -8DU). RPD values for these duplicate samples are presented on Attachment 1.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Respectively submitted,

Jeffrey J. Rabe

Attachment 1

Relative Percent Difference					
Analyte	TA2-2-CWLF-COBL-GRZ-4 Analytical Result	TA2-2-CWLF-COBL-GRZ-4DU Analytical Result	RPD %	Mean	Difference
Ag	6.3	1.4	127.3	3.9	4.9
As	3.2	2.9	9.8	3.1	0.3
Ba	250	160	43.9	205.0	90.0
Be	0.58	0.48	18.9	0.5	0.1
Cd	20	3.3	143.3	11.7	16.7
Cr	14 B	13 B	7.4	13.5	1.0
Hg	4.1	2.8	37.7	3.5	1.3
Ni	17	14	19.4	15.5	3.0
Pb	12	8.8	30.8	10.4	3.2
Se	0.98 JB (1.2)	1.1 JB (1.2)	NC	NC	NC
U	1.4	1.2	15.4	1.3	0.2

Relative Percent Difference					
Analyte	TA2-2-CWLF-COBL-GRZ-8 Analytical Result	TA2-2-CWLF-COBL-GRZ-8DU Analytical Result	RPD %	Mean	Difference
Ag	2.5	2.6	3.9	2.6	0.1
As	2.6	3.1	17.5	2.9	0.5
Ba	200	260	26.1	230.0	60.0
Be	0.57	0.59	3.4	0.6	0.0
Cd	5.1	7.2	34.1	6.2	2.1
Cr	15 B	18 B	18.2	16.5	3.0
Hg	2.8	3.4	19.4	3.1	0.6
Ni	16	20	22.2	18.0	4.0
Pb	10	12	18.2	11.0	2.0
Se	0.91 JB (1.2)	0.82 JB (1.2)	NC	NC	NC
U	1.2	1.2	0.0	1.2	0.0

Analytical Results are in milligrams per kilogram
J = The analytical result is an estimated quantity greater than or equal to the method detection limit but less than the practical quantitation limit, shown in parenthesis.
B = Analyte detected in the associated method blank.
NC = Not calculated for non-detected or laboratory estimated values.

Data Validation Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02.02.02 # of Samples: 12 Matrix: Soil

AR/COC #: 603197 Laboratory Sample IDs: 0007-603197-01 through -12

Laboratory: ERCL

Laboratory Report #: NA

QC Element	Analysis									
	Organics				MS Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation	NA				—	NA				
2. Calibrations					NA					
3. Method Blanks					U/—					
4. MS/MSD					J/—					
5. Laboratory Control Samples					—					
6. Replicates					—					
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					NA					
11. ICP Serial Dilution					NA					
12. Carrier/Chemical Tracer Recoveries										
13. Other QC					NA					

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: Jeffrey G. Rahe Date: 10/3/00

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 603197 Laboratory Sample IDs: 0007-603197-01 Through-12

Laboratory: ERCL Laboratory Report #: NA

Methods: EPA SW-846 6020

# of Samples: 12 Matrix: Soil Batch #s: M-50035

CAS # / Analyte	QC Element																		
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilution	Field Dup. RPD	Equip. Blanks	Field Blanks	
7429-90-5 Al	NA							NA					NA				NA		
7440-39-3 Ba						✓	✓			?	2	?							
7440-41-7 Be						✓	✓			✓	✓	✓							
7440-43-9 Cd						✓	✓			✓	✓	✓							
7440-70-2 Ca																			
7440-47-3 Cr						6.79	✓			✓	✓	✓							
7440-48-4 Co																			
7440-50-8 Cu																			
7439-89-6 Fe																			
7439-95-4 Mg																			
7439-96-5 Mn																			
7440-02-0 Ni						✓	✓			✓	✓	21							
7440-09-7 K																			
7440-22-4 Ag						✓	✓			✓	✓	✓							
7440-23-5 Na																			
7440-62-2 V																			
7440-66-6 Zn																			
Uranium						✓	✓			✓	✓	✓							
7439-92-1 Pb						✓	✓			✓	✓	✓							
7782-49-2 Se						0.4	✓			✓	✓	✓							
7440-38-2 As						✓	✓			✓	✓	✓							
7440-36-0 Sb																			
7440-28-0 Tl																			
7439-97-6 Hg					✓	✓	✓		✓	✓	✓	✓			✓			✓	
Cyanide CN																			

See Attachment 1

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg / kg = µg / g : [(µg / g) x (sample mass {g} / sample vol. {ml}) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

Reviewed By: Jeffrey J. Rahe Date: 10/3/00

Sample Finding Summary

Site: Site 2 VCM AR/COC: 603352/603360 Data Classification: Inorganics (EPA 6010 or 7041A)

ER Sample ID	Analysis	DV Qualifiers	Comments
⇒ Note: See attached spreadsheet	for data qualifications.		
	Data are acceptable.		
	QC Measures appear to be adequate.		Derek Rodgers 12-14-00

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 9/29/00

ARCOC #603352/603360 Inorganic Analyses ER Sample ID	7440-38-2 (As)	7440-39-3 (Ba)	7440-47-3 (Cr)	7440-02-0 (Ni)	7439-92-1 (Pb)	7782-49-2 (Se)										
053001-002 TA2-2-FINAL-FLR-400N-3800E-0.5		J	J	J												
053002-002 TA2-2-FINAL-FLR-400N-3850E-0.5		J	J	J												
053003-002 TA2-2-FINAL-FLR-400N-3900E-0.5		J	J	J												
053004-002 TA2-2-FINAL-FLR-400N-3900E-D		J	J	J												
053005-002 TA2-2-FINAL-FLR-400N-3950E-0.5		J	J	J												
053006-002 TA2-2-FINAL-FLR-400N-4000E-0.5		J	J	J												
053007-002 TA2-2-FINAL-FLR-400N-4050E-0.5		J	J	J												
053008-002 TA2-2-FINAL-FLR-450N-3800E-0.5		J	J	J												
053009-002 TA2-2-FINAL-FLR-450N-3850E-0.5		J	J	J												
053010-002 TA2-2-FINAL-FLR-450N-3900E-0.5		J	J	J												
053011-002 TA2-2-FINAL-FLR-450N-3950E-0.5		J	J	J												
053012-002 TA2-2-FINAL-FLR-450N-4000E-0.5		J	J	J												
053013-002 TA2-2-FINAL-FLR-450N-4000E-D		J	J	J												
053025-002 TA2-2-FINAL-SDW-375N-3770E-1.0						J,B2										
053026-002 TA2-2-FINAL-SDW-400N-3770E-1.0						J,B2										
053027-002 TA2-2-FINAL-SDW-450N-3770E-1.0						J,B2										
053029-002 TA2-2-FINAL-SDW-500N-3770E-1.0						J,B2										
052586-002 TA2-2-FINAL-EB4	UJ,B3				J,B,B3											
052587-002 TA2-2-FINAL-EB5	UJ,B3															

9/27/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603352/603360 Data Classification: Radiological (EPA906.0)

ER Sample ID	Analysis	DV Qualifiers	Comments
052586-003 TA2-2-FINAL-EB4	EPA906.0 (Tritium)	J, B	
052587-003 TA2-2-FINAL-EB5	↓	↓	
	Data are acceptable.		
	QC Measures appear to be adequate.		

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 9/29/00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603354/603356 Data Classification: Inorganics (E 8B 6020 7470/1A)

ER Sample ID	Analysis	DV Qualifiers	Comments
052583-002 TA2-2-FINAL-EB1	7439-97-6 (Hg)	R, B3	
↓ 4- ↓ -EB2	↓	↓	
↓ 5- ↓ -EB3	↓	↓	DL. 9.1401
	Data are acceptable (except as noted above).		
	QC appears to be adequate.		

INFORMATION ONLY

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 9/26/00

MEMORANDUM

DATE: September 26, 2000

TO: File

FROM: Kenneth Salaz

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC #603354/603356,
SDG #29699/29705, Case No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

All samples were prepared and analyzed with accepted procedures and specified methods: EPA6010B (ICP-AES), EPA6020 (ICP-MS), and EPA7470/1A (CVAA). A problem was identified with the data package that results in the qualification of data.

1. CVAA Analysis: In the continuing calibration blank (CCB) for the equipment blanks (EBs), mercury (Hg) was detected at a negative concentration. The absolute value was greater than (>) the reporting limit (RL). All associated sample results were non-detect (ND) and will be qualified "R,B3" (unusable).

Data are acceptable except as noted above. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

All Analyses: The samples were analyzed within the prescribed holding times.

Calibration

All Analyses: The initial and continuing calibrations met QC acceptance criteria.

Blanks

ICP Analyses: No target analytes were detected in the blanks except for the following. In the CCB for the EBs, selenium (Se) was detected. However, all associated sample results were ND. Thus, no data were qualified. In the initial calibration blank (ICB) for the field samples, arsenic (As) was detected at a negative

concentration. The absolute value was > the detection limit (DL) but less than (<) the RL. However, all associated sample results were >5X the DL. Thus, no data were qualified.

CVAA Analysis: No target analytes were detected in the blanks except as noted above in the summary section

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

All Analyses: The MS/MSD analyses met QC acceptance criteria.

Laboratory Control Samples (LCS/LCSD)

All Analyses: The LCS/LCSDs met QC acceptance criteria.

Replicate Analysis

ICP Analyses: No replicate analyses were performed. The MSDs were used as measures of laboratory precision.

CVAA Analysis: The replicate analysis met QC acceptance criteria.

ICP Interference Check Sample (ICS)

ICP Analyses: The ICP ICS met QC acceptance criteria. However, it should be noted that an ICS was not run and/or data were not reported for an ICS at the end of the ICP-MS analytical sequence. No data were qualified as a result.

CVAA Analysis: No ICS was required for this method.

ICP Serial Dilution

ICP Analyses: The ICP serial dilution met QC acceptance criteria.

CVAA Analysis: No serial dilution was required for this method.

Other QC

ICP Analyses: Three field duplicates were submitted. However, there are no "required" review criteria for field duplicate analyses comparability. No target analytes were detected in the EBs except for barium (Ba) and lead (Pb). However, all associated sample results were >5X the blank concentrations. Thus, no data were qualified. No field blanks (FBs) were submitted on the ARCOC.

CVAA Analysis: Three field duplicates were submitted. However, there are no "required" review criteria for field duplicate analyses comparability. No target analytes were detected in the EBs. However, as noted above in the summary

section, the EB results were qualified unusable. No field blanks (FBs) were submitted on the ARCOC.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603354/603356 Data Classification: Radiological (EPA 906.0)

ER Sample ID	Analysis	DV Qualifiers	Comments
053019-003 TA2-2-FINAL-FLR-500N-3900E-0.5	EPA 906.0 (Tritium)	J, B	
20- FLR-500N-3950E-0.5			
30- SDW-550N-3700E-1.0			
43- -3800E-1.0			
44- -3950E-1.0			
45- -3900E-1.0			
46- -3950E-1.0			
47- -3950E-D			
48- -4000E-1.0			
50- -4100E-1.0			
15- -FLR-450N-4100E-0.5			DL. 9-14-01
	Data are acceptable.		
	QC Measures appear to be adequate.		

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 9/26/00

MEMORANDUM

DATE: September 26, 2000

TO: File

FROM: Kenneth Salaz

SUBJECT: Radiological Data Review and Validation
Site 2 VCM, ARCOC #603354/603356,
SDG #29699/29705, Case No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

All samples were prepared and analyzed with accepted procedures and specified method: EPA906.0 (Tritium). A problem was identified with the data package that results in the qualification of data.

1. In the method blank, tritium was detected at a concentration greater than (>) the associated uncertainty. The results of samples 29699-019, -020, -025, -026, -027, -028, -029, -030, -031, -034, and -039 were less than (<) 5X the blank concentration and will be qualified "J,B."

Data are acceptable. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

The samples were analyzed within the prescribed holding time.

Calibration

The case narrative stated that the instrument calibration met QC acceptance criteria.

Blanks

No target analytes were detected in the method blanks above the required acceptance limit except as noted above in the summary section.

Matrix Spike (MS) Analysis

The MS analyses met QC acceptance criteria. It should be noted that the MS analysis for the equipment blanks (EBs) was performed on a sample from another SDG. The case narrative stated that all QC acceptance criteria were met.

Laboratory Control Sample (LCS)

The LCSs met QC acceptance criteria.

Replicates

The replicate analyses met QC acceptance criteria. It should be noted that the replicate analysis for the EBs was performed on a sample from another SDG. The case narrative stated that all QC acceptance criteria were met.

Tracer Recoveries

No tracer was required for this method.

Negative Bias

All results met negative bias QC acceptance criteria except for the following. The results of samples 29705-004 and -006 were < the negative MDA. However, since the samples were EBs, no data were qualified based on professional judgement.

Other QC

Three field duplicates were submitted. However, there are no "required" review criteria for field duplicate analyses comparability. No target analytes were detected in the EBs above the required acceptance limit. No field blanks (FBs) were submitted on the ARCOC.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Data Validation Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02.02.02 # of Samples: 46 Matrix: 40 soil / 6 aqueous

AR/COC #: 603354/603356 Laboratory Sample IDs: 29699-001 to -040

Laboratory: GEL 29705-001 to -006

Laboratory Report #: 29699/29705

QC Element	Analysis									
	Organics				Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation					✓	NA	✓	NA	✓	NA
2. Calibrations					✓		✓		✓	
3. Method Blanks					✓		R, BJ KW 9/26/00		J, B	
4. MS/MSD					✓		✓		✓	
5. Laboratory Control Samples		NA			✓		✓		✓	
6. Replicates					NA		✓		✓	
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					✓					
11. ICP Serial Dilution					✓					
12. Carrier/Chemical Tracer Recoveries									NA	
13. Other QC					✓	↓	✓	↓	✓	↓

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: [signature] Date: 9/26/00

Inorganic Metals

Site/Project: Site 2 VCM AR/COC #: 603354/603356 Laboratory Sample IDs: 29699-001 to -017, -035, -036, -037

Laboratory: GEL Laboratory Report #: 29699

Methods: EPA 6010B (ICP-AES), EPA 6020 (ICP-MS), EPA 7471A (CVAA)

# of Samples: 20 Matrix: Soil Batch #s: 40828, 41647, 40502/40501

CAS #/ Analyte	QC Element																	as 9/26/00	
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	(2) ICS AB	Serial Dilution	Field Dup. RPD	(1) Equip. Blanks ([illegible])	Equip. ~~Field~~ Blanks ([illegible])	
7429-90-5 Al																			
7440-39-3 Ba	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	NA	✓	✓	NA	1.77	2.12	
7440-41-7 Be	✓	↓	↓	↓	↓	↓	↓	↓	↓	✓	✓	✓	↓	↓	NA	↓	✓	✓	
7440-43-9 Cd	✓	↓	↓	↓	↓	↓	↓	↓	↓	✓	✓	✓	↓	↓	NA	↓	✓	✓	
7440-70-2 Ca																			
7440-47-3 Cr	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	✓	NA	NA	✓	✓	
7440-48-4 Co																			
7440-50-8 Cu																			
7439-89-6 Fe																			
7439-95-4 Mg																			
7439-96-5 Mn																			
7440-02-0 Ni	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	✓	NA	NA	✓	✓	
7440-09-7 K																			
7440-22-4 Ag	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	✓	NA	NA	✓	✓	
7440-23-5 Na																			
7440-62-2 V																			
7440-66-6 Zn																			
7439-92-1 Pb	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	✓	NA	NA	✓	1.84	
7782-49-2 Se	✓	↓	✓	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	NA	↓	↓	✓	
7440-38-2 As	✓	↓	-3.21 →	→	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	NA	↓	↓	✓	
7440-36-0 Sb			✓ KDS 9/25/00																
7440-28-0 Tl																			
7439-97-6 Hg	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	NA	NA	
Uranium (U)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	✓	NA	NA	✓	✓	
Cyanide CN																			

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg / kg = µg / g : [(µg / g) x (sample mass {g} / sample vol. {ml}) x (1000 ml / 1 liter)] / Dilution Factor = µg / l

Comments:

(1) 1st EB applies to samples -001 to -017; 2nd EB applies to samples -035, -036, -037 only.

(2) Note: No ICS @ end of U analytical sequence.

Reviewed By: [signature] Date: 9/26/00

*Summary → See back of this page

Ba Ind, As was detected @ a neg. conc. The assc. value was > the DL but < the RL. However, all assoc. Sample results were > 5X the DL. Thus, no data were qualified.

~~JAS 9/25/96~~ Eb, Ba and Pb were detected. However, all assoc Sample results were > 5X the blank concs. Thus, no data were qualified.

Inorganic Metals

Site/Project: Sk 2 VCM | AR/COC #: 603356 | Laboratory Sample IDs: 29705-001, -002, -003

Laboratory: GEL | Laboratory Report #: 29705

Methods: EPA6010B(ICI-AES), EPA6020 (ICP-MS), EPA7470A(CVAA)

# of Samples: 3 | Matrix: aqueous | Batch #s: 40397, 40457, 41645

CAS # / Analyte	QC Element																		
	TAL	ICV	CCV	ICB	CCB (mg/L)	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	(1) ICS AB	Serial Dilution	Field Dup. RPD	Equip. Blanks	Field Blanks	
7429-90-5 Al																NA	NA	NA	
7440-39-3 Ba	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA				
7440-41-7 Be	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
7440-43-9 Cd	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
7440-70-2 Ca																			
7440-47-3 Cr	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA				
7440-48-4 Co																			
7440-50-8 Cu																			
7439-89-6 Fe																			
7439-95-4 Mg																			
7439-96-5 Mn																			
7440-02-0 Ni	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA				
7440-09-7 K																			
7440-22-4 Ag	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA				
7440-23-5 Na																			
7440-62-2 V																			
7440-66-6 Zn																			
7439-92-1 Pb	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA				
7782-49-2 Se	✓	↓	↓	↓	2.69	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
7440-38-2 As	✓	↓	↓	↓	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
7440-36-0 Sb																			
7440-28-0 Tl																			
7439-97-6 Hg	✓	✓	✓	✓	-0.66	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA				
Uranium (U)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA	↓	↓	↓	
Cyanide CN																			

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

NA = Not Applicable

Comments:

(1) Note: No data reported for ICS at the end of the U analytical sequence.

Reviewed By: _____ Date: 9/26/06

*Summary → See back of this page.

Radiochemistry

Site/Project: Site 2 VCM AR/COC #: 603354/603356 Laboratory Sample IDs: 29699-018 to -034, -035, -039, -040

Laboratory: GEL Laboratory Report #: 29699

Methods: EPA 906.0 (H^3)

# of Samples: 20 Matrix: Soil Batch #s: 40681

Analyte	QC Element												
	Method Blanks	LCS	MS	Rep RER	Equip. Blanks	Field Dup. RER	Field Blanks	Sample ID	Isotope	IS/Trace	Sample ID	Isotope	IS/Trace
Criteria	U	20%	25%	<1.0	U	<1.0	U			50-105			50-105
H3	371	✓	✓	✓	✓	NA	NA						
U-238													
U-234													
U-235/-236													
Th-232													
Th-228													
Th-230										NA			
Pu-239/-240													
Gross Alpha													
Nonvolatile Beta													
Ra-226													
Ra-228													
Ni-63													
Gamma Spec. Am-241													
Gamma Spec. Cs-137													
Gamma Spec. Co-60													

NA = Not Applicable

Parameter	Method	Typical Tracer	Typical Carrier
Iso-U	Alpha spec.	U-232	NA
Iso-Pu	Alpha spec.	Pu-242	NA
Iso-Th	Alpha spec.	Th-229	NA
Am-241	Alpha spec.	Am-242	NA
Sr-90	Beta	Y ingrowth	NA
Ni-63	Beta	NA	Ni by ICP
Ra-226	Deamination	NA	NA
Ra-226	Alpha spec.	Ba-133 or Ra-225	NA
Ra-228	Gamma spec.	Ba-133	NA

Gamma spec. LCS contains: Am-241, Cs-137, and Co-60

Comments: * Summary

=> In the method blank, H^3 was detected @ a conc. > the associated uncertainty. The results of samples -019, -020, -025, -026, -027, -028, -029, -030, -031, -034, and -039 were < 5x the blank conc. and will be qualified "J,B."

Reviewed By: [signature] Date: 9/26/00

Radiochemistry

Site/Project: Site 2 VCM AR/COC #: 603356 Laboratory Sample IDs: 29705-004, 005, -006

Laboratory: GEL Laboratory Report #: 29705

Methods: EPA 906.0 (H^3)

# of Samples: 3 Matrix: aqueous Batch #s: 40492

Analyte	QC Element												
	Method Blanks	LCS	@ MS	Rep RER	Equip. Blanks	Field Dup. RER	Field Blanks	Sample ID	Isotope	IS/Trace	Sample ID	Isotope	IS/Trace
Criteria	U	20%	25%	<1.0	U	<1.0	U			50-105			50-105
H3	✓	✓	NA	NA	NA	NA	NA						
U-238													
U-234													
U-235/-236													
Th-232													
Th-228													
Th-230													
Pu-239/-240													
Gross Alpha													
Nonvolatile Beta													
Ra-226													
Ra-228													
Ni-63													
Gamma Spec. Am-241													
Gamma Spec. Cs-137													
Gamma Spec. Co-60													

NA = Not Applicable

Parameter	Method	Typical Tracer	Typical Carrier
Iso-U	Alpha spec.	U-232	NA
Iso-Pu	Alpha spec.	Pu-242	NA
Iso-Th	Alpha spec.	Th-229	NA
Am-241	Alpha spec.	Am-242	NA
Sr-90	Beta	Y ingrowth	NA
Ni-63	Beta	NA	Ni by ICP
Ra-226	Deemination	NA	NA
Ra-226	Alpha spec.	Ba-133 or Ra-225	NA
Ra-228	Gamma spec.	Ba-133	NA

Gamma spec. LCS contains: Am-241, Cs-137, and Co-60

Comments:

@ MS + Rep. performed on a single sample from another SDG. The case narrative stated that all QC criteria were met.

*Summary

⇒ All QC criteria were met. Ni data were qualified.

Reviewed By: [signature] Date: 9/26/00

Sample Finding Summary

Site: Site 2 VCM AR/COC: 603358 Data Classification: Metals, Rad

ER Sample ID	Analysis	DV Qualifiers	Comments
Metals:	See Attached Table		
	Data is Acceptable		
	QC measures appear to be adequate		
Rad:	No Data is Qualified		
	Data is Acceptable		
	QC measures appear to be adequate		
			12-11-00

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: Kevin A Lambert Date: 10-5-00

ARCOC #603358 Metals Analysis		7782-49-2 (selenium)	7440-22-4 (silver)		BA	B-J: DRelpro														
053034-002 / TA2-2-FINAL-SDW-365N-3950E-1.0		UJ, B3	J, B3		2	2✓														
053038-002 / TA2-2-FINAL-SDW-400N-4100E-1.0		UJ, B3	J, B3		2	2✓														
053042-002 / TA2-2-FINAL-SDW-550N-4150E-1.0		UJ, B3	J, B3		2	2✓														
053032-002 / TA2-2-FINAL-SDW-365N-3850E-1.0		J, B3	J, B3		2	2✓														
053033-002 / TA2-2-FINAL-SDW-365N-3900E-1.0		UJ, B3			1	1✓														
053035-002 / TA2-2-FINAL-SDW-375N-4000E-1.0		J, B3	J, B3		2	2✓														
053036-002 / TA2-2-FINAL-SDW-375N-4000E-D		UJ, B3			1	1✓														
053037-002 / TA2-2-FINAL-SDW-370N-4050E-1.0		J, B3	J, B3		*	2✓														
053039-002 / TA2-2-FINAL-SDW-450N-4150E-1.0		J, B3			1	1✓														
053040-002 / TA2-2-FINAL-SDW-4[illegible]0N-4150E-D		J, B3			1	1✓														
053041-002 / TA2-2-FINAL-SDW-500N-4150E-1.0		J, B3			1	1✓														

DR
10-24-00

Kevin A Tambert
10-5-00

Sample Findings Summary

Site: Site 2 VCM AR/COC: 603352/603360 Data Classification: Inorganics (EPA 6010 6020 7470/1A)

ER Sample ID	Analysis	DV Qualifiers	Comments
⇒ Note: See attached spreadsheet	for data qualifications.		
	Data are acceptable.		
	QC Measures appear to be adequate.		

INFORMATION ONLY

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 9/29/00

ARCOC #603352/603360 Inorganic Analyses ER Sample ID	7440-38-2 (As)	7440-39-3 (Ba)	7440-47-3 (Cr)	7440-02-0 (Ni)	7439-92-1 (Pb)	7782-49-2 (Se)										
053001-002 TA2-2-FINAL-FLR-400N-3800E-0.5		J	J	J												
053002-002 TA2-2-FINAL-FLR-400N-3850E-0.5		J	J	J												
053003-002 TA2-2-FINAL-FLR-400N-3900E-0.5		J	J	J												
053004-002 TA2-2-FINAL-FLR-400N-3900E-D		J	J	J												
053005-002 TA2-2-FINAL-FLR-400N-3950E-0.5		J	J	J												
053006-002 TA2-2-FINAL-FLR-400N-4000E-0.5		J	J	J												
053007-002 TA2-2-FINAL-FLR-400N-4050E-0.5		J	J	J												
053008-002 TA2-2-FINAL-FLR-450N-3800E-0.5		J	J	J												
053009-002 TA2-2-FINAL-FLR-450N-3850E-0.5		J	J	J												
053010-002 TA2-2-FINAL-FLR-450N-3900E-0.5		J	J	J												
053011-002 TA2-2-FINAL-FLR-450N-3950E-0.5		J	J	J												
053012-002 TA2-2-FINAL-FLR-450N-4000E-0.5		J	J	J												
053013-002 TA2-2-FINAL-FLR-450N-4000E-D		J	J	J												
053025-002 TA2-2-FINAL-SDW-375N-3770E-1.0						J,B2										
053026-002 TA2-2-FINAL-SDW-400N-3770E-1.0						J,B2										
053027-002 TA2-2-FINAL-SDW-450N-3770E-1.0						J,B2										
053029-002 TA2-2-FINAL-SDW-500N-3770E-1.0						J,B2										
052586-002 TA2-2-FINAL-EB4	UJ,B3				J,B,B3											
052587-002 TA2-2-FINAL-EB5	UJ,B3															

9/24/12

Sample Findin_ Summary

Site: Sik 2 VCM AR/COC: 603352/603360 Data Classification: Radiological (EPA-900.0)

ER Sample ID	Analysis	DV Qualifiers	Comments
052586-003 TA2-2-FINAL-EB4	EPA900.0 (Tritium)	J, B	
052587-003 TA2-2-FINAL-EB5	↓	↓	
	Data are acceptable.		
	QC Measures appear to be adequate.		

ER Sample ID - This value is located on the AR/Chain of Custody.

Analysis - Use valid test methods provided below or if the result applies to an individual analyte within a test method, use the CAS number from the analytical data sheet.

DV Qualifiers - The entry will be taken from the list of valid qualifiers and associated comments. If other qualifiers not on the list are needed, contact Tina Sanchez to coordinate adding them to the list.

Comments - This is only to be used if a comment associated with the qualifier is not appropriate, needs modification because of an unusual circumstance, or additional clarification is warranted.

Test Methods - Anions_CE, EPA6010, EPA6020, EPA7470/1, EPA8015B, EPA8081, EPA8260, EPA8260-M3, EPA8270, HACH_ALK, HACH_ NO2, HACH_NO3, MEKC_HE, PCBRISC

Reviewed by: [signature] Date: 9/29/00

MEMORANDUM

DATE: September 29, 2000

TO: File

FROM: Kenneth Salaz KS

SUBJECT: Inorganic Data Review and Validation
Site 2 VCM, ARCOC #603352/603360,
SDG #29708/29751, Case No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

All samples were prepared and analyzed with accepted procedures and specified methods: EPA6010B (ICP-AES), EPA6020 (ICP-MS), and EPA7470/1A (CVAA). Problems were identified with the data package that result in the qualification of data.

1. ICP Analyses: In the initial calibration blank (ICB) for the equipment blanks (EBs), arsenic (As) was detected at a negative concentration. The absolute value was greater than (>) the detection limit (DL) but less than (<) the reporting limit (RL). All associated sample results were non-detect (ND) and will be qualified "UJ,B3." In the ICB and continuing calibration blank (CCB), lead (Pb) was detected. The associated result of sample 29751-001 was a detect, <5X the blank concentrations, and will be qualified "J,B,B3."

2. ICP Analyses: The replicate relative percent differences (RPDs) of barium (Ba), chromium (Cr), and nickel (Ni) for batch #40825 were >35%. All associated sample results were detects and will be qualified "J."

3. ICP Analyses: In the EB, selenium (Se) was detected. The associated results of samples 29708-027, -028, -029, and -030 were detects, <5X the blank concentration, and will be qualified "J,B2."

Data are acceptable. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

All Analyses: The samples were analyzed within the prescribed holding times.

Calibration

All Analyses: The initial and continuing calibrations met QC acceptance criteria.

Blanks

ICP Analyses: No target analytes were detected in the blanks except as noted above in the summary section and the following. In the ICB for the EBs, selenium (Se) was detected. However, the blank concentration was < the DL. Thus, no data were qualified. In the initial calibration blank (ICB) for batch #40825 (field samples), arsenic (As) was detected at a negative concentration. The absolute value was > the DL but < the RL. However, all associated sample results were >5X the DL. Thus, no data were qualified. In the method blank for batch #41085, Cr and silver (Ag) were detected. However, all associated Cr results were >5X the blank concentration, and all associated Ag results were ND. Thus, no data were qualified.

CVAA Analysis: No target analytes were detected in the blanks except for the following. In the ICB and CCB for the EBs, mercury (Hg) was detected. However, all associated sample results were ND. Thus, no data were qualified.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

All Analyses: The MS/MSD analyses met QC acceptance criteria.

Laboratory Control Samples (LCS/LCSD)

All Analyses: The LCS/LCSDs met QC acceptance criteria.

Replicate Analysis

ICP Analyses: The replicate analyses met QC acceptance criteria except as noted above in the summary section and the following. The RPD of Pb (36%) was slightly >35%. Thus, no data were qualified based on professional judgement.

CVAA Analysis: No replicate analysis was performed. The MSD was used as a measure of laboratory precision.

ICP Interference Check Sample (ICS)

ICP Analyses: The ICP ICS met QC acceptance criteria. However, it should be noted that an ICS was not run and/or data were not reported for an ICS at the end of the ICP-MS analytical sequence. No data were qualified as a result.

CVAA Analysis: No ICS was required for this method.

ICP Serial Dilution

ICP Analyses: The ICP serial dilution met QC acceptance criteria.

CVAA Analysis: No serial dilution was required for this method.

Other QC

ICP Analyses: Three field duplicates were submitted. However, there are no "required" review criteria for field duplicate analyses comparability. No target analytes were detected in the EBs except as noted above in the summary section and the following. Ba, Cr, Ag, Pb, and uranium (U) were detected. However, all associated sample results were either >5X the blank concentrations or ND. Thus, no data were qualified. No field blanks (FBs) were submitted on the ARCOC.

CVAA Analysis: Three field duplicates were submitted. However, there are no "required" review criteria for field duplicate analyses comparability. No target analytes were detected in the EBs. No field blanks (FBs) were submitted on the ARCOC.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

MEMORANDUM

DATE: September 29, 2000

TO: File

FROM: Kenneth Salaz KS

SUBJECT: Radiological Data Review and Validation
Site 2 VCM, ARCOC #603352/603360,
SDG #29708/29751, Case No. 7217.02.02.02

See the attached Data Validation Worksheets for supporting documentation on the data review and validation.

Summary

All samples were prepared and analyzed with accepted procedures and specified method: EPA906.0 (Tritium). A problem was identified with the data package that results in the qualification of data.

1. In the method blank for the equipment blanks (EBs), tritium was detected at a concentration greater than (>) the associated uncertainty. The results of samples 29751-003 and -004 were less than (<) 5X the blank concentration and will be qualified "J,B."

Data are acceptable. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times

The samples were analyzed within the prescribed holding time.

Calibration

The case narrative stated that the instrument calibration met QC acceptance criteria.

Blanks

No target analytes were detected in the method blanks above the required acceptance limit except as noted above in the summary section.

Matrix Spike (MS) Analysis

The MS analyses met QC acceptance criteria.

Laboratory Control Sample (LCS)

The LCSs met QC acceptance criteria.

Replicates

The replicate analyses met QC acceptance criteria.

Tracer Recoveries

No tracer was required for this method.

Negative Bias

All results met negative bias QC acceptance criteria.

Other QC

Two field duplicates were submitted. However, there are no "required" review criteria for field duplicate analyses comparability. No target analytes were detected in the EBs above the required acceptance limit. No field blanks (FBs) were submitted on the ARCOC.

No other specific issues were identified which affect data quality.

Please contact me if you have any questions or comments regarding the review of this package.

Data Validation Summary

Site/Project: Site 2 VCM Project/Task #: 7217.02.02.02 # of Samples: 42 Matrix: 38 soil/4 aqueous

AR/COC #: 603352/603360 Laboratory Sample IDs: 29708-001 to -038

Laboratory: CEL 29751-001 to -004

Laboratory Report #: 29708/29751

QC Element	Analysis									
	Organics				Inorganics				RAD	Other
	VOC	SVOC	Pesticide/ PCB	HPLC (HE)	ICP/AES	GFAA/ AA	CVAA (Hg)	CN		
1. Holding Times/Preservation					✓	NA	✓	NA	✓	NA
2. Calibrations					✓		✓		✓	
3. Method Blanks					J,B,BJ UJ,BJ		✓		J,B	
4. MS/MSD					✓		✓		✓	
5. Laboratory Control Samples		NA			✓		✓		✓	
6. Replicates					J		NA		✓	
7. Surrogates										
8. Internal Standards										
9. TCL Compound Identification										
10. ICP Interference Check Sample					✓					
11. ICP Serial Dilution					✓					
12. Carrier/Chemical Tracer Recoveries									NA	
13. Other QC					J,B2	↓	✓	↓	✓	↓

J = Estimated
U = Not Detected
UJ = Not Detected, Estimated
R = Unusable

Check (√) = Acceptable
Shaded Cells = Not Applicable (also "NA")
NP = Not Provided
Other: _____

Reviewed By: _____ Date: 9/27/00

Inorganic Metals

Site/Project: S.L.J VCM AR/COC #: 603352/~~603360~~ KAS 9/26/02 Laboratory Sample IDs: 29708-001 to -013

Laboratory: GEL Laboratory Report #: 29708

Methods: EPA 6010B (ICP-AES), EPA 6020 (ICP-MS), EPA 7471A (CVAA)

# of Samples: ~~14~~ 13 KAS 9/26/02 Matrix: Soil Batch #s: 40325 (ICP-AES), 40501 (~~ICP~~ CVAA) EG 9/26/02, 41643 (ICP-MS)

CAS # / Analyte	QC Element																			
	TAL	ICV	CCV	ICB (mg/L)	CCB (mg/L)	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	(1) ICS AB	Serial Dilu-tion	Field Dup. RPD	(mg/L) Equip. Blanks	Field Blanks		
7429-90-5 Al																NA		NA		
7440-39-3 Ba	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	38	✓	✓		2.99			
7440-41-7 Be	✓	↓	↓	↓	↓	↓	↓	↓	↓	✓	↓	↓	NA	↓	NA		✓			
7440-43-9 Cd	✓	↓	↓	↓	↓	↓	↓	↓	↓	✓	↓	↓	NA	↓	NA		✓			
7440-70-2 Ca																				
7440-47-3 Cr	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	40	✓	NA		1.2			
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	39	✓	NA		✓			
7440-09-7 K																				
7440-22-4 Ag	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA		0.796			
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
7439-92-1 Pb	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	36	✓	NA		2.15			
7782-49-2 Se	✓	↓	↓	✓	↓	↓	↓	↓	↓	↓	↓	↓	NA	↓	↓		2.95			
7440-38-2 As	✓	↓	↓	-3.21	↓	↓	↓	↓	↓	↓	↓	↓	✓	↓	↓		✓			
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	NA	NA	NA		✓			
Uranium (U)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	✓	✓	NA	↓	0.021	↓		
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass {g} / sample vol. {ml}) x (1000 ml / 1 liter)] / Dilution Factor = µg/l N/A = Not Applicable

Comments:

(1) No ICS run @ the end of the ICP-MS analytical sequence.

Reviewed By: [signature] Date: 9/29/02

* Summary → See back of this page

the Lab for batch # 40825, As was detected @ a negative conc.. The assc. value was > the DL but < the RL. However, all assoc. sample results were >5x the DL. Thus, no data were qualified.

the method blank for batch # 41055, Cr and Ag were detected. However, all assoc. Cr results were >5x the blank conc., and all assoc. Ag results were ND. Thus, no data were qualified.

Rep. RPDs of Ba, Cr, and Ni for batch # 40825 were >35%. All assoc. Sample results were detects and will be qualified "J."

Rep. RPD of Pb (36%) was just slightly, > 35%. Thus, no data were qualified.

n the EB, Se was detected. The assoc. results of samples -027, -025, -029, and -030 were detects, <5x the blank conc., and will be qualified "J, B2."

:, Cr, Ag, Pb, and U were detected. However, all assoc. sample results were either >5x the blank conc. or ND. Thus, no data were qualified.

Inorganic Metals

Site/Project: Site 2 UCM AR/COC #: 603360 Laboratory Sample IDs: 29708-027 to -032

Laboratory: CEL Laboratory Report #: 29708

Methods: EPA 6010B, 6020, 7471A

# of Samples: 6 Matrix: soil Batch #s: 41055(ICP-AES), 41335(CVAA), 41651(GFAA)/41637(ICP-MS)

CAS #/ Analyte	QC Element																			
	TAL	ICV	CCV	ICB	CCB	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	ICS AB	Serial Dilution	Field Dup. RPD	(use) Equip. Blanks	Field Blanks		
7429-90-5 Al													NA			NA		NA		
7440-39-3 Ba	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA		✓	✓		2.99			
7440-41-7 Be	↓	↓	↓	↓	↓	↓	↓	↓	↓	✓	✓	✓		↓	NA		✓			
7440-43-9 Cd	↓	↓	↓	↓	↓	↓	↓	↓	↓	✓	✓	✓		↓	NA		✓			
7440-70-2 Ca																				
7440-47-3 Cr	✓	✓	✓	✓	✓	0.159	✓	✓	✓	✓	✓	✓		✓	NA		1.2			
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	NA		✓			
7440-09-7 K																				
7440-22-4 Ag	✓	✓	✓	✓	✓	0.37	✓	✓	✓	✓	✓	✓		✓	NA		0.796			
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
7439-92-1 Pb	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	NA		2.15			
7782-49-2 Se	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	↓		2.95			
7440-38-2 As	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	↓		✓			
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		NA	NA		✓			
Uranium (U)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	↓	✓	NA	↓	0.021	↓		
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

NA = Not Applicable

Comments:

Reviewed By: _____ Date: 9/29/00

Inorganic Metals

Site/Project: Site 2 VCM AR/COC #: 103360 Laboratory Sample IDs: 29751-001 ~~thru 004~~ and -002

Laboratory: GEL Laboratory Report #: 29751

Methods: EPA 6010B (ICP-AES), EPA 6020 (ICP-MS), EPA 7470A (CVAA)

# of Samples: 2 Matrix: aqueous Batch #s: 40761, 41648, 40904

CAS # / Analyte	QC Element																		
	TAL	ICV	CCV	ICB (ug/L)	CCB (ug/L)	Method Blanks	LCS	LCSD	LCSD RPD	MS	MSD	MSD RPD	Rep. RPD	(6) ICS AB	Serial Dilution	Field Dup. RPD	Equip. Blanks	Field Blanks		
7429-90-5 Al																NA	NA	NA		
7440-39-3 Ba	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA					
7440-41-7 Be	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					
7440-43-9 Cd	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					
7440-70-2 Ca																				
7440-47-3 Cr	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA					
7440-48-4 Co																				
7440-50-8 Cu																				
7439-89-6 Fe																				
7439-95-4 Mg																				
7439-96-5 Mn																				
7440-02-0 Ni	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA					
7440-09-7 K																				
7440-22-4 Ag	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA					
7440-23-5 Na																				
7440-62-2 V																				
7440-66-6 Zn																				
7439-92-1 Pb	✓	✓	✓	1.9	1.95	0.00348	✓	✓	✓	✓	NA	NA	NA	✓	NA					
7782-49-2 Se	✓	↓	↓	2.33	✓	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓					
7440-38-2 As	✓	↓	↓	-3.57	✓	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓					
7440-36-0 Sb																				
7440-28-0 Tl																				
7439-97-6 Hg	✓	✓	✓	0.0616	0.0539	✓	✓	✓	✓	✓	NA	NA	NA	NA	NA					
Uranium (U)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA	↓	↓	↓		
Cyanide CN																				

Notes: Shaded rows are RCRA metals. Solids-to-aqueous conversion: mg/kg = µg/g: [(µg/g) x (sample mass (g) / sample vol. (ml)) x (1000 ml / 1 liter)] / Dilution Factor = µg/l

NA = Not Applicable

Comments:

(6) ICS AB run @ the end of the ICP-MS analytical sequence.

Reviewed By: _____ Date: 9/29/00

* Summary → See last page

'CCB:

In the ICB and CCB, Pb was detected. The assoc. result of sample -001 was a detect, < 5x the blank conc., and will be qualified "J,B,B3."

In the ICB, As was detected @ a neg. conc.. The ass. value was > the DL but < the RL. All assoc. sample results were ND and will be qualified "UJ,B3."

In the ICB, Se was detected. However, the blank conc. was < the DL. Thus, no data were qualified.

In the ICB and CCB, Hg was detected. However, all assoc. sample results were ND. Thus, no data were qualified.

Radiochemistry

Site/Project: Sk 2 VCM AR/COC #: 603352/603360 Laboratory Sample IDs: 29708-014 to -026, -033 to -035

Laboratory: CEL Laboratory Report #: 29708

Methods: EPA 906.0 (H^3)

# of Samples: 19 Matrix: Soil Batch #s: 41731

Analyte	QC Element												
	Method Blanks	LCS	MS	Rep RER	Equip. Blanks	Field Dup. RER	Field Blanks	Sample ID	Isotope	IS/Trace	Sample ID	Isotope	IS/Trace
Criteria	U	20%	25%	<1.0	U	<1.0	U			50-105			50-105
H3	✓	✓	✓	✓	✓	NA	NA						
U-238													
U-234													
U-235/-236													
Th-232													
Th-228													
Th-230										NA			
Pu-239/-240													
Gross Alpha													
Nonvolatile Beta													
Ra-226													
Ra-228													
Ni-63													
Gamma Spec. Am-241													
Gamma Spec. Cs-137													
Gamma Spec. Co-60													

NA = Not Applicable

Parameter	Method	Typical Tracer	Typical Carrier
Iso-U	Alpha spec.	U-232	NA
Iso-Pu	Alpha spec.	Pu-242	NA
Iso-Th	Alpha spec.	Th-229	NA
Am-241	Alpha spec.	Am-242	NA
Sr-90	Beta	Y ingrowth	NA
Ni-63	Beta	NA	Ni by ICP
Ra-226	Deamination	NA	NA
Ra-226	Alpha spec.	Ba-133 or Ra-225	NA
Ra-228	Gamma spec.	Ba-133	NA

Gamma spec. LCS contains: Am-241, Cs-137, and Co-60

Comments: *Summary

⇒ All QC criteria met. No data were qualified.

Reviewed By: [signature] Date: 9/29/00

Radiochemistry

Site/Project: Site 2 VCM AR/COC #: 603360 Laboratory Sample IDs: 29751-003 and -004

Laboratory: GEL Laboratory Report #: 29751

Methods: EPA 906.0 (H^3),

# of Samples: 32 (3/12/2010) Matrix: aqueous Batch #s: ~~29751~~ 40492

Analyte	QC Element												
	Method Blanks	LCS	MS	Rep RER	Equip. Blanks	Field Dup. RER	Field Blanks	Sample ID	Isotope	IS/Trace	Sample ID	Isotope	IS/Trace
Criteria	U	20%	25%	<1.0	U	<1.0	U			50-105			50-105
H3	177	✓	✓	✓	NA	NA	NA						
U-238													
U-234													
U-235/-236													
Th-232													
Th-228										NA			
Th-230													
Pu-239/-240													
Gross Alpha													
Nonvolatile Beta													
Ra-226													
Ra-228													
Ni-63													
Gamma Spec. Am-241													
Gamma Spec. Cs-137													
Gamma Spec. Co-60													

NA=Not Applicable

Parameter	Method	Typical Tracer	Typical Carrier
Iso-U	Alpha spec.	U-232	NA
Iso-Pu	Alpha spec.	Pu-242	NA
Iso-Th	Alpha spec.	Th-229	NA
Am-241	Alpha spec.	Am-242	NA
Sr-90	Beta	Y ingrowth	NA
Ni-63	Beta	NA	Ni by ICP
Ra-226	Deamination	NA	NA
Ra-226	Alpha spec.	Ba-133 or Ra-225	NA
Ra-228	Gamma spec.	Ba-133	NA

Gamma spec. LCS contains: Am-241, Cs-137, and Co-60

Comments: *Summary

⇒ H^3 was detected in the method blank @ a conc. > the assoc. uncertainty. All assoc. sample results were < 5X the blank conc and will be qualified "J, B."

Reviewed By: [signature] Date: 7/27/10

ANNEX 5-F
Risk Screening Assessment

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SWMU 2: RISK SCREENING ASSESSMENT REPORT

I. Site Description and History

Solid Waste Management Unit (SWMU) 2, the Classified Waste Landfill, Operable Unit 1303, at Sandia National Laboratories/New Mexico (SNL/NM), comprises approximately 1.5 acres at an average elevation of 5,415 feet above sea level. The site is located on the piedmont-slope alluvium immediately west of the northern rim of Tijeras Arroyo. The site is on land owned by Kirtland Air Force Base (KAFB) and leased to the U.S. Department of Energy (DOE). The Classified Waste Landfill (SWMU 2) was established inside SNL/NM Technical Area (TA)-II and was used to bury classified material.

Environmental concern about SWMU 2 is based upon the disposal of weapons parts and material in unlined pits and trenches from the 1950s to 1987, although the earliest burials may have been in 1947. The individual trenches were approximately 8 to 12 feet wide and 12 feet deep and varied in length from approximately 100 to 300 feet. The individual pits were between 12 and 18 feet deep. The trenches and pits were covered with 1 to 4 feet of soil.

The annual precipitation for the area, as measured at the Albuquerque International Sunport, is 8.1 inches. No springs or perennial surface-water bodies are located in the vicinity of the site. During most rainfall events, rainfall quickly infiltrates the soil at SWMU 2. However, virtually all of the moisture subsequently undergoes evapotranspiration. The estimates of evapotranspiration for the KAFB area range from 95 to 99 percent of the annual rainfall.

The vicinity of SWMU 2 has been heavily disturbed and is unpaved with little native vegetation. The area is essentially flat, and no storm sewers are used to direct surface water in this area. Tijeras Arroyo is the most significant surface-water drainage feature at KAFB and the west bank of the arroyo is approximately 400 feet east of SWMU 2. The arroyo originates in Tijeras Canyon, which is bounded by the Sandia Mountains to the north and the Manzano Mountains to the south. The arroyo trends southwest and eventually drains into the Rio Grande.

Based upon data from monitor wells at TA-II, a perched groundwater zone occurs above the regional aquifer beneath SWMU 2. The depth to the perched zone is approximately 267 to 320 feet below ground surface (bgs), while the depth to the regional aquifer is approximately 520 feet bgs. The closest down-gradient production well is KAFB-1, located approximately 1.4 miles northwest of the site.

II. Data Quality Objectives

The Data Quality Objectives (DQOs) presented in the SWMU 2 Voluntary Corrective Measure (VCM) plan identified the excavated soil field screening and sampling and confirmatory sample locations, sample depths, sampling procedures, and analytical requirements. The DQOs outlined the Quality Assurance (QA)/Quality Control (QC) requirements necessary to produce defensible analytical data suitable for risk-assessment purposes. The excavated soil characterization and excavation confirmatory sampling conducted during the SWMU 2 VCM were designed to:

- Determine whether hazardous waste of hazardous constituents were ever released at the site;
- Characterize the nature and extent of any releases;
- Monitor constituent of concern (COC) concentrations for health and safety and waste management decisions; and
- Provide analytical data of sufficient quality to support risk screening assessments and justify using the excavated soil as backfill for the excavation.

Table 1 summarizes the rationale for the sampling pattern. The source of potential COCs at SWMU 2 was the material buried in pits and trenches at the landfill.

Table 1
Summary of Sampling Performed to Meet DQOs

SWMU 2 Sampling	Potential COC Source	Number of Sampling Locations	Sample Density (samples/acre)	Sampling Location Rationale
Excavated soil from pits and trenches.	Buried material	1 sample per 10 or 50 cubic yards	NA	Evaluate excavated soil for evidence of COC release, waste management, H&S, and for possible use as backfill.
Bottom of nine individual pits and bottom and sidewalls of excavation after material and soil removal.	Buried material	50	0.05	Evaluate soil at the bottom of the excavation and pits to ensure the VCM was complete.

COC = Constituent of concern.
DQO = Data Quality Objective.
H&S = Health and Safety.
NA = Not Applicable.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.

Samples of the excavated soil were collected for field-screening and laboratory analysis throughout the project. Field-screening included: volatile organic compound (VOC) headspace analysis by photoionization detector, metals by x-ray fluorescence, and radionuclides by large-area gamma spectroscopy. Laboratory analyses included: VOCs, semivolatile organic compounds (SVOCs), high explosives (HE), metals, gamma spectroscopy, and tritium. Sample numbers and frequency changed throughout the project based upon number of nondetects, indications of possible contamination, or waste characterization needs.

VCM confirmatory soil samples were analyzed for metals, VOCs, SVOCs, radionuclides, and tritium. The samples were analyzed by General Engineering Laboratories Inc. (GEL) and the on-site SNL/NM Radiation Protection Sample Diagnostic (RPSD) Laboratory. Table 2 summarizes the number and types of confirmatory samples at SWMU 2. Table 3 summarizes the analytical methods and some of the data quality requirements from the SWMU 2 VCM plan.

QA/QC samples were collected during the VCM and confirmatory sampling efforts in accordance with the Environmental Restoration (ER) Project Quality Assurance Project Plan. The QA/QC samples consisted of duplicates and off-site laboratory splits. Equipment-wash (aqueous rinsate) blanks were collected at the start of the project and during the confirmatory sampling phase of the project. No significant QA/QC problems were identified in the QA/QC samples.

All of the excavated soil characterization and confirmatory soil sample results were verified/validated by SNL/NM. The off-site laboratory results from GEL were validated according to "Data Validation Procedure for Chemical and Radiochemical Data SNL/NM Environmental Restoration Project Analytical Operating Procedure (AOP) 00-03, Rev. 0" (SNL/NM December 1999). The data validation reports are presented in the associated SWMU 2 no further action (NFA) proposal. The gamma spectroscopy data from the RPSD Laboratory were reviewed according to "Laboratory Data Review Guidelines, Procedure No: RPSD-02-11, Issue No: 02" (SNL/NM July 1996). The gamma-spectroscopy results are presented in the NFA proposal. The reviews confirmed that the analytical data are defensible and therefore acceptable for use in the NFA proposal. Therefore, the DQOs have been fulfilled.

III. Determination of Nature, Rate, and Extent of Contamination

III.1 Introduction

The determination of the nature, migration rate, and extent of contamination at SWMU 2 was based upon an initial conceptual model validated with VCM excavated-soil characterization and confirmatory sampling at the site. The initial conceptual model was developed from archival research and aerial photographs. The DQOs contained in the SWMU 2 VCM plan identified the excavated soil sample frequency, VCM confirmatory locations, sample depth, and analytical requirements. The sample data were subsequently used to develop the final conceptual model for SWMU 2, which is presented in Section 3.5 of the associated NFA proposal. The quality of the data specifically used to determine the nature, migration rate, and extent of contamination are described below.

III.2 Nature of Contamination

Both the nature of contamination and the potential for the degradation of COCs at SWMU 2 were evaluated using laboratory analyses of the soil samples (Section V). The analytical requirements included analyses for metals, VOCs, SVOCs, HE, and radionuclides. The

Table 2
Number of Soil Samples Collected during the SWMU 2 VCM Excavation and Confirmatory Sampling, March 1998 to August 2000

Sample type	RCRA Metals + Be, Ni, U	VOCs	SVOCs	HE	Gamma Spectroscopy	H-3
Excavated soil	318–368[a]	104	1	4	391	154
VCM Confirmatory	50	8	8	–	50	50
Duplicates	58	10	–	4	12	14
Off-site Splits	15	9	–	2	–	–
Equipment Blanks (includes Trip Blanks for VOCs only)	11	22	6	–	9	6
Total Samples	452–502[a]	153	15	10	462	224
Analytical laboratory	ERCL, GEL	ERCL, GEL	GEL	ERCL, GEL	RPSD	RPSD, GEL

[a]Not all soil samples analyzed for all analytes.

ERCL = Environmental Restoration Chemistry Laboratory.
GEL = General Engineering Laboratories Inc.
H-3 = Tritium.
HE = High explosive(s).
RCRA = Resource Conservation and Recovery Act.
RPSD = Radiation Protection Sample Diagnostics.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.
VOC = Volatile organic compound.
– = No samples.

Table 3
Summary of Data Quality Requirements

Analytical Requirement	Data Quality Level	ERCL	GEL	RPSD
RCRA metals + Be, Ni, U EPA Method 6010/7000	Defensible	304 samples[a]	73 samples	–
VOCs EPA Method 8260	Defensible	112 samples	11 samples	–
SVOCs EPA Method 8270	Defensible	–	9 samples	–
HE compounds EPA Methods 8330, 8095	Defensible	4 samples	2 samples	–
Gamma Spectroscopy EPA Method 901.1	Defensible	–	–	441 samples
Tritium EPA Method 906.0	Defensible	not analyzed	52	204 samples

Note: The number of samples does not include QA/QC samples such as duplicates, trip blanks, and equipment blanks.

[a]Not all soil samples analyzed for all analytes.

EPA = U.S. Environmental Protection Agency.
ERCL = Environmental Restoration Chemistry Laboratory.
GEL = General Engineering Laboratories Inc.
HE = High explosive(s).
QA = Quality assurance.
QC = Quality control.
RCRA = Resource Conservation and Recovery Act.
RPSD = Radiation Protection Sample Diagnostics.
SVOC = Semivolatile organic compound.
VOC = Volatile organic compound.
– = No samples.

analyses characterized any potential contaminants at the site. The analytes and methods listed in Tables 2 and 3 are appropriate to characterize the COCs and any potential degradation products at SWMU 2.

III.3 Rate of Contaminant Migration

SWMU 2 is an inactive landfill that was excavated and will contain only minor amounts of subsurface COCs once it has been backfilled with the previously excavated soil and covered with a 5-foot layer of clean fill. The rate of COC migration from subsurface soil is therefore predominantly dependent on infiltrating precipitation, as described in Section V. Data available from the SNL/NM Tijeras Arroyo Groundwater Investigation; numerous SNL/NM monitoring programs for air, water, and radionuclides; various biological surveys; and meteorological monitoring are adequate to characterize the rate of COC migration at SWMU 2.

III.4 Extent of Contamination

Samples of the soil excavated during pit and landfill excavation were collected. Confirmatory soil samples were collected from the base of nine isolated burial pits and from the floor and sidewalls of the landfill excavation. Excavated soil samples were collected to assess whether contaminants had been released into the surrounding soil, and the confirmatory samples were collected to verify the adequacy of the VCM. The samples were collected using the sampling frequency or density shown in Table 1.

Confirmatory soil samples were collected from undisturbed soil at the base of the excavation. The base of the excavation was considered to be the base or sidewall of the pits or landfill. Sampling at more extensive depths was not required because the sample results show no significant contamination. Furthermore, the vertical rate of contamination migration is expected to be extremely low for SWMU 2 because of the low precipitation, high evapotranspiration, and the relatively low solubility of the COCs. Therefore, the excavated soil and confirmatory soil samples are considered representative of the soil potentially contaminated with the COCs and sufficient to determine the suitability of the excavated soil for use as backfill.

In summary, the sampling for the excavations and confirmatory sampling was appropriate and adequate to determine the nature, migration rate, and extent of residual COCs in soil at SWMU 2.

IV. Comparison of COCs to Background Screening Levels

Site history and characterization activities are used to identify potential COCs. The SWMU 2 NFA proposal describes the identification of COCs and the sampling that was conducted to determine the concentration levels of those COCs across the site. Generally, COCs that were evaluated in this risk assessment included all detected organics and all reported inorganic and radiological COCs. If the detection limit of an organic compound was too high (i.e., could possibly cause an adverse effect to human health or the environment), the compound was retained. Nondetect organics not included in this assessment were determined to have sufficiently low detection limits to ensure protection of human health and the environment. In

order to provide conservatism in this risk assessment, the calculation used only the maximum concentration value of each COC found for the entire site. The SNL/NM maximum background concentration (Dinwiddie September 1997) was selected to provide the background screening values listed in Tables 4 and 5. Human health nonradiological COCs were also compared to SNL/NM proposed Subpart S action levels, as appropriate (IT July 1994).

Nonradiological inorganics that are essential nutrients, such as iron, magnesium, calcium, potassium, and sodium, were not included in this risk assessment (EPA 1989). Both radiological and nonradiological COCs were evaluated. The nonradiological COCs evaluated included both inorganics and organic compounds. Because COCs at this site will be covered with a 1.5-meter- (approximately 5-foot-) layer of clean fill, they are considered below the limit of biological contact. Therefore, no ecological exposure pathways are considered to exist for these COCs.

Table 4 lists nonradiological COCs for the human health risk assessment at SWMU 2. Table 5 lists radiological COCs for the human health risk assessment. All tables show the associated SNL/NM maximum background concentration values (Dinwiddie September 1997). Section VI.4 provides a discussion of Tables 4 and 5.

V. Fate and Transport

The primary releases of COCs at SWMU 2 were to the subsurface soil resulting from buried materials. Subsequent excavation of this site and reburial of excavated soil has resulted in COCs being confined to the subsurface soil with a 1.5-meter-layer of clean fill above. Therefore, the COCs in the soil are not exposed to surficial transport mechanisms of wind, surface water, and biota at this site.

Water at SWMU 2 is received as precipitation (rain and occasionally snow). Approximately 8.1 inches of precipitation is received annually. Precipitation will either evaporate at or near the point of contact, infiltrate into the soil, or form runoff. Infiltration at the site is enhanced by the sandy nature of the soil (the soil in the area of the site is primarily Wink fine sandy [USDA June 1977]) and the generally flat terrain, which will limit the extent of lateral transport of soil particles by runoff. However, because contaminated material at this site will be reburied and capped with clean fill, the COCs in soil will not be exposed to surface-water runoff.

Water that infiltrates into the soil will continue to percolate through the soil until field capacity is reached. The effective rooting depths of the natural (undisturbed) soil at SWMU 2 is about 60 inches (USDA June 1977). This indicates the depth of the system's transient water cycling zone (the dynamic balance between percolation/infiltration and evapotranspiration). Because soil that potentially contain COCs was buried more than 1.5 meters (approximately 59 inches) deep, it is unlikely that the buried COCs will be exposed to water percolating from the surface. As noted in Section I, it is estimated that approximately 95 to 99 percent of the annual precipitation is lost to evapotranspiration in this area. Because groundwater at this site is in excess of 260 feet bgs, the potential for COCs to reach groundwater through the unsaturated zone above the water table is extremely small.

Table 4
Nonradiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

COC Name	Maximum Concentration (mg/kg)	SNL/NM Background Concentration (mg/kg)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Log K_{ow} (for organic COCs)	Bioaccumulator?[b] (BCF>40, log K_{ow}>4)
Arsenic	8.3	4.4	No	44[c]	NA	Yes
Barium	8,100	200	No	170[d]	NA	Yes
Beryllium	4.2	0.80	No	19[c]	NA	No
Cadmium	740	<1	No	64[c]	NA	Yes
Chromium, total	460	12.8	No	16[c]	NA	No
Lead	620	11.2	No	49[c]	NA	Yes
Mercury	180	<0.1	No	5,500[c]	NA	Yes
Nickel	400	25.4	No	47[c]	NA	Yes
Selenium	250	<1	No	800[e]	NA	Yes
Silver	110	<1	No	0.5[c]	NA	No
Uranium	4.5	2.3	No	20[d]	NA	No
Acetone	0.019	NA	NA	0.69[f]	-0.24[f]	No
Bis (2-ethylhexyl) phthalate	0.207 J	NA	NA	851[g]	7.6[i]	Yes
Ethylbenzene	0.0043 J	NA	NA	15.5[g]	3.15[g]	No
2-Hexanone	0.014 J	NA	NA	6[h]	1.38[h]	No
Methylene chloride	0.0073	NA	NA	5[f]	1.25[f]	No
Toluene	0.001 J	NA	NA	10.7[c]	2.69[c]	No
o-Xylene	0.014	NA	NA	23.4[f]	1.5[i]	No
p-,m-Xylenes	0.021	NA	NA	23.4[f]	1.5[i]	No

Refer to footnotes at end of table.

Table 4 (Concluded)
Nonradiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

Note: **Bold** indicates the COCs that failed the background screening procedure and/or are bioaccumulators.
[a]From Dinwiddie (September 1997) North Super Group.
[b]NMED (March 1998).
[c]Yanicak (March 1997).
[d]Neumann (1976).
[e]Callahan et al. (1979).
[f]Howard (1990).
[g]Howard (1989).
[h]Howard (1993).
[i]Micromedex (1998).
BCF = Bioconcentration factor.
COC = Constituent of concern.
J = Estimated concentration.
K_{ow} = Octanol-water partition coefficient.
Log = Logarithm (base 10).
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
NMED = New Mexico Environment Department.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

Table 5
Radiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value and BCF

COC Name	Maximum Concentration (pCi/g)	SNL/NM Background Concentration (pCi/g)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Is COC a Bioaccumulator?[b] (BCF >40)
H-3	85.9	0.021[c]	**No**	NA	No[d]
Th-232	3.58	1.54	**No**	3000[e]	No[d]
U-235	3.28	0.18	**No**	900[e]	**Yes**
U-238	208	1.3	**No**	900[e]	**Yes**
Cs-137	0.247	0.084	**No**	3000[f]	**Yes**[f]

Note: **Bold** indicates COCs that exceed background screening values and/or are bioaccumulators.
[a]From Dinwiddie (September 1997), North Super Group.
[b]NMED (March 1998).
[c]Tharp (1999).
[d]Yanicak (March 1997).
[e]Baker and Soldat (1992).
[f]Whicker and Schultz (1982).
BCF = Bioconcentration factor.
COC = Constituent of concern.
NA = Not applicable.
NMED = New Mexico Environment Department.
pCi/g = Picocurie(s) per gram.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

COCs can enter the food chain through uptake by plant roots. COCs taken up by plant roots can be transported to aboveground tissues where they may be consumed by herbivores, which may, in turn, be eaten by predators. Once in the food web, COCs can be transported from the site by the movements of the organisms that contain them or other surficial transport mechanisms. However, because the soils at SWMU 2 that potentially contain COCs will be buried deeper than the effective rooting depth of 60 inches, food chain transport is expected to be negligible at this site.

The COCs at SWMU 2 include both organic and inorganic constituents. The inorganic COCs (including radionuclides) are elemental in form and are not considered to be degradable, although radiological COCs will undergo decay to stable isotopes or radioactive daughter elements. Other possible transformations of inorganics could include changes in valence (oxidation/reduction reactions) or incorporation into organic forms (e.g., the conversion of selenite or selenate from soil to seleno-amino acids in plants). However, because of the long half lives of the radionuclides, the aridity of the environment at this site, and the lack of potential contact with biota, none of these mechanisms are expected to result in significant losses or transformations of inorganic COCs. Organic compounds may be degraded through photolysis, hydrolysis, and biotransformation. Photolysis requires light, and therefore takes place in the air, at the ground surface, or in surface water. Hydrolysis includes chemical transformations in water, and may occur in the soil solution. Biotransformation is the transformation of chemicals due to plants, animals, and microorganisms. Because these COCs are limited to subsurface soil, photolysis is unlikely to occur, although some hydrolysis and biotransformation may occur if the soil becomes moist. The prevalence of these mechanisms of COC loss, however, is lessened by the aridity of the environment at this site. Although the organic COCs at this site are volatile, the subsurface location of the COCs will prevent significant loss through volatilization.

Table 6 summarizes the fate and transport processes that can occur at SWMU 2. COCs at this site include both inorganics (including radionuclides) and organics. Because the potentially contaminated soil at this has been buried with an overlying cover of clean fill, there is no potential for transport of COCs by wind or surface-water runoff. Because of the depth of the cover layer, the potential for uptake into the food chain is low. Significant leaching in the subsurface soil is unlikely and leaching to the groundwater at this site is highly unlikely. The potential for transformation is low and loss through decay of radiological COCs is insignificant because of their long half lives.

Table 6
Summary of Fate and Transport at SWMU 2

Transport and Fate Mechanism	Existence at Site	Significance
Wind	Yes	None
Surface runoff	Yes	None
Migration to groundwater	No	None
Food chain uptake	Yes	Low
Transformation/degradation	Yes	Low

SWMU = Solid Waste Management Unit.

VI. Human Health Risk Screening Assessment

VI.1 Introduction

Human health risk screening assessment of this site includes a number of steps that culminate in a quantitative evaluation of the potential adverse human health effects caused by constituents located at the site. The steps include the following:

Step 1.	Site data are described that provide information on the potential COCs, as well as the relevant physical characteristics and properties of the site.
Step 2.	Potential pathways are identified by which a representative population might be exposed to the COCs.
Step 3.	The potential intake of these COCs by the representative population is calculated using a tiered approach. The first component of the tiered approach includes two screening procedures. One screening procedure compares the maximum concentration of the COC to an SNL/NM maximum background screening value. COCs that are not eliminated during the first screening procedure are subjected to a second screening procedure, if applicable, that compares the maximum concentration of the COC to the SNL/NM proposed Subpart S action level.
Step 4.	Toxicological parameters are identified and referenced for COCs that were not eliminated during the screening steps.
Step 5.	Potential toxicity effects (specified as a hazard index [HI]) and estimated excess cancer risks are calculated for nonradiological COCs and background. For radiological COCs, the incremental total effective dose equivalent (TEDE) and incremental estimated cancer risk are calculated by subtracting applicable background concentrations directly from maximum on-site contaminant values. This background subtraction only occurs when a radiological COC occurs as contamination and exists as a natural background radionuclide.
Step 6.	These values are compared with guidelines established by the U.S. Environmental Protection Agency (EPA) and the DOE to determine whether further evaluation, and potential site cleanup, is required. Nonradiological COC risk values are also compared to background risk so that an incremental risk can be calculated.
Step 7.	Uncertainties of the above steps are also addressed.

VI.2 Step 1. Site Data

Section I provides the description and history for SWMU 2. Section II presents a comparison of results to DQOs. Section III discusses the nature, rate, and extent of contamination.

VI.3 Step 2. Pathway Identification

SWMU 2 has been designated a future land-use scenario of industrial (DOE et al. September 1995) (see Appendix 1 for default exposure pathways and parameters). Because of the location and the characteristics of the potential contaminants, the primary pathway for human exposure is considered to be soil ingestion for the nonradiological COCs and direct gamma exposure for the radiological COCs. The inhalation pathway for both nonradiological and radiological COCs is included because the potential exists to inhale dust and volatiles. Soil ingestion is included for the radiological COCs as well. No water pathways to the groundwater are considered. Depth to groundwater at SWMU 2 is in excess of 260 feet bgs. Because of the

lack of surface water or other significant mechanisms for dermal contact, the dermal exposure pathway is not considered significant. No intake routes through plant, meat, or milk ingestion are considered appropriate for the industrial land-use scenario. However, plant uptake is considered for the residential land-use scenario.

Pathway Identification

Nonradiological Constituents	Radiological Constituents
Soil ingestion	Soil ingestion
Inhalation (dust and volatiles)	Inhalation (dust and volatiles)
Plant uptake (residential only)	Plant uptake (residential only)
	Direct gamma

VI.4 Step 3. COC Screening Procedures

Step 3 is discussed in this section and the two screening procedures. The first compares the maximum COC concentration to the background screening level. The second compares maximum COC concentrations to SNL/NM proposed Subpart S action levels. This second procedure was applied only to COCs that were not eliminated during the first screening procedure.

VI.4.1 Background Screening Procedure

VI.4.1.1 Methodology

Maximum concentrations of nonradiological COCs were compared to the approved SNL/NM maximum screening level for this area. The SNL/NM maximum background concentration was selected to provide the background screening values in Table 4 and was used to calculate risk attributable to background in Section VI.6.2. Only the COCs that were detected above their respective SNL/NM maximum background screening levels or did not have either a quantifiable or a calculated background screening level were considered in further risk assessment analyses.

For radiological COCs that exceeded the SNL/NM background screening levels, background values were subtracted from the individual maximum radionuclide concentrations. Those that did not exceed these background levels were not carried any further in the risk assessment. This approach is consistent with DOE Order 5400.5, "Radiation Protection of the Public and the Environment" (DOE 1993). Radiological COCs that did not have a background value and were detected above the analytical minimum detectable activity were carried through the risk assessment at their maximum levels. The resultant radiological COCs remaining after this step are referred to as background-adjusted radiological COCs.

VI.4.1.2 Results

Tables 4 and 5 show SWMU 2 maximum COC concentrations that were compared to the SNL/NM maximum background values (Dinwiddie September 1997) for the human health risk

assessment. For the nonradiological COCs, 11 constituents were measured at concentrations greater than their respective background screening value. Eight nonradiological COCs were organic compounds and did not have corresponding background screening values.

The maximum concentration value for lead was 620 milligrams (mg)/kilogram (kg). The EPA intentionally does not provide any human health toxicological data on lead; therefore, no risk parameter values could be calculated. The NMED guidance for lead screening concentrations for construction and industrial land use scenarios are 750 and 1500 mg/kg, respectively (NMED March 2000). The EPA screening guidance value for a residential land use scenario is 400 mg/kg (EPA July 1994). The maximum lead concentration at this site was less than the NMED industrial screening value. Using the maximum lead concentration, the residential screening level was exceeded. However, since the site was adequately characterized, average concentrations were more representative of actual site conditions. The 95% upper confidence limit of the mean lead concentration was 25.1 mg/kg, which was below the residential land use screening level. Thus, lead was eliminated from further consideration in the human health risk assessment.

For the radiological COCs, five constituents had measured activity concentrations slightly greater than their respective backgrounds (H-3, U-238, U-235, Cs-137, and Th-232).

VI.4.2 Subpart S Screening Procedure

VI.4.2.1 Methodology

The maximum concentrations of nonradiological COCs not eliminated during the background screening process were compared with action levels (IT July 1994) calculated using methods and equations promulgated in the proposed Resource Conservation and Recovery Act Subpart S (EPA 1990) and Risk Assessment Guidance for Superfund (RAGS) (EPA 1989) documentation. Accordingly, all calculations were based upon the assumption that receptor doses from both toxic and potentially carcinogenic compounds result most significantly from ingestion of contaminated soil. Because the samples were all taken from the surface and near surface, this assumption is considered valid. If there were 10 or fewer COCs and each had a maximum concentration of less than 1/10 the action level, the site was judged to pose no significant health hazard to humans. If there were more than 10 COCs, the Subpart S screening procedure was not performed.

VI.4.2.2 Results

Because the SWMU 2 sample set had more than 10 COCs that continued beyond the first screening level (including COCs that did not have background screening values), the proposed Subpart S screening process was not performed. All COCs that were not eliminated during the background screening process for SWMU 2 had a calculated hazard quotient (HQ) and excess cancer risk value.

Radiological COCs have no predetermined action levels analogous to proposed Subpart S levels; therefore, this step in the screening process was not performed for radiological COCs.

VI.5 Step 4. Identification of Toxicological Parameters

Tables 7 (nonradiological) and 8 (radiological) list the COCs retained in the risk assessment and the values for the available toxicological information. The toxicological values used for the COCs in Table 6 were from the Integrated Risk Information System (IRIS) (EPA 1998), the Health Effects Assessment Summary Tables (HEAST) (EPA 1997a), and the EPA Region 3 (EPA 1997b) and EPA Region 9 (EPA 1996) electronic databases. Dose conversion factors (DCFs) used in determining the excess TEDE values for radiological COCs for the individual pathways were the default values provided in the RESRAD computer code (Yu et al. 1993a) as developed in the following documents:

- DCFs for ingestion and inhalation were taken from "Federal Guidance Report No. 11, Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion" (EPA 1988).

- DCFs for surface contamination (contamination on the surface of the site) were taken from DOE/EH-0070, "External Dose-Rate Conversion Factors for Calculation of Dose to the Public" (DOE 1988).

- DCFs for volume contamination (exposure to contamination deeper than the immediate surface of the site) were calculated using the methods discussed in "Dose-Rate Conversion Factors for External Exposure to Photon Emitters in Soil" (Kocher 1983) and in ANL/EAIS-8, *Data Collection Handbook to Support Modeling the Impacts of Radioactive Material in Soil* (Yu et al. 1993b).

VI.6 Step 5. Exposure Assessment and Risk Characterization

Section VI.6.1 describes the exposure assessment for this risk assessment. Section VI.6.2 provides the risk characterization, including the HI and the excess cancer risk for both the potential nonradiological COCs and associated background for industrial and residential land uses. The incremental TEDE and incremental estimated cancer risk are provided for the background-adjusted radiological COCs for both industrial and residential land uses.

VI.6.1 Exposure Assessment

Appendix 1 shows the equations and parameter input values used to calculate intake values and subsequent HI and excess cancer risk values for the individual exposure pathways. The appendix shows parameters for both industrial and residential land-use scenarios. The equations for nonradiological COCs are based upon the RAGS (EPA 1989). Parameters are based upon information from the RAGS (EPA 1989) and other EPA guidance documents and reflect the reasonable maximum exposure (RME) approach advocated by the RAGS (EPA 1989). For radiological COCs, the coded equations provided in RESRAD computer code are used to estimate the incremental TEDE and cancer risk for individual exposure pathways. Further discussion of this process is provided in the *Manual for Implementing Residual Radioactive Material Guidelines Using RESRAD* (Yu et al. 1993a).

Table 7
Toxicological Parameter Values for SWMU 2 Nonradiological COCs

COC Name	RfD_o (mg/kg-d)	Confidence[a]	RfD_{inh} (mg/kg-d)	Confidence[a]	SF_o $(mg/kg\text{-}day)^{-1}$	SF_{inh} $(mg/kg\text{-}day)^{-1}$	Cancer Class[b]
Arsenic	3.0E-4[c]	M	–	–	1.5E+0[c]	1.5E+1[c]	A
Barium	7.0E-2[c]	M	1.4E-4[d]	–	–	–	–
Beryllium	2.0E-3[c]	L to M	5.7E-6[c]	M	–	8.4E+0[c]	B1
Cadmium	5.0E-4[c]	H	5.7E-5[d]	–	–	6.3E+0[c]	B1
Chromium III	1.0E+0[c]	L	5.7E-7[e]	–	–	–	–
Chromium VI	5.0E-3[c]	L	–	–	–	4.2E+1[c]	A
Mercury	3.0E-4[f]	–	8.6E-5[c]	M	–	–	D
Nickel	2.0E-2[c]	M	–	–	–	–	–
Selenium	5.0E-3[c]	H	–	–	–	–	D
Silver	5.0E-3[c]	L	–	–	–	–	D
Uranium	3E-3[c]	M	–	–	–	–	–
Acetone	1.0E-1[c]	L	1.0E-1[d]	–	–	–	D
Bis (2-ethylhexyl) phthalate	2.0E-2[d]	–	2.2E-2[d]	–	1.4E-2[d]	1.4E-2[d]	–
Ethylbenzene	1.0E-1[c]	L	2.9E-1[c]	L	–	–	D
2-Hexanone	4.0E-2[f]	–	–	–	–	–	–
Methylene chloride	6.0E-2[c]	M	8.6E-1[f]	–	7.5E-3[c]	1.7E-3[c]	B2
Toluene	2.0E-1[c]	M	1.1E-1[c]	M	–	–	D
o-Xylene	2.0E+0[f]	–	2.0E-1[d]	–	–	–	–
p-,m-Xylenes	2.0E+0[f]	–	2.0E-1[d]	–	–	–	–

[a]Confidence associated with IRIS (EPA 1998) database values. Confidence: L = low, M = medium, H = high.
[b]EPA weight-of-evidence classification system for carcinogenicity (EPA 1989) taken from IRIS (EPA 1998):

A = Human carcinogen.
B1 = Probable human carcinogen. Limited human data are available.
B2 = Probable human carcinogen. Sufficient evidence in animals and inadequate or no evidence in humans.
D = Not classifiable as to human carcinogenicity.

[c]Toxicological parameter values from IRIS electronic database (EPA 1998a).
[d]Toxicological parameter values from EPA Region 9 electronic database (EPA 1996).
[e]Toxicological parameter values from EPA Region 3 electronic database (EPA 1997b).
[f]Toxicological parameter values from HEAST database (EPA 1997a).

COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
HEAST = Health Effects Assessment Summary Tables.
IRIS = Integrated Risk Information System.
mg/kg-d = Milligram(s) per kilogram day.
$(mg/kg\text{-}day)^{-1}$ = Per milligram per kilogram day.
RfD_{inh} = Inhalation chronic reference dose.
RfD_o = Oral chronic reference dose.
SF_{inh} = Inhalation slope factor.
SF_o = Oral slope factor.
SWMU = Solid Waste Management Unit.
– = Information not available.

Table 8
Radiological Toxicological Parameter Values for SWMU 2 COCs Obtained from RESRAD Risk Coefficients[a]

COC Name	SF_o (1/pCi)	SF_{inh} (1/pCi)	SF_{ev} (g/pCi-yr)	Cancer Class[b]
H-3	7.2E-14	9.6E-14	0	A
U-238	6.20E-11	1.20E-08	6.60E-08	A
U-235	4.70E-11	1.30E-08	2.70E-07	A
Th-232	3.30E-11	1.90E-08	2.00E-11	A
Cs-137	3.20E-11	1.90E-11	2.10E-06	A

[a]From Yu et al. (1993a).
[b]EPA weight-of-evidence classification system for carcinogenicity (EPA 1989): A = Human carcinogen for high dose and high dose rate (i.e., greater than 50 rem per year). For low-level environmental exposures, the carcinogenic effect has not been observed and documented.
1/pCi = One per picocurie.
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
g/pCi-yr = Gram(s) per picocurie-year.
SF_{ev} = External volume exposure slope factor.
SF_{inh} = Inhalation slope factor.
SF_o = Oral (ingestion) slope factor.
SWMU = Solid Waste Management Unit.

Although the designated land-use scenario is industrial for this site, risk and TEDE values for a residential land-use scenario are also presented. These residential risk and TEDE values are presented only to provide perspective of potential risk to human health under the more restrictive land-use scenario.

VI.6.2 Risk Characterization

Table 9 shows a HI of 2 for the SWMU 2 nonradiological COCs and an estimated excess cancer risk of 5E-6 for the designated industrial land-use scenario. The numbers presented included exposure from soil ingestion and dust and volatile inhalation for nonradiological COCs. Table 10 shows an HI of 0.01 and an excess cancer risk of 2E-6 assuming the maximum background concentrations of the SWMU 2 associated background constituents for the designated industrial land-use scenario.

For the radiological COCs, contribution from the direct gamma exposure pathway is included. For the industrial land-use scenario, a TEDE was calculated for an individual on the site which resulted in an incremental TEDE of 1.9E-2 millirems (mrem) per year (yr). In accordance with EPA guidance found in Office of Solid Waste and Emergency Response Directive No. 9200.4-18 (EPA 1997c), an incremental TEDE of 15 mrem/yr is used for the probable land-use scenario (industrial in this case); the calculated dose value for SWMU 2 for the industrial land-use scenario is well below this guideline. The estimated excess cancer risk is 3.9E-7.

Table 9
Risk Assessment Values for SWMU 2 Nonradiological COCs

COC Name	Maximum Concentration (mg/kg)	Industrial Land-Use Scenario[a]		Residential Land-Use Scenario[a]	
		Hazard Index	Cancer Risk	Hazard Index	Cancer Risk
Arsenic	8.3	0.03	4E-6	0.47	9E-5
Barium	8100	0.12	–	1.21	–
Beryllium	4.2	0.00	2E-9	0.01	3E-9
Cadmium	740	1.45	3E-7	604.92	4E-7
Chromium, total	460	0.09	1E-6	0.37	2E-6
Mercury	180	0.59	–	310.05	–
Nickel	400	0.02	–	0.59	–
Selenium	250	0.05	–	87.95	–
Silver	110	0.02	–	4.54	–
Uranium	4.5	0.00	–	0.01	–
Acetone	0.019	0.00	–	0.00	–
Bis (2-ethylhexyl) phthalate	0.207 J	0.00	1E-9	0.00	7E-9
Ethylbenzene	0.0043 J	0.00	–	0.00	–
2-Hexanone	0.014 J	0.00	–	0.00	–
Methylene chloride	0.0073	0.00	5E-10	0.00	6E-8
Toluene	0.001 J	0.00	–	0.00	–
o-Xylene	0.014	0.00	–	0.00	–
p,m-Xylenes	0.021	0.00	–	0.00	–
Total		**2**	**5E-6**	**1010**	**9E-5**

[a]From EPA (1989).
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
J = Estimated value.
mg/kg = Milligram(s) per kilogram.
SWMU = Solid Waste Management Unit.
– = Information not available.

Table 10
Risk Assessment Values for SWMU 2 Nonradiological Background Constituents

COC Name	Background Concentration[a] (mg/kg)	Industrial Land-Use Scenario[b]		Residential Land-Use Scenario[b]	
		Hazard Index	Cancer Risk	Hazard Index	Cancer Risk
Arsenic	4.4	0.01	2E-6	0.25	5E-5
Barium	200	0.00	–	0.03	–
Beryllium	0.80	0.00	4E-10	0.00	6E-10
Cadmium	<1	–	–	–	–
Chromium, total	12.8	0.00	–	0.00	–
Mercury	<0.1	–	–	–	–
Nickel	25.4	0.00	–	0.04	–
Selenium	<1	–	–	–	–
Silver	<1	–	–	–	–
Uranium	2.3	0.00	–	0.01	–
Total		**0.01**	**2E-6**	**0.3**	**5E-5**

[a]From Dinwiddie (September 1997), North Super Group.
[b]From EPA (1989).
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
mg/kg = Milligram(s) per kilogram.
SWMU = Solid Waste Management Unit.
– = Information not available.

For the residential land-use scenario nonradioactive COCs, the HI is 1010 and the estimated excess cancer risk is 9E-5 (Table 9). The numbers in the table included exposure from soil ingestion, dust and volatile inhalation, and plant uptake. Although the EPA (1991) generally recommends that inhalation not be included in a residential land-use scenario, this pathway is included because of the potential for soil in Albuquerque, New Mexico, to be eroded and, subsequently, for dust to be present in predominantly residential areas. Because of the nature of the local soil, other exposure pathways are not considered (see Appendix 1). Table 10 shows that for the SWMU 2 associated background constituents, the HI is 0.3 and the estimated excess cancer risk is 5E-5.

For the radiological COCs, the incremental TEDE for the residential land-use scenario is 2.8E-7 mrem/yr. The guideline being used is an excess TEDE of 75 mrem/yr (SNL/NM February 1998) for a complete loss of institutional controls (residential land use in this case); the calculated dose value for SWMU 2 for the residential land-use scenario is well below this guideline. Consequently, SWMU 2 is eligible for unrestricted radiological release as the residential land-use scenario resulted in an incremental TEDE of less than 75 mrem/yr to the on-site receptor. The estimated excess cancer risk is 5.1E-12. The excess cancer risk from the nonradiological COCs and the radiological COCs is not additive, as noted in the RAGS (EPA 1989).

VI.7 Step 6. Comparison of Risk Values to Numerical Guidelines.

The human health risk assessment analysis evaluated the potential for adverse health effects for both the industrial land-use scenario (the designated land-use scenario for this site) and the residential land-use scenario.

For the industrial land-use scenario nonradiological COCs, the HI was 2 (greater than the numerical guideline of 1 suggested in the RAGS [EPA 1989]). The estimated excess cancer risk was 5E-6. New Mexico Environment Department (NMED) Guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (NMED March 2000); thus, the excess cancer risk for this site was below the suggested acceptable risk value. This assessment also determined risks considering background concentrations of the potential nonradiological COCs for both the industrial and the residential land-use scenarios. Assuming the industrial land-use scenario, for nonradiological COCs the HI was 0.01 and the estimated excess cancer risk was 2E-6. Incremental risk is determined by subtracting risk associated with background concentrations from potential COC risk. These numbers are not rounded before the difference is determined and, therefore, may appear to be inconsistent with numbers presented in tables and within the text. For conservatism, the background constituents that do not have quantified background concentrations are assumed to have a HQ of 0.00. Incremental HI is 2.36 and the estimated incremental cancer risk is 3.30E-6 for the industrial land-use scenario. The incremental HI is above the NMED guideline for considering an industrial land-use scenario.

For radiological COCs of the industrial land-use scenario, incremental TEDE is 1.9E-2 mrem/yr, which is significantly less than EPA's numerical guideline of 15 mrem/yr. Incremental estimated excess cancer risk is 3.9E-7.

The calculated HI for the residential land-use scenario nonradiological COCs is 1010, which is above the numerical guidance. The estimated excess cancer risk was calculated to be 9E-5. NMED Guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (NMED March 2000); thus, the excess cancer risk for this site is above the suggested acceptable risk value. The HI for associated background for the residential land-use scenario is 0.3; the estimated excess cancer risk was 5E-5. The incremental HI is 1009.79 and the estimated incremental cancer risk was 4.25E-5 for the residential land-use scenario. The incremental HI and excess cancer risk were above the NMED guidelines considering a residential land-use scenario.

The incremental TEDE for a residential land-use scenario from the radiological components is 2.8E-7 mrem/yr, which is significantly less than the numerical guideline of 75 mrem/yr suggested in the SNL/NM RESRAD Input Parameter Assumptions and Justification (SNL/NM February 1998). The estimated excess cancer risk is 5.1E-12.

VI.8 Step 7. Uncertainty Discussion

The determination of the nature, rate, and extent of contamination at SWMU 2 was based upon an initial conceptual model that was validated with excavated soil sampling and confirmatory sampling conducted at the completion of the VCM. The VCM sampling was implemented in accordance with the VCM plan for SWMU 2. The DQOs contained in the VCM plan are appropriate for use in risk-screening assessments. The data collected, based upon sample

location, density, and depth, are representative of the site and soil planned for excavation backfill. The analytical requirements and results satisfy the DQOs. Data quality was verified/validated in accordance with SNL/NM procedures (SNL/NM December 1999 and SNL/NM July 1996). Therefore, there is no uncertainty associated with the data quality used to perform the risk screening assessment at SWMU 2.

Because of the location, history of the site, and future land use (DOE et al. September 1995), there is low uncertainty in the land-use scenario and the potentially affected populations that were considered in performing the risk assessment analysis. Because the COCs are found in surface and in near-surface soils and because of the location and physical characteristics of the site, there is little uncertainty in the exposure pathways relevant to the analysis.

An RME approach was used to calculate the risk assessment values. This means that the parameter values in the calculations are conservative and that calculated intakes are probably overestimates. Maximum measured values of COC concentrations are used to provide conservative results.

Table 7 shows the uncertainties (confidence) in nonradiological toxicological parameter values. There is a mixture of estimated values and values from the IRIS (EPA 1998), the HEAST (EPA 1997a), EPA Region 3 (EPA 1997b), and EPA Region 9 (EPA 1996) electronic databases. Where values are not provided, information is not available from the HEAST (EPA 1997a), IRIS (EPA 1998), or the EPA regions (EPA 1996, 1997b). Because of the conservative nature of the RME approach, uncertainties in toxicological values are not expected to change the conclusion from the risk assessment analysis.

Total and incremental estimated excess cancer risk values for the COCs were below the NMED guideline for the industrial land-use scenario. Although the total and incremental HIs were above the NMED guideline, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site was adequately characterized, average concentrations were more representative of actual site conditions. When the upper 95% confidence limit of the mean concentration for cadmium (18.5 mg/kg) and mercury (2.7 mg/kg) were used in place of their respective maximum concentrations, the total and incremental HIs were reduced to 0.4 and 0.37, respectively. Both values were within NMED guidelines considering an industrial land-use scenario.

For radiological COCs, the conclusion of the risk assessment is that potential effects on human health for both industrial and residential land-use scenarios are within guidelines and are a small fraction of the estimated 360 mrem/yr received by the average U.S. population (NCRP 1987).

The overall uncertainty in all of the steps in the risk assessment process is not considered significant with respect to the conclusion reached.

VI.9 Summary

SWMU 2 has identified COCs consisting of some inorganic, organic, and radiological compounds. Because of the location of the site, the designated industrial land-use scenario, and the nature of contamination, potential exposure pathways identified for this site included

soil ingestion and dust and volatile inhalation for chemical COCs and soil ingestion, dust inhalation, and direct gamma exposure for radionuclides. Plant uptake was included as an exposure pathway for the residential land-use scenario.

Using conservative assumptions and an RME approach to risk assessment, calculations for nonradiological COCs show that for the industrial land-use scenario, the HI (2) is above the accepted numerical guidance from the EPA. Excess cancer risk was estimated to be 5E-6. Thus excess cancer risk was below the acceptable risk value provided by the NMED for a industrial land-use scenario (NMED March 1998). The incremental HI is 2.36, and the incremental excess cancer risk was 3.30E-6 for the industrial land-use scenario. The incremental HI was above the NMED guideline for the industrial land-use scenario.

Although the total and incremental HIs were above the NMED guideline, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site was adequately characterized, average concentrations were more representative of actual site conditions. When the upper 95% confidence limit of the mean concentration for cadmium (18.5 mg/kg) and mercury (2.7 mg/kg) was used in place of their respective maximum concentrations, the total and incremental HIs were reduced to 0.4 and 0.37, respectively. Both values were within proposed guidelines considering an industrial land-use scenario.

Incremental TEDE and corresponding estimated cancer risk from radiological COCs are much lower than EPA guidance values; the estimated TEDE is 1.9E-2 mrem/yr for the industrial land-use scenario. This value is much lower than the EPA's numerical guidance of 15 mrem/yr in EPA guidance (EPA 1997c). The corresponding incremental estimated cancer risk value is 3.9E-7 for the industrial land-use scenario. Furthermore, the incremental TEDE for the residential land-use scenario that results from a complete loss of institutional control is only 2.8E-7 mrem/yr with an associated risk of 5.1E-12. The guideline for this scenario is 75 mrem/yr (SNL/NM February 1998). Therefore, SWMU 2 is eligible for unrestricted radiological release.

Uncertainties associated with the calculations are considered small relative to the conservativeness of risk assessment analysis. It is, therefore, concluded that this site poses insignificant risk to human health under the industrial land-use scenario.

VII. Ecological Risk Screening Assessment

VII.1 Introduction

This section addresses the potential for ecological risks associated with exposure to COCs in soils at SWMU 2. A component of the NMED Risk-Based Decision Tree is to conduct an ecological screening assessment that corresponds with that presented in EPA's Ecological Risk Assessment Guidance for Superfund (EPA 1997d). The current methodology contains an initial scoping assessment that determines the need for a more detailed screening assessment. The initial components of NMED's decision tree (a discussion of DQOs, a data assessment, and evaluations of bioaccumulation and fate-and-transport potential) are addressed in previous sections of this report. This section provides a discussion of whether complete exposure

pathways exist at SWMU 2 between the COCs and potential ecological receptors. If it is determined that such pathways exist, the scoping assessment proceeds to a screening assessment, whereby a more quantitative estimate of ecological risk is conducted.

VII.2 Scoping Assessment

The scoping assessment focuses primarily on the likelihood of exposure of biota at/or adjacent to the site to be exposed to constituents associated with site activities. As shown in Tables 4 and 5, COCs are present in the soils at SWMU 2 that exceed SNL/NM background screening values. However, as stated in Section IV, all potentially contaminated soil at this site was reburied and covered with an overlying cap consisting of 1.5 meters (approximately 5 feet) of clean fill. Based upon information provided in IT (July 1998) regarding the limits of biological activity in soils at KAFB, this cap is expected to be of sufficient thickness to preclude contact between the COCs and biota. Therefore, no complete ecological pathways are expected to exist at this site. As a consequence, a screening assessment was not deemed necessary to predict the potential level of ecological risk associated with the site.

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APPENDIX 1
EXPOSURE PATHWAY DISCUSSION FOR CHEMICAL AND RADIONUCLIDE CONTAMINATION

Introduction

Sandia National Laboratories/New Mexico (SNL/NM) proposes that a default set of exposure routes and associated default parameter values be developed for each future land use designation being considered for SNL/NM Environmental Restoration (ER) project sites. This default set of exposure scenarios and parameter values would be invoked for risk assessments unless site-specific information suggested other parameter values. Because many SNL/NM solid waste management units (SWMU) have similar types of contamination and physical settings, SNL/NM believes that the risk assessment analyses at these sites can be similar. A default set of exposure scenarios and parameter values will facilitate the risk assessments and subsequent review.

The default exposure routes and parameter values suggested are those that SNL/NM views as resulting in a Reasonable Maximum Exposure (RME) value. Subject to comments and recommendations by the U.S. Environmental Protection Agency (EPA) Region VI and New Mexico Environment Department (NMED), SNL/NM proposes that these default exposure routes and parameter values be used in future risk assessments.

At SNL/NM, all SWMUs exist within the boundaries of the Kirtland Air Force Base (KAFB). Approximately 157 potential waste and release sites have been identified where hazardous, radiological, or mixed materials may have been released to the environment. Evaluation and characterization activities have occurred at all of these sites to varying degrees. Among other documents, the SNL/NM ER draft Environmental Assessment (DOE 1996) presents a summary of the hydrogeology of the sites, the biological resources present and proposed land use scenarios for the SNL/NM SWMUs. At this time, all SNL/NM SWMUs have been tentatively designated for either industrial or recreational future land use. The NMED has also requested that risk calculations be performed based upon a residential land use scenario. All three land use scenarios will be addressed in this document.

The SNL/NM ER project has screened the potential exposure routes and identified default parameter values to be used for calculating potential intake and subsequent Hazard index (HI), excess cancer risk and dose values. The EPA (EPA 1989a) provides a summary of exposure routes that could potentially be of significance at a specific waste site. These potential exposure routes consist of:

- Ingestion of contaminated drinking water
- Ingestion of contaminated soil
- Ingestion of contaminated fish and shell fish
- Ingestion of contaminated fruits and vegetables

- Ingestion of contaminated meat, eggs, and dairy products
- Ingestion of contaminated surface water while swimming
- Dermal contact with chemicals in water
- Dermal contact with chemicals in soil
- Inhalation of airborne compounds (vapor phase or particulate)
- External exposure to penetrating radiation (immersion in contaminated air; immersion in contaminated water and exposure from ground surfaces with photon-emitting radionuclides).

Based upon the location of the SNL/NM SWMUs and the characteristics of the surface and subsurface at the sites, we have evaluated these potential exposure routes for different land use scenarios to determine which should be considered in risk assessment analyses (the last exposure route is pertinent to radionuclides only). At SNL/NM SWMUs, there does not currently occur any consumption of fish, shell fish, fruits, vegetables, meat, eggs, or dairy products that originate on site. Additionally, no potential for swimming in surface water is present due to the high-desert environmental conditions. As documented in the RESRAD computer code manual (ANL 1993), risks resulting from immersion in contaminated air or water are not significant compared to risks from other radiation exposure routes.

For the industrial and recreational land use scenarios, SNL/NM ER has, therefore, excluded the following four potential exposure routes from further risk assessment evaluations at any SNL/NM SWMU:

- Ingestion of contaminated fish and shell fish
- Ingestion of contaminated fruits and vegetables
- Ingestion of contaminated meat, eggs, and dairy products
- Ingestion of contaminated surface water while swimming.

That part of the exposure pathway for radionuclides related to immersion in contaminated air or water is also eliminated.

For the residential land use scenario, we will include ingestion of contaminated fruits and vegetables because of the potential for residential gardening.

Based upon this evaluation, for future risk assessments, the exposure routes that will be considered are shown in Table 1. Dermal contact is included as a potential exposure pathway in all land use scenarios. However, the potential for dermal exposure to inorganics is not considered significant and will not be included. In general, the dermal exposure pathway is generally considered to not be significant relative to water ingestion and soil ingestion pathways but will be considered for organic components. Because of the lack of toxicological parameter values for this pathway, the inclusion of this exposure pathway into risk assessment calculations may not be possible and may be part of the uncertainty analysis for a site where dermal contact is potentially applicable.

Table 1
Exposure Pathways Considered for Various Land Use Scenarios

Industrial	Recreational	Residential
Ingestion of contaminated drinking water	Ingestion of contaminated drinking water	Ingestion of contaminated drinking water
Ingestion of contaminated soil	Ingestion of contaminated soil	Ingestion of contaminated soil
Inhalation of airborne compounds (vapor phase or particulate)	Inhalation of airborne compounds (vapor phase or particulate)	Inhalation of airborne compounds (vapor phase or particulate)
Dermal contact	Dermal contact	Dermal contact
External exposure to penetrating radiation from ground surfaces	External exposure to penetrating radiation from ground surfaces	Ingestion of fruits and vegetables
		External exposure to penetrating radiation from ground surfaces

Equations and Default Parameter Values for Identified Exposure Routes

In general, SNL/NM expects that ingestion of compounds in drinking water and soil will be the more significant exposure routes for chemicals; external exposure to radiation may also be significant for radionuclides. All of the above routes will, however, be considered for their appropriate land use scenarios. The general equations for calculating potential intakes via these routes are shown below. The equations are from the Risk Assessment Guidance for Superfund (RAGS): Volume 1 (EPA 1989a, 1991). These general equations also apply to calculating potential intakes for radionuclides. A more in-depth discussion of the equations used in performing radiological pathway analyses with the RESRAD code may be found in the RESRAD Manual (ANL 1993). Also shown are the default values SNL/NM ER suggests for use in RME risk assessment calculations for industrial, recreational, and residential scenarios, based upon EPA and other governmental agency guidance. The pathways and values for chemical contaminants are discussed first, followed by those for radionuclide contaminants. RESRAD input parameters that are left as the default values provided with the code are not discussed. Further information relating to these parameters may be found in the RESRAD Manual (ANL 1993).

Generic Equation for Calculation of Risk Parameter Values

The equation used to calculate the risk parameter values (i.e., hazard quotients/hazard index [HI], excess cancer risk, or radiation total effective dose equivalent [dose]) is similar for all exposure pathways and is given by:

Risk (or Dose) = Intake x Toxicity Effect (either carcinogenic, noncarcinogenic, or radiological)

$$= C \times (CR \times EFD/BW/AT) \times \text{Toxicity Effect} \quad (1)$$

where

C = contaminant concentration (site specific)
CR = contact rate for the exposure pathway
EFD = exposure frequency and duration
BW = body weight of average exposure individual
AT = time over which exposure is averaged.

The total risk/dose (either cancer risk or HI) is the sum of the risks/doses for all of the site-specific exposure pathways and contaminants.

The evaluation of the carcinogenic health hazard produces a quantitative estimate for excess cancer risk resulting from the constituents of concern (COC) present at the site. This estimate is evaluated for determination of further action by comparison of the quantitative estimate with the potentially acceptable risk range of 1E-6 for Class A and B carcinogens and 1E-5 for Class C carcinogens. The evaluation of the noncarcinogenic health hazard produces a quantitative estimate (i.e., the HI) for the toxicity resulting from the COCs present at the site. This estimate is evaluated for determination of further action by comparison of this quantitative estimate with the EPA standard HI of unity (1). The evaluation of the health hazard due to radioactive compounds produces a quantitative estimate of doses resulting from the COCs present at the site.

The specific equations used for the individual exposure pathways can be found in RAGS (EPA 1989a) and the RESRAD Manual (ANL 1993). Table 2 shows the default parameter values suggested for used by SNL/NM at SWMUs, based upon the selected land use scenario. References are given at the end of the table indicating the source for the chosen parameter values. The intention of SNL/NM is to use default values that are consistent with regulatory guidance and consistent with the RME approach. Therefore, the values chosen will, in general, provide a conservative estimate of the actual risk parameter. These parameter values are suggested for use for the various exposure pathways based upon the assumption that a particular site has no unusual characteristics that contradict the default assumptions. For sites for which the assumptions are not valid, the parameter values will be modified and documented.

Summary

SNL/NM proposes the described default exposure routes and parameter values for use in risk assessments at sites that have an industrial, recreational or residential future land use scenario. There are no current residential land use designations at SNL/NM ER sites, but this scenario has been requested to be considered by the NMED. For sites designated as industrial or recreational land use, SNL/NM will provide risk parameter values based upon a residential land use scenario to indicate the effects of data uncertainty on risk value calculations or in order to potentially mitigate the need for institutional controls or restrictions on SNL/NM ER sites. The parameter values are based upon EPA guidance and supplemented by information from other government sources. The values are generally consistent with those proposed by Los Alamos National Laboratory, with a few minor variations. If these exposure routes and parameters are acceptable, SNL/NM will use them in risk assessments for all sites where the assumptions are consistent with site-specific conditions. All deviations will be documented.

Table 2
Default Parameter Values for Various Land Use Scenarios

Parameter	Industrial	Recreational	Residential
General Exposure Parameters			
Exposure frequency	8 hr/day for 250 day	4 hr/wk for 52 wk/yr	350 day/yr
Exposure duration (yr)	25[a,b]	30[a,b]	30[a,b]
Body weight (kg)	70[a,b]	70 adult[a,b] 15 child	70 adult[a,b] 15 child
Averaging Time (days) for carcinogenic compounds (= 70 y x 365 day/yr) for noncarcinogenic compounds (= ED x 365 day/yr)	25,550[a] 9,125	25,550[a] 10,950	25,550[a] 10,950
Soil Ingestion Pathway			
Ingestion rate	100 mg/day[c]	200 mg/day child 100 mg/day adult	200 mg/day child 100 mg/day adult
Inhalation Pathway			
Inhalation rate (m^3/yr)	5,000[a,b]	260[d]	7,000[a,b,d]
Volatilization factor (m^3/kg)	chemical specific	chemical specific	chemical specific
Particulate emission factor (m^3/kg)	1.32E9[a]	1.32E9[a]	1.32E9[a]
Water Ingestion Pathway			
Ingestion rate (liter/day)	2[a,b]	2[a,b]	2[a,b]
Food Ingestion Pathway			
Ingestion rate (kg/yr)	NA	NA	138[b,d]
Fraction ingested	NA	NA	0.25[b,d]
Dermal Pathway			
Surface area in water (m^2)	2[b,e]	2[b,e]	2[b,e]
Surface area in soil (m^2)	0.53[b,e]	0.53[b,e]	0.53[b,e]
Permeability coefficient	chemical specific	chemical specific	chemical specific

[a]Risk Assessment Guidance for Superfund, Vol. 1, Part B (EPA 1991).
[b]Exposure Factors Handbook (EPA 1989b).
[c]EPA Region VI guidance.
[d]For radionuclides, RESRAD (Argonne National Laboratory, 1993. *Manual for Implementing Residual Radioactive Material Guidelines Using RESRAD*, Version 5.0, ANL/EAD/LD-2, Argonne National Laboratory, Argonne, IL. 1993) is used for human health risk calculations; default parameters are consistent with RESRAD guidance.
[e]Dermal Exposure Assessment (EPA 1992).
ED = Exposure duration.
EPA = U.S. Environmental Protection Agency.
hr = Hour.
kg = Kilogram(s).
m = Meter(s).
mg = Milligram(s).
NA = Not available.
wk = Week.
yr = Year.

References

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Addendum to NFA
January 2003

Department of Energy
National Nuclear Security Administration
Sandia Site Office
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

JAN 31 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John E. Kieling, Program Manager
New Mexico Environment Department
Hazardous Waste Bureau
Permits Management Program
2905 Rodeo Park Rd., Building E
Santa Fe, NM 87505

Dear Mr. Kieling:

Enclosed is one of two NMED copies of the Addendum to the No Further Action (NFA) Proposal for Solid Waste Management Unit (SWMU) 2, the Classified Waste Landfill, at Sandia National Laboratories, New Mexico, EPA ID No. NM5890110518. Per our verbal agreement, the second NMED copy is being sent directly to the Sandia Staff Manager. The NFA proposal for this site was included in the 16th Round NFA Proposals, originally submitted to NMED in September 2001.

This submittal includes a summary of the Voluntary Corrective Measures (VCM) excavation of the Classified Waste Landfill, the original VCM site characterization data, a description of the additional investigation for polychlorinated biphenyls (PCBs), sample location maps, and a revised risk assessment for the site.

The additional characterization for PCBs was conducted under the Toxic Substances Control Act (TSCA) with consultation and approval from the U.S. Environmental Protection Agency (EPA), Region 6. A request for risk-based disposal of PCB contaminated soil was submitted to EPA Region 6 on September 26, 2002. Approval of the request is expected in the near future.

The revised risk assessment, presented in the enclosed Addendum, concludes: (1) that SWMU 2 poses no significant risk to human health under the industrial land-use scenario, and (2) and that there are no ecological risks associated with SWMU 2 if (as proposed) the VCM excavation is backfilled and covered with 5-feet of clean fill.

cc: Paul
MJ
Records Center

JAN 31 2003

Mr. J. Kieling (2)

DOE and Sandia are requesting a determination that SWMU 2 is acceptable for No Further Action.

If you have any questions, please contact John Gould at (505) 845-6089.

Sincerely,

Karen L. Boardman
Manager

Enclosure

cc w/enclosure:
L. King, USEPA, Region 6 (2 copies via Certified Mail)
W. Moats, NMED-HWB (via Certified Mail)
M. Gardipe, ERD/AL
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cc w/o enclosure:
J. Bearzi, NMED-HWB
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SSO Legal File

FEB 3 2003

Sandia National Laboratories/New Mexico

ADDENDUM TO THE PROPOSAL FOR NO FURTHER ACTION ENVIRONMENTAL RESTORATION PROJECT SWMU 2, CLASSIFIED WASTE LANDFILL SANDIA NATIONAL LABORATORIES/ NEW MEXICO

December 2002

Environmental
Restoration
Project

United States Department of Energy
Office of Kirtland Site Operations

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ACRONYMS AND ABBREVIATIONS

ACF	American Car & Foundry
bgs	below ground surface
CFR	Code of Federal Regulations
COC	constituent of concern
CSM	Conceptual Site Model
CWLF	Classified Waste Landfill
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ERCL	ER Chemistry Laboratory
g	gram(s)
GEL	General Engineering Laboratories, Inc.
HE	high explosives
HI	hazard index
ISS	Integrated Safety & Security
KAFB	Kirtland Air Force Base
kg	kilogram(s)
L	liter(s)
LAGS	Large Area Gamma Spectroscopy
LSC	liquid scintillation counting
µg	microgram(s)
mg	milligram(s)
mrem	millirem(s)
ND	not detected
NFA	No Further Action
NMED	New Mexico Environment Department
PCB	polychlorinated biphenyl
pCi	picocurie(s)
PID	photoionization detector
PPE	personnel protective equipment
RCRA	Resource Conservation and Recovery Act
RPSD	Radiation Protection Sample Diagnostics
SAP	Sampling and Analysis Plan
SNL/NM	Sandia National Laboratories/New Mexico
SVOC	semivolatile organic compound
SWMU	Solid Waste Management Unit
TA	Technical Area
TSCA	Toxic Substances Control Act
UCL	upper 95% confidence limit
VCM	Voluntary Corrective Measure
VOC	volatile organic compound
W-pits	western pits
yr	year

1.0 SUMMARY

Sandia National Laboratories/New Mexico (SNL/NM) is submitting additional information in support of the proposal for a risk-based no further action (NFA) decision for Solid Waste Management Unit (SWMU) 2, the Classified Waste Landfill (CWLF), Operable Unit 1303. The CWLF is an inactive site located on the eastern side of Technical Area (TA)-II. Environmental concern for SWMU 2 was based upon the potential for the presence of hazardous and radioactive materials buried in the CWLF. Review and analysis of all relevant data for SWMU 2 indicate that concentrations of constituents of concern (COCs) at this site are less than applicable risk assessment action levels. Thus, SWMU 2 is proposed for an NFA decision based upon a Voluntary Corrective Measure (VCM) that excavated the entire landfill and removed the buried materials. The risk is based upon the current and projected land use, as set forth by Criterion 5, which states, "The SWMU/AOC [area of concern] has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use" (NMED March 1998).

2.0 INTRODUCTION

During the VCM, approximately 40,000 cubic yards of soil and material were excavated and characterized for the anticipated COCs using field-screening and laboratory analyses. The VCM Plan (SNL/NM December 1997) also stated that if the excavated soil passed risk-based criteria, it would be used for backfill. Due to residual metals and tritium concentrations in the excavated soil, a 5-foot-thick clean soil cap was planned for the backfilled excavation to further reduce potential exposure.

Prior to submitting the NFA proposal, the New Mexico Environment Department (NMED) determined that additional characterization would be necessary to verify that potential COCs listed in the VCM Plan and original Sampling and Analysis Plan (SAP) (SNL/NM February 1998a) were either not present or that concentrations were below risk-based levels. The additional data would also be used to support the NFA proposal and the decision to use the excavated soil as backfill for the excavation. An addendum to the SAP (SNL/NM June 2001) was submitted to NMED, and the sampling was conducted in June 2001. In July 2001, NMED and U.S. Environmental Protection Agency (EPA) Region 6 were notified that low concentrations of polychlorinated biphenyls (PCBs) had been detected in the soil stockpiles. In October 2001, after discussions with EPA Region 6, it was determined that a sampling frequency of one sample per 100 cubic yards of stockpiled soil and one sample from each of the 42 verification sample points (based upon a 50-foot-grid spacing) in the VCM excavation would be sufficient to characterize the extent of PCB contamination at SWMU 2. These samples were collected in October and November of 2001.

Because of schedule constraints, the NFA was submitted in September 2001. At that time, SNL/NM promised to submit an NFA Addendum presenting the additional data, a revised risk assessment, and any revisions to the soil pile disposition strategy. In September 2001, in consultation with EPA Region 6, preparation of a risk-based request for management and disposal of PCBs was initiated according to Title 40 Code of Federal Regulations

(CFR) 761.61(c). A draft of the notification was discussed with EPA Region 6 in May 2002 and comments were addressed. Approval sought through the risk-based request included soil redeposition, verification sampling, and equipment decontamination procecures. The notification was formally submitted to EPA Region 6 in August 2002 (Zamorski September 2002), and approval to redeposit the soil stockpiles in the excavation is expected in the near future.

This document presents the results of all the soil sampling events conducted at SWMU 2 and the risk screening assessment (Chapter 5.0) showing that there will be little or no risk to human health if the stockpiled soil is used to backfill the excavation, and the excavation is covered with 5 feet of clean fill. In addition, to evaluate the risk associated with PCBs, an assessment was performed using conservative assumptions, including direct soil exposure in a residential scenario. This assessment demonstrated that the risk posed by PCB-contaminated soil is acceptable, both in terms of hazard index (HI) and excess cancer risk. Based upon these results, the U.S. Department of Energy (DOE) and SNL/NM are expecting EPA Region 6 approval in the near future for the proposed backfilling operations with no additional Toxic Substances Control Act (TSCA) restrictions.

2.1 Report Organization

The following sections summarize the physical description, site history, previous investigations, and the VCM process. Details of some VCM activities, such as the actual excavation and material-sorting process, waste characterization, and disposition activities, may be found in the SWMU 2 NFA proposal (SNL/NM September 2001). Details of the risk-based disposal process, including information requested by EPA Region 6 on capacitor waste management and disposal as well as personnel air monitoring for PCBs, may be found in the request for risk-based disposal of PCBs in soil, recently submitted to EPA for approval (Zamorski September 2002).

Chapter 3.0 presents the site description and history, and describes the historical investigations and analytical results related to the VCM sampling activities at SWMU 2. Chapter 4.0 discusses the results of the 2001 PCB sampling. Chapter 5.0 summarizes the risk screening assessment evaluation assuming that the soil will be redeposited as backfill in the VCM excavation and covered with 5 feet of clean fill.

3.0 DESCRIPTION OF SWMU 2

The CWLF, Environmental Restoration (ER) SWMU 2, encompasses approximately 1.5 acres in the eastern portion of TA-II at SNL/NM (Figures 1 and 2). TA-II is land owned by the DOE located within the boundaries of Kirtland Air Force Base (KAFB).

3.1 Physical Setting

SWMU 2 is situated immediately west of the Tijeras Arroyo rim and the nearly flat floodplain below it (Figure 3). The annual precipitation for the area, as measured at the Albuquerque International Sunport, is 8.1 inches (NOAA 1990). No springs or perennial surface-water bodies are located within 4 miles of the site. During most rainfall events, precipitation quickly

infiltrates the soil at SWMU 2. However, virtually all of the moisture subsequently undergoes evapotranspiration. The estimates of evapotranspiration rates for the KAFB area range from 95 to 99 percent of the annual rainfall (Thompson and Smith 1985, SNL/NM February 1998b). Most of the land surrounding SWMU 2 is unpaved, and no storm sewers are used to direct surface water. The site is not within the 100-year (yr) Tijeras Arroyo floodplain and is located approximately 1,400 feet northwest of the active channel, which flows only several times each year at Powerline Road. Tijeras Arroyo is the most significant surface-water drainage feature on KAFB. The arroyo originates in Tijeras Canyon, which is bounded by the Sandia Mountains to the north and the Manzano Mountains to the south. The arroyo trends southwest along the southern edge of the site, eventually draining into the Rio Grande, approximately 8.5 miles west of SWMU 2.

TA-II lies at the southeastern boundary of the East Mesa on a broad pediment that gently slopes west toward the Rio Grande. Surface drainage across the East Mesa follows the pediment slope westward toward the Rio Grande. The topography at TA-II is nearly flat with elevations ranging from 5,420 feet at the northeastern boundary to about 5,410 feet at the southwestern boundary.

Soil along the northern rim of Tijeras Arroyo is poorly developed, and has been identified as the Bluepoint-Kokan Soil Association (Hacker 1977). Areas underlain by this soil series locally contain well-developed calcic horizons, which are the remnants of the Tijeras, Wink, and Madurez soils originally developed on older surface deposits. The Bluepoint-Kokan soil reflects the erosion of older soil units and is characterized by discontinuous soil horizons. Soil along the northern rim of Tijeras Arroyo and TA-II was defined as the North Supergroup when background concentrations for COCs were established (IT March 1996).

The original desert grassland habitat around SWMU 2 has been highly disturbed by TA-II activities. Neither federally-listed endangered or threatened species, nor state-listed endangered wildlife species were found in surveys at the site (IT February 1995). No cultural resources have been identified in the vicinity of SWMU 2 (Hoagland September 1994).

The underlying geology at TA-II consists of surface alluvial deposits that are underlain by the upper unit of the Santa Fe Group. Hawley and Haase (1992) estimate that in this area, the piedmont-slope alluvium may be up to 100 feet thick, and the upper Santa Fe Group unit is approximately 1,200 feet thick. Depth to bedrock is estimated to be more than 1,500 feet below ground surface (bgs).

Groundwater monitoring for the area surrounding SWMU 2 is conducted as part of the Tijeras Arroyo Groundwater Investigation. Two water-bearing zones, a shallow groundwater system and the regional aquifer, underlie SWMU 2. The depth to the shallow groundwater system is approximately 300 feet bgs. The shallow groundwater system is not used as a water supply. The depth to the regional aquifer is approximately 500 feet bgs. Both the City of Albuquerque and KAFB use the regional aquifer as a water supply source. Groundwater flow in the shallow groundwater system is to the southeast while regional groundwater flow is predominantly north-northwest in this portion of KAFB. The nearest downgradient water-supply well is KAFB-1, located approximately 1.3 miles northwest of the site.

3.2 Operational History

SWMU 2 was used to dispose of classified materials, mainly weapons components, by direct burial from 1947 until 1987. Until 1958, no disposal records were kept. After 1958, although available, disposal records did not provide substantial information on the landfill contents.

Disposal consisted of burying materials in unlined, open trenches, although nine individual pits were also identified. The trenches were cut in an east-west orientation (Figure 4). Material was dumped into a trench and covered up, creating a series of discrete "cells" within each trench. The trenches measured approximately 8 to 12 feet deep and stopped at a layer of caliche (hardened calcium carbonate). The individual trenches, approximately 8 to 12 feet wide, varied in length from approximately 100 to 300 feet. Five disposal pits on the east side of the landfill proper were used to dispose of material from the former American Car & Foundry (ACF) plant. Four more pits were identified west of the landfill, which were designated as the ACF or western pits (W-pits), respectively, and were found to be 15 to 18 feet deep. None of the trenches or pits were lined or contained any type of leachate barriers or monitoring devices.

The landfill was excavated as a VCM, under Resource Conservation and Recovery Act (RCRA) corrective action authority, between March 1998 and February 2000. Approximately 40,000 cubic yards of soil and material were excavated and characterized for the anticipated COCs using field-screening and laboratory analysis for metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), high explosives (HE) compounds, and radionuclides. Additional details of VCM activities, such as the excavation and material-sorting processes, types and volumes of materials excavated, waste characterization and disposition activities, and final geophysical surveys of the excavation, may be found in the SWMU 2 NFA proposal (SNL/NM September 2001). The analytical results for the soil characterization performed during the VCM are summarized in Section 3.4.

3.3 Previous Investigations

SWMU 2 was identified during the DOE Comprehensive Environmental Assessment and Response Program investigation (DOE September 1987). In 1991, the SNL/NM ER Project began preliminary investigations at TA-II that included records searches, personnel interviews, surface-radiation surveys, soil-vapor surveys, borehole sampling, and geophysical surveys. The investigation results are summarized below and described in greater detail in the SWMU 2 NFA proposal (SNL/NM September 2001).

3.3.1 Records Searches and Personnel Interviews

Process knowledge was compiled from interview notes, limited Delivery to Reclamation records (SNL/NM October 1987), and a Burial Logbook (SNL/NM February 1991). Current and former SNL/NM employees were interviewed in 1991 and 1992 (SNL/NM August 1991, SNL/NM 1992). Much of the information was general in nature and did not provide accurate locations of buried materials or information on possible hazards associated with the materials.

3.3.2 Aerial Photographs

Aerial photographs taken between 1951 and 1992 showed disposal locations consistent with marked ground locations and later geophysical survey locations.

3.3.3 Surface-Radiation Surveys

A 1988 gamma radiation and two beta-gamma radiation surveys in 1991 conducted across the surface of SWMU 2 did not detect any anomalies above background.

3.3.4 Soil-Vapor and Borehole Sampling

In 1989, six soil-vapor samples were collected from 4-foot-deep boreholes along one of the trench locations. The results were inconclusive for VOCs. A more extensive passive soil-vapor survey conducted in 1993 identified two areas with elevated VOCs along the northern portion of the landfill. Boreholes were drilled and sampled at 5-foot intervals at these two locations in March 1994. One borehole reached a depth of 100.5 feet bgs while the other was drilled only to 55 feet bgs. In several soil samples, low concentrations of acetone, methylene chloride, bis(2-ethylhexyl) phthalate, and tritium were detected. One soil sample also showed an elevated chromium concentration (SNL/NM December 1997).

3.3.5 Geophysical Surveys

Four geophysical surveys were conducted between 1991 and 1997 across the eastern half of TA-II. The 1997 survey identified approximately 75 to 80 individual burial cells coincident with the marked trenches. This survey also identified the five ACF and the four W-pits. The final SWMU 2 boundary encompassed all possible burial areas (Figure 5).

3.4 Excavated Soil and VCM Excavation Characterization

The VCM was conducted between March 1998 and February 2000 when approximately 1.5 million pounds of material and 40,000 cubic yards of soil were excavated. The depth of the excavated pits and trenches ranged from 10 to 18 feet bgs, with an average depth of approximately 12 feet bgs. The landfill was excavated by digging out one pit or trench disposal cell at a time, then separating the material, soil, and cobble fractions for further characterization and management. The VCM methodology, material handling procedures, and disposition are presented in the NFA proposal (SNL/NM September 2001). Analytical results for soil characterized during the VCM excavation are discussed in Section 3.4.1.

Following the VCM excavation and final geophysical surveys, confirmatory soil samples were collected from the excavation floor and sidewalls to determine whether COCs were present at concentrations exceeding background limits or at levels sufficient to pose a risk to human health or the environment. Confirmatory sampling and results are described in Section 3.4.2.

The original VCM Plan stated that if the excavated soil passed risk-based criteria, it would be used for backfill. In order to prove the soil was acceptable for use as backfill material, additional

soil pile samples were required by NMED. When PCBs were detected, sampling to characterize the extent of PCBs in the soil piles and VCM excavation was required by EPA. These results are presented in Section 4.0.

3.4.1 Characterization of Excavated Soil

As the pits and trenches were excavated during the VCM (Figure 6), the excavated soil was sampled to:

- Determine the nature and extent of potential contamination.
- Monitor COC concentrations for health and safety and waste management decisions.
- Compare COC concentrations to Preliminary Remediation Goals as an initial step in determining whether the soil could be used as backfill pending the final risk assessment.
- Provide data for the final human health and ecological risk assessments.

Soil characterization included both field-screening and laboratory analyses. Field-screening included metals analysis by X-ray fluorescence, soil headspace analysis for VOCs using a photoionization detector (PID), and radionuclide characterization initially by using in situ Large Area Gamma Spectroscopy (LAGS) and portable alpha and beta-gamma detectors. Additional details on the field-screening, laboratory analyses, quality assurance/quality control, and data validation are presented in the SWMU 2 NFA proposal (SNL/NM September 2001).

When the VCM began in March 1998, field-screening soil samples were collected at a frequency of one sample for each 10 cubic yards of excavated soil. In December 1998, after more than 20,000 cubic yards had been processed and very little contamination had been found, the frequency was changed to one sample for each 50 cubic yards of excavated soil.

Excavated soil was kept segregated into soil piles until analytical results were received and reviewed. The results were used to set aside the soil for use as possible backfill for the VCM excavation. During the excavation, initial analytical results indicated that heavy metals and tritium were prevalent in the excavated soil. No indications of liquid chemical releases were observed during the VCM excavation.

Samples were tracked using an identification scheme incorporating the sample location and sample details, such as soil bin, soil lot, survey coordinates, sample depth, and sample type. The acronyms and identifications used for soil samples collected during the VCM and subsequent resamplings are shown in Table 1. Trench and pit locations are shown on Figure 7.

Soil samples were submitted for laboratory analysis at a ratio of 1:20 field-screening samples. These were split between the on-site SNL/NM ER Chemistry Laboratory (ERCL) and off-site General Engineering Laboratories, Inc. (GEL), at Charleston, South Carolina. Gamma spectroscopy and qualitative tritium screening analyses also were performed at the SNL/NM Radiation Protection Sample Diagnostics (RPSD) Laboratory. Gamma spectroscopy samples were submitted to the RPSD Laboratory at a ratio of 1:5 LAGS samples during the time the LAGS was in operation. Because only minimal radioactive contamination was encountered,

LAGS analysis was discontinued after December 1998, and the RPSD Laboratory samples were used for soil characterization. Off-site radionuclide analyses were performed at GEL.

VOCs were analyzed by EPA Method 8260; SVOCs by EPA Method 8270; HE by EPA Method 8330 (EPA 8095 equivalent at the on-site ERCL); RCRA metals plus beryllium, nickel, and uranium by EPA Methods 6010/7000 and 6020; gamma spectroscopy by EPA Method 901.1 (or equivalent at the on-site RPSD Laboratory); and tritium by EPA Method 906.0 (EPA November 1986). Qualitative tritium measurements also were performed at the RPSD Laboratory using liquid scintillation counting (LSC).

All of the confirmatory soil samples collected in the landfill excavation following the VCM were submitted to GEL for metals and tritium analyses. Gamma spectroscopy analyses were performed at the SNL/NM RPSD Laboratory.

Analytical tables for the excavated soil characterization are provided in Annex A. The analytical results are summarized below and in Table 2.

3.4.1.1 VOCs

Table A-1 in Annex A presents the analytical results for the VOC analyses of the excavated soil. A total of 7 VOC compounds were detected in the 116 soil samples collected between March 1998 and August 1999. Acetone (not detected [ND] to 11 J micrograms [µg]/kilogram [kg]) was detected in four samples; ethyl benzene (ND to 4.3 J µg/kg) in one sample; 2-hexanone (ND to 14 J µg/kg) in two samples; methylene chloride (ND to 7.3 µg/kg) in four samples; o-xylene (ND to 14 µg/kg) and m-, p-xylene (ND to 21 µg/kg) were detected in two samples. The small number and low concentration detections of these compounds probably indicate laboratory contamination rather than a release.

Laboratory analyses for VOCs in soil were discontinued in August 1999 because of the few detections, low concentrations of the VOCs that were detected, and continued lack of contamination indicated by visual observation and PID field-screening. The excavated soil was dry and unconsolidated, which indicated little potential for residual volatile contaminants. The materials in the landfill consisted primarily of prototype weapon components, and no containers that may have contained liquids were found. Additional VOC samples were collected in the June 2001 sampling. These results are presented in Section 4.3.

3.4.1.2 SVOCs

Nine soil samples were analyzed for SVOCs between March and December 1998, and only one SVOC compound, bis(2-ethylhexyl) phthalate, was detected in one sample at a concentration of 270 J µg/kg. This COC is a common constituent in plastics and was detected in the Soil Lot 9 sample from Disposal Cell E6 and in samples collected at the bottom of four of the five ACF pits and in the four W-pits. These were considered "confirmatory" samples. The results are presented in Table A-2 in Annex A. However, because of the small number of analyses, the data are presented and discussed in this section.

Analyses for SVOCs were discontinued in December 1998 because the material in the landfill was largely intact, despite oxidized metal surfaces. No stained soil was observed during the

excavation, and no containers that may have contained liquids were found. Additional SVOC samples were collected in the June 2001 sampling. These results are presented in Section 4.3.

3.4.1.3 HE Compounds

No HE compounds were detected in the ten soil samples, including duplicates and splits, that were collected at SWMU 2. HE analyses were discontinued when no HE compounds were detected in suspect materials that were analyzed. Sampling of the excavated soil for HE compounds was also discontinued early in the project when it became apparent that no bulk HE or explosive compounds had been disposed of in the landfill. References to HE in the site disposal history were based upon very small, sealed charges (less than one gram [g]) used in highly reliable actuators within weapons components. Because the components and sealed charges were excavated intact, there was little chance of HE release to the soil. No additional HE samples were collected in the June 2001 sampling.

3.4.1.4 RCRA Metals plus Beryllium, Nickel, and Uranium

Table A-3 in Annex A presents the analytical results for the RCRA metals plus beryllium, nickel, and uranium analyses of the excavated soil. Most metal concentrations were at or below NMED-approved background values. Many of the highest measured concentrations for barium, beryllium, cadmium, chromium, lead, mercury, and silver were present in adhering soil scraped directly off artifacts into bins (bin soil samples).

The metals results are summarized below.

- Arsenic (ND to 8.3 milligrams [mg]/kg) was detected at concentrations above the NMED-approved background of 4.4 mg/kg in only 5 of the 304 samples.
- Barium (77 to 8,100 mg/kg) was detected at concentrations above the NMED-approved background of 200 mg/kg in 126 of 310 samples.
- Beryllium (ND to 4.2 mg/kg) was detected at concentrations above the NMED-approved background of 0.8 mg/kg in 6 of 310 samples.
- Cadmium (ND to 740 mg/kg) was detected at concentrations above the NMED-approved background of 0.9 mg/kg in 199 of 310 samples.
- Chromium (4.6 to 460 mg/kg) was detected at concentrations above the NMED-approved background of 12.8 mg/kg in 118 of 310 samples.
- Lead (3.4 to 620 J mg/kg) was detected at concentrations above the NMED-approved background of 11.2 mg/kg in 100 of 310 samples.
- Mercury (ND to 180 mg/kg) was detected at concentrations above the NMED-approved background of 0.1 mg/kg in 224 of 310 samples.
- Nickel (4.8 to 400 mg/kg) was detected at concentrations above the NMED-approved background of 25.4 mg/kg in 35 of 310 samples.

- Selenium (ND to 250 mg/kg) was detected at concentrations above the NMED-approved background of 1 mg/kg in 30 of 303 samples.

- Silver (ND to 110 mg/kg) was detected at concentrations above the NMED-approved background of 1 mg/kg in 87 of 304 samples.

- Uranium (0.51 to 4.5 mg/kg) was detected at concentrations above the NMED-approved background of 2.3 mg/kg in 4 of 268 samples.

3.4.1.5 Radionuclides

Table A-4 in Annex A presents the analytical results for the gamma spectroscopy analysis of the 391 excavated soil samples.

The gamma spectroscopy results are summarized below.

- Cesium-137 (ND to 0.247 picocuries [pCi]/g) was detected at an activity above the 0.084 pCi/g NMED-approved background value in only three samples.

- Thorium-232 (ND to 3.58 pCi/g) was detected above the 1.54 pCi/g NMED-approved background value in only one sample.

- Uranium-235 (ND to 3.28 pCi/g) was detected above the 0.18 pCi/g NMED-approved background value in 14 samples.

- Uranium-238 (ND to 208 pCi/g) was detected above the 1.3 pCi/g NMED-approved background value in 10 samples. Nine of the elevated activities were in the 1.33 to 3.16 pCi/g range, while only one was at 208 pCi/g.

- Neither plutonium isotopes nor the readily detectable plutonium-239 daughter product (americium-241) were detected in initial gamma spectroscopy analyses of the soil. Therefore, isotopic plutonium analyses were not performed.

No additional gamma spectroscopy samples were collected in the June 2001 sampling. However, samples for gross alpha/beta activity were collected, and these results are presented in Section 4.3.

3.4.1.6 Tritium

Table A-5 in Annex A presents the analytical results for tritium analysis of 160 excavated soil samples. Tritium at activities ranging from 7,060 to 1,718,000 pCi/liter (L) exceeded the 420 pCi/L SNL/NM-established background (Tharp February 1999) in 138 samples.

Tritium samples were analyzed at the RPSD Laboratory by LSC, and activity was reported in pCi/g. For comparison with the off-site laboratory values, these activities were converted to pCi/L using the assumption of 5 percent soil moisture and a soil density of 1 g/cubic centimeter. The apparent lack of close correlation with sample splits analyzed off site using the distillation method may be the result of either the physical form in which tritium is present in this soil or differences in the analytical methods. If tritium is bound, in the form of metal tritides or

adsorbed onto the surface of metals, rubber, plastic, etc., it may not be readily extracted by distillation. If this is the case, the LSC values may be more representative of the tritium content in soil. To provide a conservative evaluation of risk, the converted LSC values were used in the risk screening assessment.

Additional tritium samples were collected in the June 2001 sampling. These results are presented in Section 4.3.

3.4.2 VCM Excavation Confirmatory Sampling

Between March and August 2000, three geophysical verification surveys were performed in the final excavation using an EM-61 high-precision electromagnetic metal locator to determine whether buried material remained (MDM February 2001). Small anomalies detected in the first survey were subsequently checked with a Schonstadt metal detector and excavated by hand. A final EM-61 survey of the excavation conducted in July and August 2000 indicated that no significant buried debris remained (MDM February 2001). A map of the final survey is shown in Figure 8.

In August 2000, following the final geophysical survey, VCM confirmatory soil samples were collected from the excavation floor and sidewalls (Figure 9). The soil samples were collected from undisturbed, native material on 50-foot centers using the grid established for the final geophysical survey. Samples from the excavation floor were collected from 0.5 to 1.0 feet bgs. Samples from the excavation sidewall were collected from 1.0 to 1.5 feet laterally into the wall halfway up the excavation side.

The confirmatory data set also includes soil samples from the floors of the four W-pits and four of the five ACF pits. Because these pits were adjacent to the site haul roads, they were excavated separately, sampled and, following an informal data review with NMED, backfilled for safety reasons. Pit ACF-5 was excavated concurrently with Disposal Cell E-8 and was not sampled separately. ACF-5, situated within the landfill proper, is covered by the confirmatory sampling grid. Details of the sample identification scheme are provided in Table 1.

All confirmatory soil samples from the excavation were analyzed at the off-site laboratory (GEL) for RCRA metals plus beryllium, nickel, and uranium by EPA Methods 6010/7000; and tritium by EPA Method 906.0 (EPA November 1986). Gamma spectroscopy analyses were performed at the SNL/NM RPSD Laboratory. Full analytical tables for the excavation confirmatory soil characterization are provided in Annex B. The analytical results are summarized below and in Table 2.

3.4.2.1 VOCs

Table B-1 in Annex B presents the analytical results for the VOC analyses of soil samples collected from the bases of the excavated ACF and W-pits. No samples for VOC analyses were collected in the final VCM excavation. Three VOC compounds were detected in the 15 samples analyzed. Acetone (ND to 19 µg/kg) was detected in four samples; methylene chloride (ND to 2.9 J µg/kg) in two samples; and toluene (ND to 1 J µg/kg) in one sample. The low concentrations of these compounds probably indicate laboratory contamination rather than a release.

3.4.2.2 *RCRA Metals plus Beryllium, Nickel, and Uranium*

Table B-2 in Annex B presents the analytical results for the RCRA metals plus beryllium, nickel, and uranium analyses of soil samples collected from the VCM excavation floor and sidewalls in August 2000. Table B-2 also includes samples collected from the base of the four ACF and four W-pits before they were backfilled. The results are discussed below.

- Arsenic (1.67 to 5.86 mg/kg) exceeded the NMED-approved background concentration of 4.4 mg/kg in only 1 of the 52 samples analyzed.
- Barium (82.8 to 1,110 mg/kg) was detected at concentrations above the NMED-approved background value of 200 mg/kg in 24 of the 58 samples.
- Beryllium (0.0509 J to 0.579 mg/kg) was not detected above the 0.80 mg/kg background value in the 58 samples analyzed.
- Cadmium (ND to 5.14 mg/kg) was detected at concentrations above the 0.9 mg/kg background value in 2 of the 58 samples.
- Chromium (4.18 to 12.9 mg/kg) exceeded the 12.8 mg/kg background concentration in only 1 of the 58 samples.
- Lead (2.28 to 33.4 mg/kg) exceeded the 11.2 mg/kg background concentration in only 1 of the 58 samples.
- Mercury (ND to 0.369 mg/kg) exceeded the 0.1 mg/kg background concentration in only 2 of the 58 samples.
- Nickel (0.258 J to 16.8 mg/kg) was not detected above the 25.4 mg/kg background value in the 58 samples analyzed.
- Selenium (ND to 0.881 mg/kg) was not detected above the 1 mg/kg background value in the 51 samples analyzed.
- Silver (ND to 0.223 mg/kg) was not detected above the 1 mg/kg background value in the 51 samples analyzed.
- Uranium (0.544 to 1.66 mg/kg) was not detected above the 2.3 mg/kg background value in the 50 samples analyzed.

3.4.2.3 *Radionuclides*

Table B-3 in Annex B presents the results for the gamma spectroscopy analyses of soil samples collected from the VCM excavation floor and sidewalls in August 2000. The table also includes samples collected from the bases of the ACF and W-pits before they were backfilled. The results for the 58 samples are discussed below.

- Cesium-137 was not detected at an activity above the 0.084 pCi/g NMED-approved background value in the samples analyzed.
- Thorium-232 (ND to 1.12 pCi/g) was not detected at an activity above the 1.54 pCi/g background value in the samples analyzed.
- Uranium-235 (ND to 0.254 pCi/g) was detected above the 0.18 pCi/g background value in only two samples.
- Uranium-238 (ND to 0.972 pCi/g) was not detected at an activity above the 1.3 pCi/g background value in the samples analyzed.

3.4.2.4 Tritium

Table B-4 in Annex B presents the analytical results for the tritium analyses of soil samples collected from the excavation floor and sidewalls in August 2000. Table B-4 also includes samples collected from the bases of the ACF and W-pits. Tritium (ND [<99.1 pCi/L] to 923,000 pCi/L) exceeded the 420 pCi/L SNL/NM-established background (Tharp February 1999) in 50 of the 58 samples analyzed by distillation at the off-site laboratory.

4.0 ADDITIONAL CHARACTERIZATION SAMPLING

As mentioned previously, in order to prove that the soil is acceptable for use as backfill, NMED required additional soil pile sampling. An addendum to the original SAP, which is provided in Annex C, was prepared in conjunction with NMED to guide additional sampling of the excavated soil for VOCs, SVOCs, PCBs, tritium, and gross alpha/beta activity.

4.1 June 2001 Sampling

The excavated soil had been segregated and staged as nine "potentially uncontaminated" and twenty-two "potentially contaminated" soil piles during the VCM, pending the outcome of the site risk assessment for the NFA. Figure 10 presents a sketch map showing the pile locations and approximate volumes. The original sampling frequency (1 sample per 400 cubic yards) was used for the potentially uncontaminated soil piles. Because of the 25- to 75-cubic-yard volumes of the potentially contaminated soil piles, a more conservative approach was used, and one sample was collected from each pile.

As summarized in the SAP Addendum, all of the 22 potentially contaminated piles and 13 of the 100 sample locations (10 percent) in the potentially uncontaminated (large) soil piles were sampled for VOCs, SVOCs, PCBs, tritium, and gross alpha/beta activity. These samples were collected in June 2001. All of the radiological samples were analyzed at the SNL/NM RPSD Laboratory. Tritium analyses were performed according to the LSC method described in Section 3.4.1.6. All organic analyses, as well as radiological analyses of split samples, were performed at GEL.

In June 2001, the smaller soil piles were sampled using a backhoe to dig into the approximate center of each pile. A horizontal sampling grid was established over the larger soil piles to define "cells" approximately 400 cubic yards in volume. An excavator was used to dig into the approximate center of each cell where a sample was collected.

4.2 October to November 2001 PCB Sampling

In September 2001, when the analytical results indicated that low levels of PCBs were present, EPA Region 6 was contacted for guidance and provided with all the results up to that date. It was decided that additional PCB samples collected at a frequency of one sample per 100 cubic yards for the soil piles and on a grid with 50-foot centers from the floor and sides of the VCM excavation would be adequate to complete characterization of the site for PCBs. Provided no indication of more extensive contamination was discovered, SNL/NM would then prepare a petition for risk-based disposal under 40 CFR 761.61(c) using the PCB-contaminated soil as backfill, capping the excavation with clean fill soil, and restricting future development of the site.

In October and November 2001, the original sample locations in the VCM excavation and the "cells" established for the June 2001 soil pile sampling were resampled for PCBs. In order to meet the required frequency of 1 sample per 100 cubic yards in the large piles, an excavator was used to collect a sample from the center of each 100-cubic-yard volume in each cell. A maximum of four samples were collected at any one cell location. For complete coverage, additional sample locations were added on the flanks and thinner portions of the large piles. Sample locations in the VCM excavation are shown on Figure 9. Figure 11 shows sample locations for the large soil piles.

4.3 Analytical Results

The analytical results for both the June 2001 and October to November 2001 samplings are summarized below and in Table 2.

4.3.1 PCBs in the Soil Piles

Table 3 presents the analytical results for the PCB analyses of the soil pile samples collected in June 2001 and October to November 2001. Only Aroclor-1242, Aroclor-1254, and Aroclor-1260 were detected in these samples. The highest PCB concentration, 5.58 mg/kg for Aroclor-1254, was detected in the potentially contaminated soil piles that also contain the highest metals concentrations. Seven other samples from these soil piles contained approximately 1 mg/kg or more of total PCBs. Two samples from potentially uncontaminated Soil Pile 36 and three samples from Soil Pile 38 contained 1 mg/kg or more total PCBs.

4.3.2 PCBs in the VCM Excavation

Table 4 presents the analytical results for the PCB analyses of soil samples from the VCM excavation floor and sidewalls. Only Aroclor-1242, Aroclor-1254, and Aroclor-1260 were detected in these samples. The highest total PCB concentration measured was 0.0993 mg/kg. Figure 12 shows an isoconcentration plot for total PCBs in the VCM excavation.

4.3.3 VOCs in the Soil Piles

Table 5 presents the analytical results for the VOC analyses of the soil pile samples collected in June 2001. Acetone (0.00244 J mg/L) was detected in one equipment blank sample. Methylene chloride (ND to 0.00187 mg/kg) was detected in 11 of the 40 samples collected, including the duplicates. Except for two equipment blank samples, all the detections were in samples from the potentially contaminated soil piles. The low detections do not indicate the presence of widespread contamination and may be the result of laboratory contamination.

4.3.4 SVOCs in the Soil Piles

Table 6 presents the analytical results for the SVOC analyses of the soil pile samples collected in June 2001. A total of nine SVOC compounds were detected in the 40 samples collected including duplicates.

2-Chlorophenol (ND to 0.010 J mg/kg) was detected in only one sample. Butylbenzyl phthalate (ND to 0.243 mg/kg) was detected in two samples. Di-n-butylphthalate (ND to 0.168 mg/kg) was detected in six samples. Diphenylamine (ND to 0.0809 mg/kg) was detected in two samples. Fluoranthene (ND to 0.0203 J mg/kg) was detected in six samples. Phenanthrene (ND to 0.0213 J mg/kg) was detected in three samples. Phenol (ND to 0.0122 J mg/kg) was detected in one sample. Pyrene (ND to 0.0234 J mg/kg) was detected in only two samples. Bis(2-Ethylhexyl) phthalate (ND to 0.251 mg/kg) was detected in 13 samples.

4.3.5 Gross Alpha and Gross Beta Activities in the Soil Piles

Table 7 presents the analytical results for the gross alpha and gross beta analyses of the soil pile samples collected in June 2001. No alpha-emitting isotopes were detected in 136 analyses performed at the SNL/NM RPSD Laboratory. Gross alpha activity ranged from 5.22 to 18 pCi/g in 19 split samples analyzed at GEL. Gross beta detections ranged from ND to 15.7 pCi/g in the RPSD Laboratory analyses and from 15.7 J to 25.8 pCi/g in the off-site split samples.

4.3.6 Tritium in the Soil Piles

Table 8 presents the analytical results for tritium analyses of soil pile samples collected in June 2001. All detections exceeded the 420 pCi/L SNL/NM-established background (Tharp February 1999).

Tritium activities ranged from 15,220 to 1,440,000 pCi/L in samples analyzed at the RPSD Laboratory. Activities ranged from 25,900 to 935,000 pCi/L in split samples analyzed by distillation at the off-site laboratory. As mentioned in Section 3.4.1.6, the discrepancy in correlation between on- and off-site laboratory results could be explained if the tritium is present in the form of metal tritides. This form would not be readily extractable by the distillation method, but would be detectable by LSC. To provide a conservative evaluation of risk, the converted LSC values were used in the risk screening assessment.

4.4 Waste Disposal and Personnel Monitoring

Approximately 1.5 million pounds of material were removed during the VCM excavation. More than 90 percent of the material was still considered classified from a national security standpoint and required demilitarization (destruction to prevent recovery of sensitive information) before final disposition. Many of the components contained radioactive, hazardous, and/or explosive material that further complicated the waste management process. Demilitarization and recycling were the preferred options for the majority of materials excavated. Approximately 70 percent (by weight) of the classified materials were processed to recover recyclable materials. Full details on waste streams, characterization, and management processes were presented in the SWMU 2 NFA proposal (SNL/NM September 2001).

In a meeting held in Dallas, Texas, on May 31, 2002, EPA Region 6 personnel requested specific information on capacitor disposal practices, final waste disposition, and personnel air monitoring for PCBs. The requested information is summarized below. Details are presented in the risk-based disposal approval request (Zamorski September 2002).

All excavated wastes were characterized and released to SNL/NM waste management operations for proper disposal in accordance with all applicable laws and regulations. Capacitors were manifested and sent to permitted facilities for destruction and material recycling. All disposals were documented, and the records are maintained by the responsible SNL/NM departments.

Extensive air monitoring for personnel exposure to hazardous substances, including PCBs, was routinely conducted and used to modify personnel protective equipment (PPE) levels for certain tasks. All monitoring records are maintained in the SNL/NM Integrated Safety & Security (ISS) Records Center.

5.0 CONCEPTUAL SITE MODEL

A Conceptual Site Model (CSM) was developed for the residual COCs identified in both the excavated soil piles and the VCM excavation samples. A CSM is a schematic representation of the chemical source areas, chemical release mechanisms, environmental transport media, potential exposure routes, and potential receptors (Figure 13). The purpose of the CSM is to represent chemical sources and exposure pathways that may result in either human health or ecological risks, and to aid in identifying remediation alternatives that target significant contaminant sources and exposure pathways. This CSM is the basis for the risk screening assessment required by 40 CFR 761.61(c). The following sections summarize the nature and extent of contamination and the environmental fate of the COCs.

5.1 Nature and Extent of Contamination

As mentioned in Sections 4.1 and 4.2, resampling of the excavated soil piles confirmed the presence of low concentrations of PCBs. The highest concentrations of metals and PCBs are in the potentially contaminated soil piles. All PCB concentrations in soil samples from the VCM excavation are less than 0.1 mg/kg. This additional data supports the risk-based disposal approval request to manage the PCB-contaminated soil by backfilling and capping the

excavation. The additional data has been incorporated into the risk screening assessment provided in Annex D.

The potential COCs at SWMU 2 were metals, VOCs, SVOCs, HE compounds, PCBs, and radionuclides resulting from the disposal of classified materials at the site. Metal and radionuclide COCs present were determined by comparing sample results to background concentrations established for the North Area Supergroup (Dinwiddie September 1997). Metals or radionuclides found to exceed background levels in any sample were considered to be potential COCs for the site. Metal COCs included the eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus beryllium, nickel, and uranium (Table 2). The VOCs included 2-Hexanone, acetone, ethyl benzene, methylene chloride, toluene, and xylene. The SVOCs included bis(2-ethylhexyl) phthalate, butylbenzyl phthalate, 2-chlorophenol, di-n-butylphthalate, diphenylamine, ethyl benzene, fluoranthene, phenanthrene, phenol, and pyrene. Radionuclides included uranium-235, uranium-238, thorium-232, cesium-137, and tritium.

Table 2 summarizes the distribution and simple statistics for COCs detected at SWMU 2, including the number of detections exceeding background and where VOCs and SVOCs were detected. Confirmatory samples were collected from the floor of the ACF and W-pits as well as from the floor and sidewalls of the final SWMU 2 excavation. Samples also were collected from the excavated soil piles that are planned for use as backfill pending approval of the risk-based disposal request.

5.2 Environmental Fate

The primary source for COCs was the disposal of classified materials in the landfill. Based upon the data concerning the nature and extent of contamination at the site (Section 5.1), the excavation and excavated soil contain residual metals, VOCs, SVOCs, PCBs, and radionuclides.

Because the VCM removed the primary contaminant source (weapon components and other material), only secondary sources of COCs remain in the form of residual metals, VOCs, SVOCs, PCBs, and radionuclides in the subsurface of the excavation and pits, as well as in the excavated soil that will be used as backfill. Because the backfilled excavation will be covered with at least 5 feet (1.5 meters) of imported clean fill soil, the secondary release mechanisms at SWMU 2 will include dissolution of COCs and percolation through the soil, direct contact with soil (radionuclides only), VOC vapor emanations, dust emissions, and uptake of COCs by biota (Figure 13).

The depth to groundwater at the site is approximately 300 feet bgs for the shallow water-bearing zone and 500 feet bgs for the regional aquifer. The vadose zone is comprised of relatively impermeable carbonate-rich soil horizons and impermeable carbonate-cemented (caliche) horizons (SNL/NM March 1995). In addition, high-partitioning coefficients and low mobility in the transporting medium enhance dilution of the COC concentrations. As a result, the nature and extent of COCs do not render groundwater a viable contaminant pathway. The pathways to receptors at this site include soil, surface water, and air. Biota also provides a pathway through potential food chain transfers. Section V of Annex D presents further discussion of the fate and transport of COCs at SWMU 2.

Surface water is not considered a possible runoff mechanism at SWMU 2 because it is located well above the Tijeras Arroyo floodplain and more than 1,400 feet away from the active channel. The arid climate precludes the possibility of rainfall or runoff eroding the site.

The current and designated future land use for SWMU 2 is industrial (DOE et al. September 1995). Therefore, the potential human receptor at the site is an industrial worker. For all applicable pathways, the exposure routes for the industrial worker include dermal contact, external irradiation from soil, and ingestion/inhalation of air. Because of the depth of the clean soil layer planned for the backfilled excavation, wildlife is considered the only potential ecological receptor at the site. Wildlife exposure can result from the ingestion of COCs through food chain transfers and the incidental ingestion of soil from the site. Section V of Annex D discusses the exposure routes and potential receptors at SWMU 2.

5.3 Site Assessments

The site assessment process includes risk screening assessments followed by baseline risk assessments (as required) for both human health and ecological risk. This section briefly summarizes the SWMU 2 assessment results. Annex D describes the risk screening assessment in detail.

5.3.1 Summary

The site assessment concludes that SWMU 2 presents no potential to affect human health under an industrial land use scenario. After considering the uncertainties associated with the available data and the modeling assumptions, ecological risks associated with SWMU 2 were found to be low. Section 5.3.2 describes the human health and ecological risk screening assessments, which are contained in Annex D.

5.3.2 Screening Assessments

Risk screening assessments were performed for both human health and ecological risk for SWMU 2. This section briefly summarizes the results.

5.3.2.1 Human Health

Because COCs are present at SWMU 2 in concentrations or activities greater than background screening values, it was necessary to perform a human health risk assessment analysis, which provides a quantitative evaluation of the potential adverse human health effects caused by constituents in the site's soil. Annex D provides a complete discussion of the risk assessment process, results, and uncertainties. This assessment included organic constituents, as well as metals and radionuclides, detected above either background levels and/or minimum detectable activities. Because SWMU 2 has been recommended for industrial land use (DOE et al. September 1995), the risk screening assessment (Annex D) calculated the HI and excess cancer risk for an industrial land use scenario. The excess cancer risk from both nonradiological and radiological COCs is not additive (EPA 1989).

In summary, the HI calculated for SWMU 2 for nonradiological COCs is 2 for an industrial land use scenario, which is greater than the numerical standard of 1.0 suggested by risk assessment guidance (EPA 1989). Incremental risk is determined by subtracting risk associated with background from potential nonradiological COC risk. The incremental HI is 2.36 for the industrial land use scenario. Although the total and incremental HIs are above the NMED guideline, the HI was conservatively estimated by applying the maximum concentrations of COCs detected in soil samples. Because the site was adequately characterized, average concentrations of COCs are more representative of actual site conditions. When the upper 95% confidence limit (UCL) of the mean concentration for cadmium and mercury were used instead of the maximum concentrations, the total and incremental HIs were reduced to 0.4 and 0.37, respectively. Both values are within NMED guidelines under an industrial land use scenario.

The excess cancer risk for SWMU 2 for nonradiological COCs is 5E-06 for an industrial land use scenario. NMED guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (NMED March 2000); thus, the excess cancer risk for this site is below the suggested acceptable risk value. The incremental excess cancer risk is 3.30E-06.

The incremental total effective dose equivalent for radionuclides for an industrial land use scenario for SWMU 2 is 1.9E-2 millirems (mrem)/yr. This value is below the recommended dose limit of 15 mrem/yr, found in EPA's Office of Solid Waste and Emergency Response Directive No. 9200.4-18 (EPA 1997a) and reflected in a document entitled, "Sandia National Laboratories/New Mexico Environmental Restoration Project—RESRAD Input Parameter Assumptions and Justification" (SNL/NM February 1998c). The incremental excess cancer risk for the radionuclides is 3.9E-7 for an industrial land use scenario.

The residential land use scenarios for this site are presented in the risk screening assessment (Annex D) to provide perspective on the potential risk to human health under the more restrictive land use scenario. The report concludes that SWMU 2 presents no significant potential to affect human health under an industrial land use scenario.

Although PCBs were eliminated from the risk assessment according to TSCA screening procedures (Annex D, Section VI.4.1.2), in accordance with EPA guidance, risk associated with the PCB concentrations was calculated (Annex D, Section VI.9). To evaluate the risk associated with PCBs, an assessment was performed using the sum of the UCL of the mean PCB concentrations (0.165 mg/kg). The analysis included conservative assumptions regarding the PCB composition and exposure scenario; the PCB concentration was assumed to be all Aroclor-1254, and direct soil exposure in a residential scenario was evaluated. The calculated HI was 0.07 and the excess cancer risk was 3E-5 under these conditions. This excess cancer risk estimate is within the acceptable 1E-4 to 1E-6 range generally allowed by EPA and, given the conservative assumptions used in the analysis, demonstrates that the risk posed by redeposition of the SWMU 2 soil is acceptable. Comparison to the self-implementing cleanup provisions under 40 CFR 761.61(a) that impose a cleanup level of 1 mg/kg for site cleanups with no further restrictions is also useful. Although the 1 mg/kg is a maximum level (not a UCL), EPA accepts the risk associated with this self-implementing value. Finally, the presence of RCRA constituents in the SWMU 2 soil will necessitate future land restrictions under RCRA. SWMU 2 will be restricted to industrial use and the redeposited soil will be covered with 5 feet of clean fill. Given the conservative nature of the risk screening assessment and the land use restrictions imposed under RCRA, SNL/NM considers that the risk associated with these PCB concentrations is acceptable.

5.3.2.2 *Ecological*

An ecological screening assessment that corresponds with the screening procedures in the EPA's Ecological Risk Assessment Guidance for Superfund (EPA 1997b) was performed as set forth by the NMED Risk-Based Decision Tree (NMED March 1998).

The scoping assessment focuses primarily on the likelihood of exposure of biota at or adjacent to the site to constituents associated with site activities. COCs that exceed SNL/NM background screening values are present in the soil at SWMU 2. However, all potentially contaminated soil at this site is planned for use as excavation backfill and will be covered with an overlying cap of 1.5 meters (approximately 5 feet) of clean fill. Based upon information regarding the limits of biological activity in soil at KAFB (IT July 1998), this cap is expected to be of sufficient thickness to preclude contact between the COCs and biota. Therefore, no complete ecological pathways are expected to exist at this site. Consequently, a screening assessment was not deemed necessary to predict the potential level of ecological risk associated with this site.

5.4 Baseline Risk Assessments

This section discusses the baseline risk assessments for human health and ecological risk.

5.4.1 Human Health

Because the human health risk screening assessment summarized in Section 5.3.2.1 indicates that SWMU 2 presents no potential to affect human health under either an industrial or a residential land use scenario, a baseline human health risk assessment is not required for SWMU 2.

5.4.2 Ecological

Because the ecological screening assessment summarized in Section 5.3.2.2 indicates that no complete ecological pathways exist at SWMU 2, a baseline ecological risk assessment is not required for the site.

5.4.3 Other Applicable Assessments

A preliminary Surface-Water Assessment was conducted at SWMU 2 using the surface-water assessment guidance developed jointly by Los Alamos National Laboratory and the NMED Surface Water Quality Bureau (LANL August 1998). Because the area surrounding SWMU 2 is flat and the site is more than 1,400 feet from the active Tijeras Arroyo channel, the erosion potential is expected to be very low.

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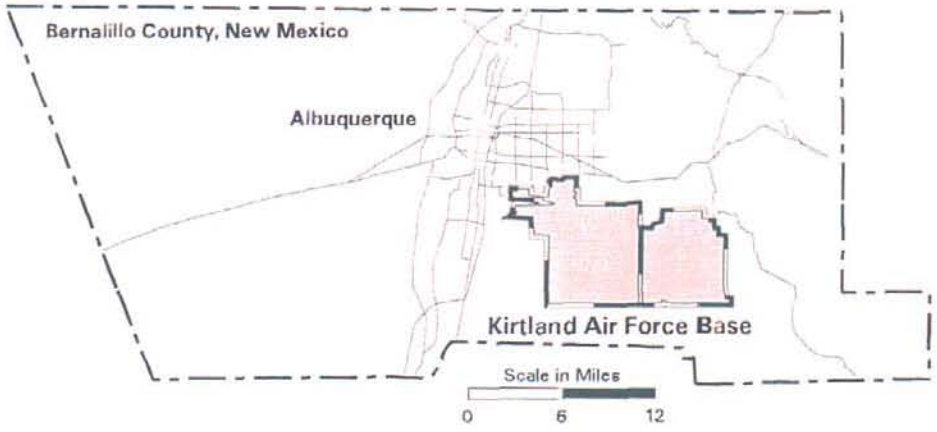
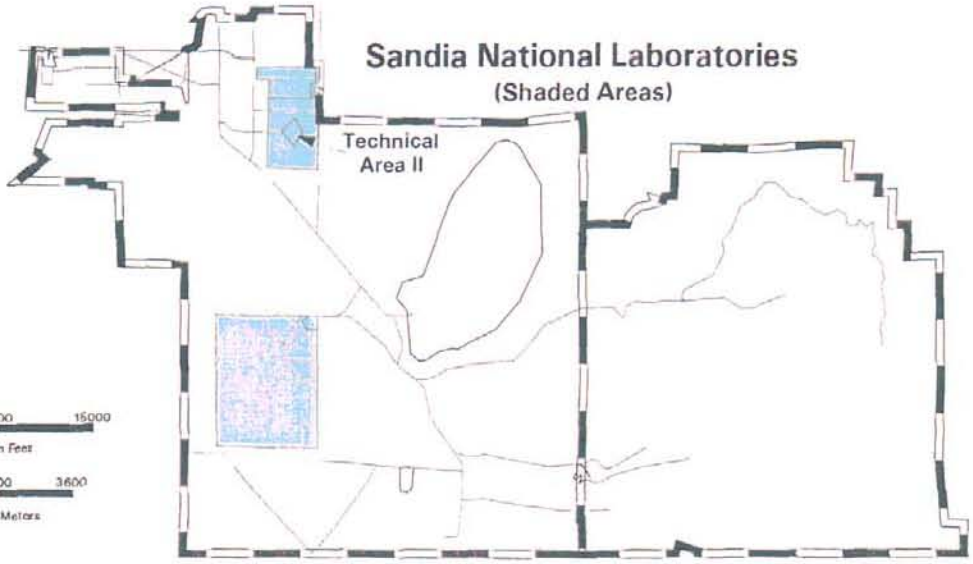
FIGURES

Figure 1
Location of Kirtland Air Force Base and Sandia National Laboratories, New Mexico





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Sandia National Laboratories, New Mexico
Environmental Geographic Information System

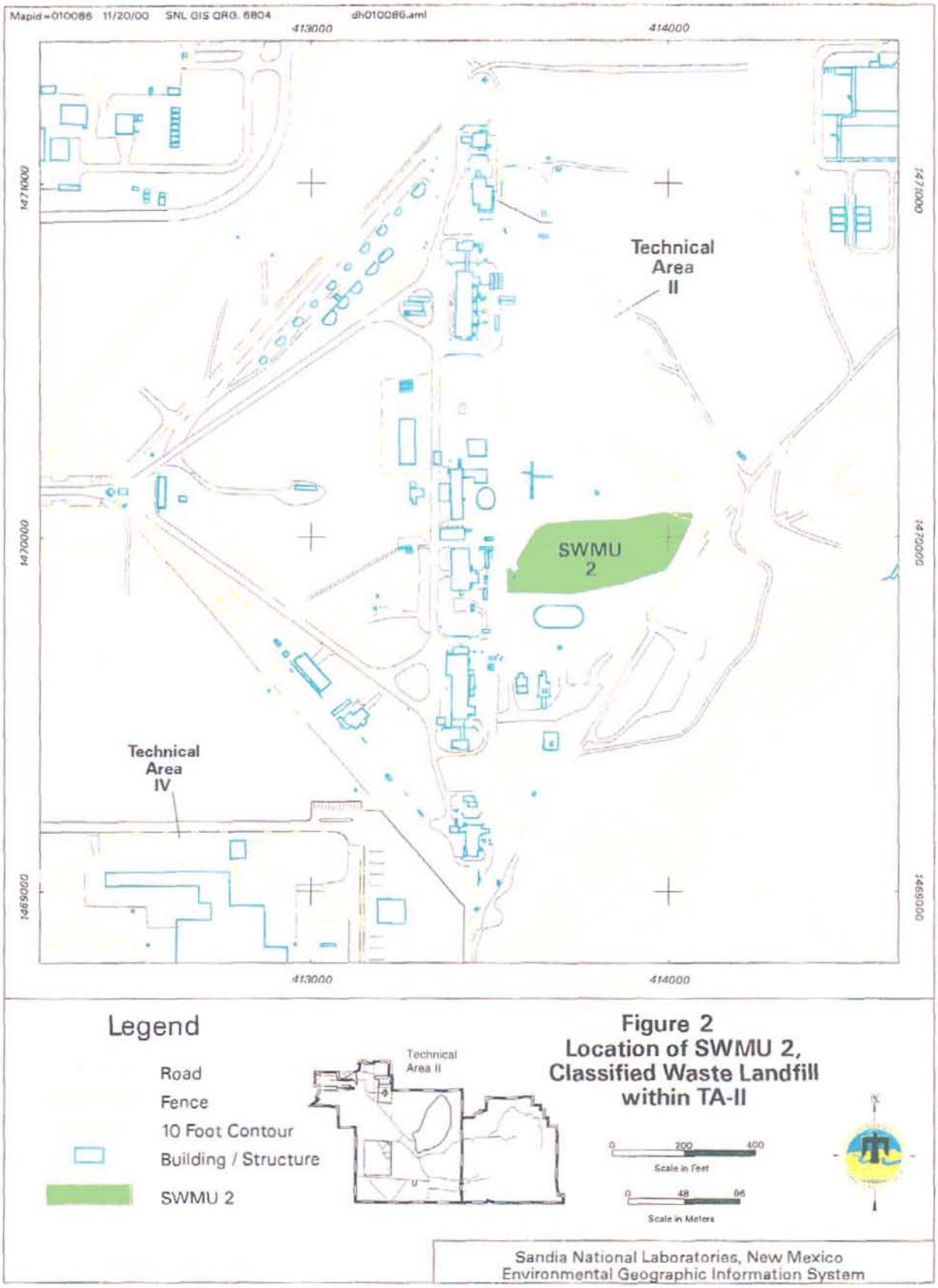

Figure 2
Location of SWMU 2, Classified Waste Landfill within TA-II

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 3. SWMU 2 and Tijeras Arroyo, looking North

Figure 4
Aerial View to the West of Partially Backfilled Trench at SWMU 2,
Classified Waste Landfill

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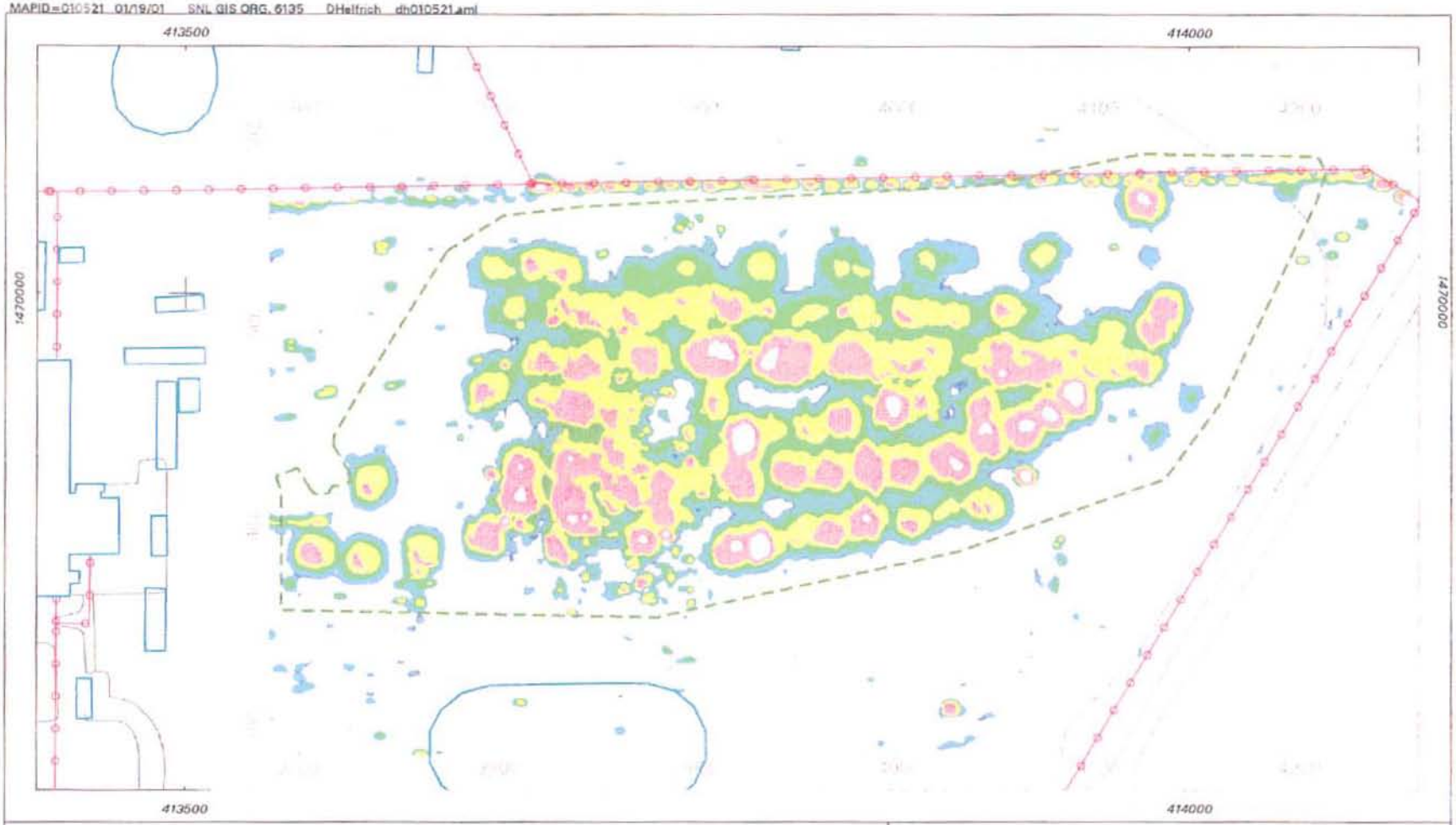


Legend

- Unpaved Road / Parking
- Fence
- Building / Structure
- SWMU 2 Boundary

0 40 80
Scale in Feet

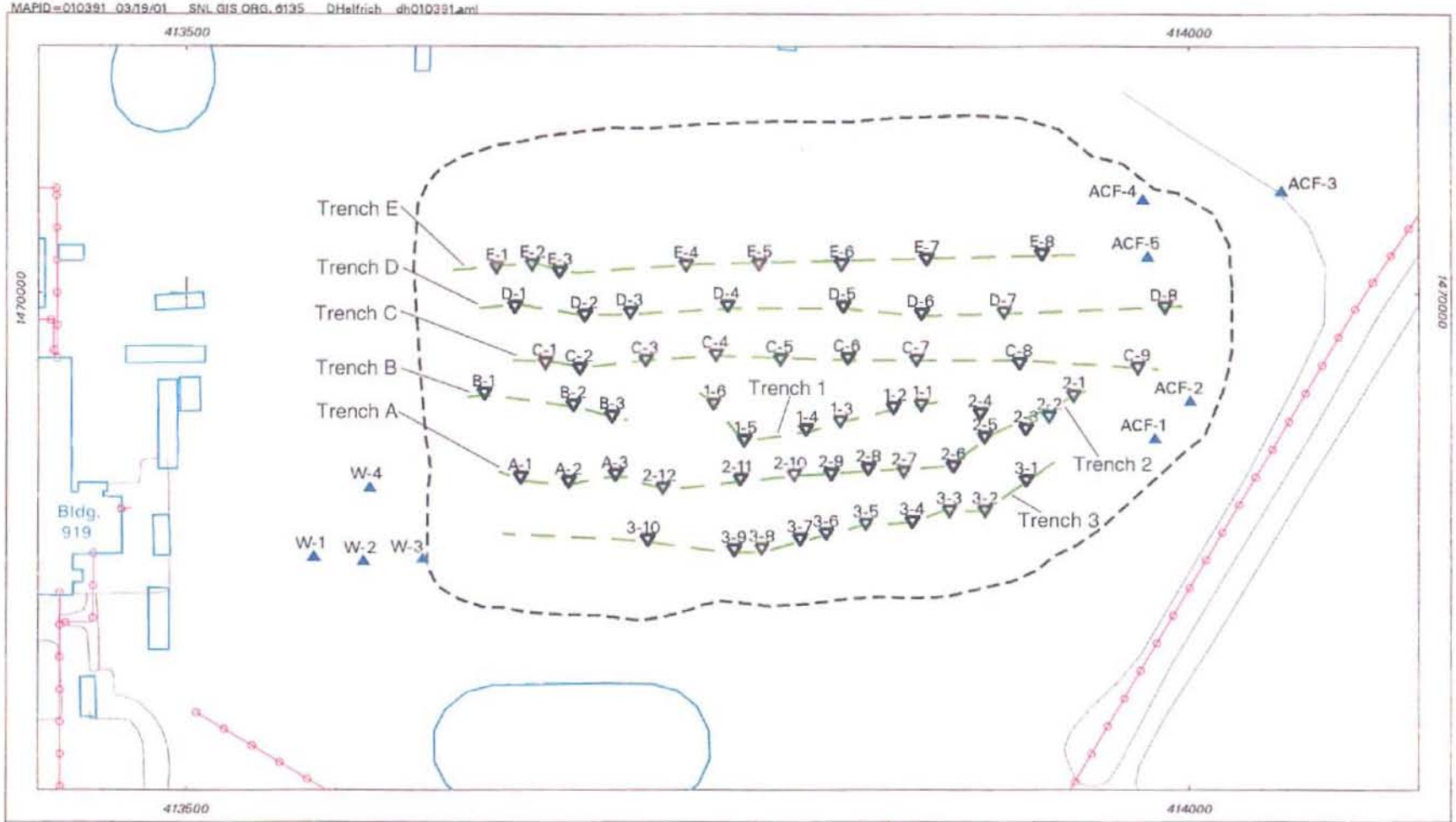
0 9.6 19.2
Scale in Meters

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Figure 5
SWMU 2 Boundary Established Using the Burial Pits and Trenches Located with Geophysics

Figure 6 SWMU 2 During the VCM Excavation, View to Southwest.

MAPID=010391 03/19/01 SNL GIS ORG. 6135 DHelfrich dh010391.aml



Legend

- 3-1 / W-4 — Disposal Cell within Excavated Trench / Individually Excavated Burial Pits
- Excavation Limit
- Approximate Trench Location
- Fence
- Building / Structure
- Unpaved Road / Walkway

0 40 80
Scale in Feet

0 9.6 19.2
Scale in Meters

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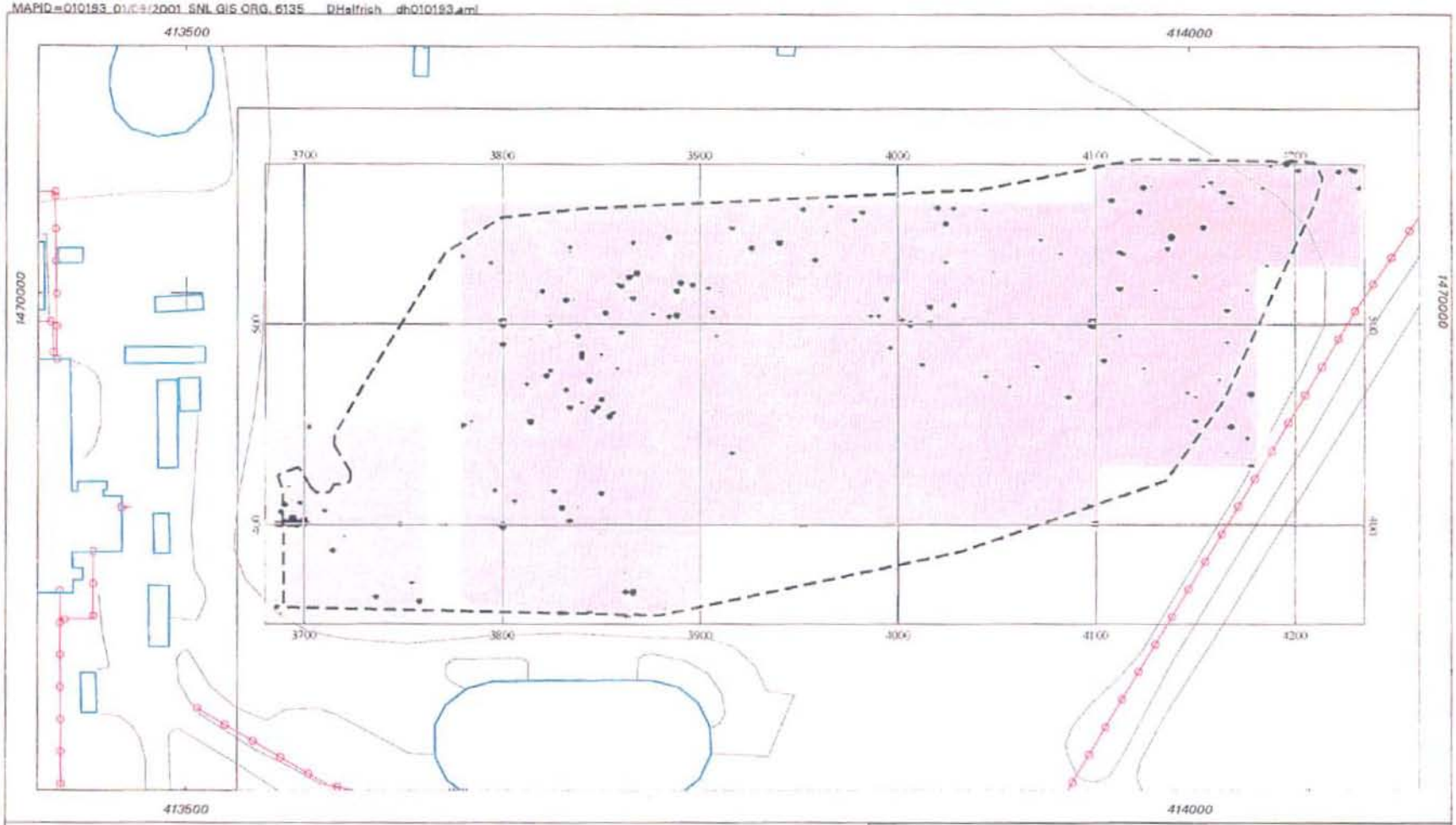
Figure 7
Location of Trenches and Pits within SWMU 2, Classified Waste Landfill

MAPID=010193_01/09/2001_SNL GIS ORG. 6135 DHalfrich dh010193.aml



Legend

- Road / Parking
- Fence
- Building / Structure
- SWMU 2 Boundary

0 40 80
Scale in Feet

0 6.6 19.2
Scale in Meters

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Figure 8
Final Electromagnetic (EM-61) Verification Survey in VCM Excavation, SWMU 2 July-August, 2000

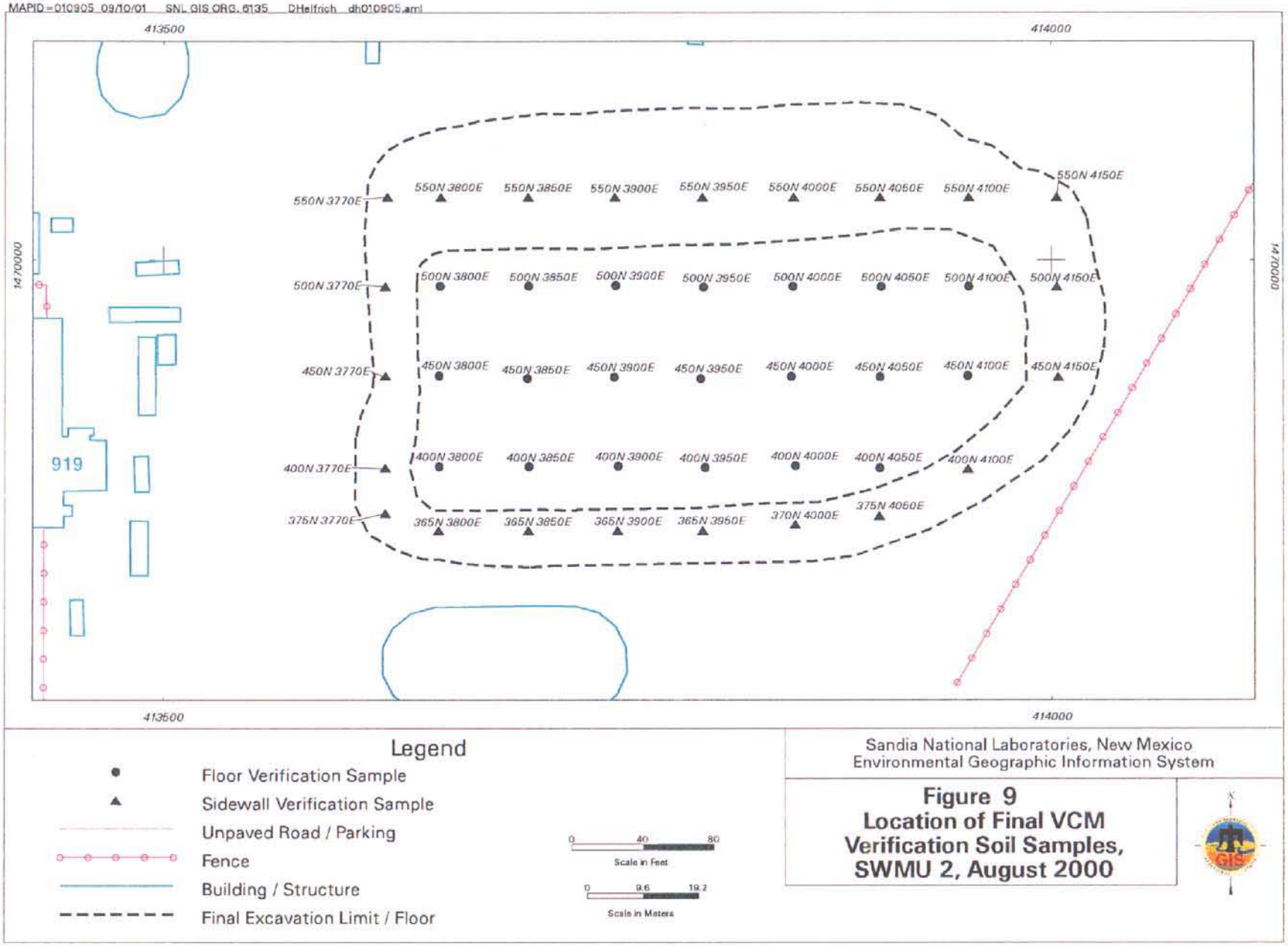
MAPID=010905_09/10/01 SNL GIS ORG. 6135 DHelfrich dh010905.aml
413500
414000
1470000
550N 3770E
550N 3800E
550N 3850E
550N 3900E
550N 3950E
550N 4000E
550N 4050E
550N 4100E
550N 4150E
500N 3770E
500N 3800E
500N 3850E
500N 3900E
500N 3950E
500N 4000E
500N 4050E
500N 4100E
500N 4150E
450N 3770E
450N 3800E
450N 3850E
450N 3900E
450N 3950E
450N 4000E
450N 4050E
450N 4100E
450N 4150E
400N 3770E
400N 3800E
400N 3850E
400N 3900E
400N 3950E
400N 4000E
400N 4050E
400N 4100E
375N 3770E
375N 4050E
365N 3800E
365N 3850E
365N 3900E
365N 3950E
370N 4000E
919
Legend
Floor Verification Sample
Sidewall Verification Sample
Unpaved Road / Parking
Fence
Building / Structure
Final Excavation Limit / Floor
0 40 80
Scale in Feet
0 9.6 19.2
Scale in Meters
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Figure 9
Location of Final VCM
Verification Soil Samples,
SWMU 2, August 2000
GIS

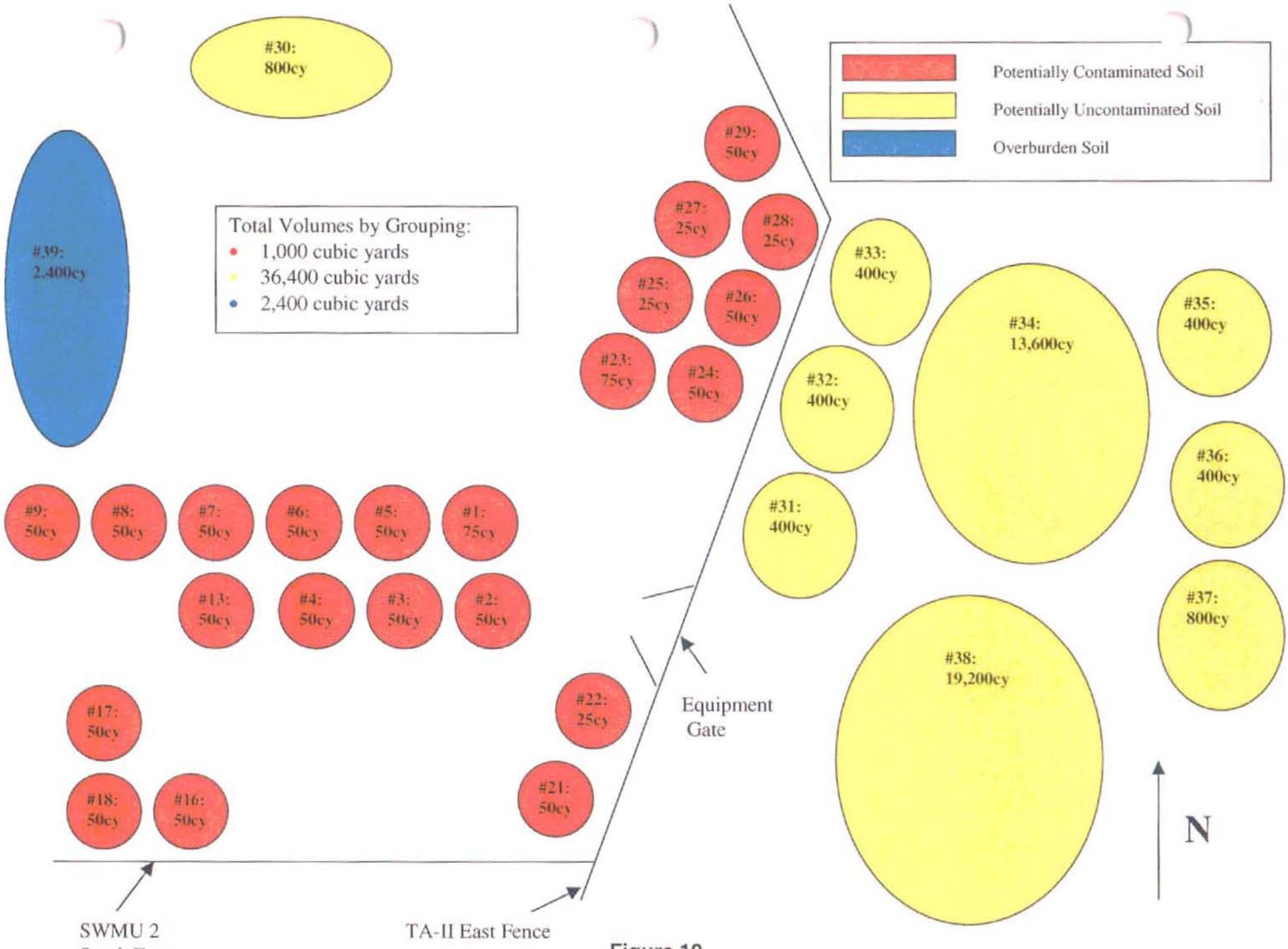
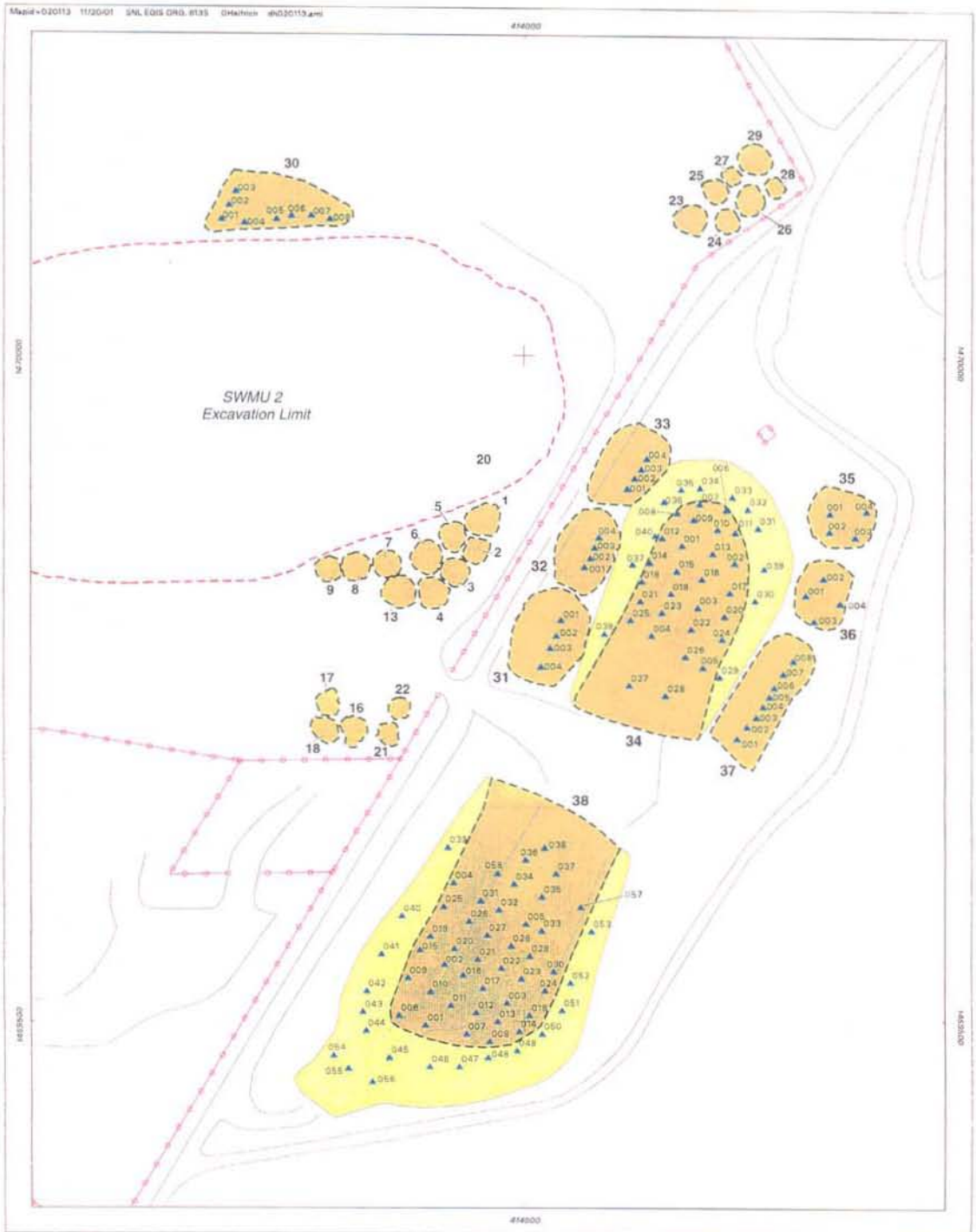


Figure 10
Sketch of SWMU 2 Soil Piles and Approximate Volumes



Legend

- ▲004 — Soil Pile Sample Location and Identification
- Unpaved Road
- Fence / TA-II
- Excavation Limit
- 18 — Soil Pile and Identification
- Pile Slope

Figure 11
SWMU 2
Soil Pile
Sample Locations

0 80 160
Scale in Feet
0 20 40
Scale in Meters

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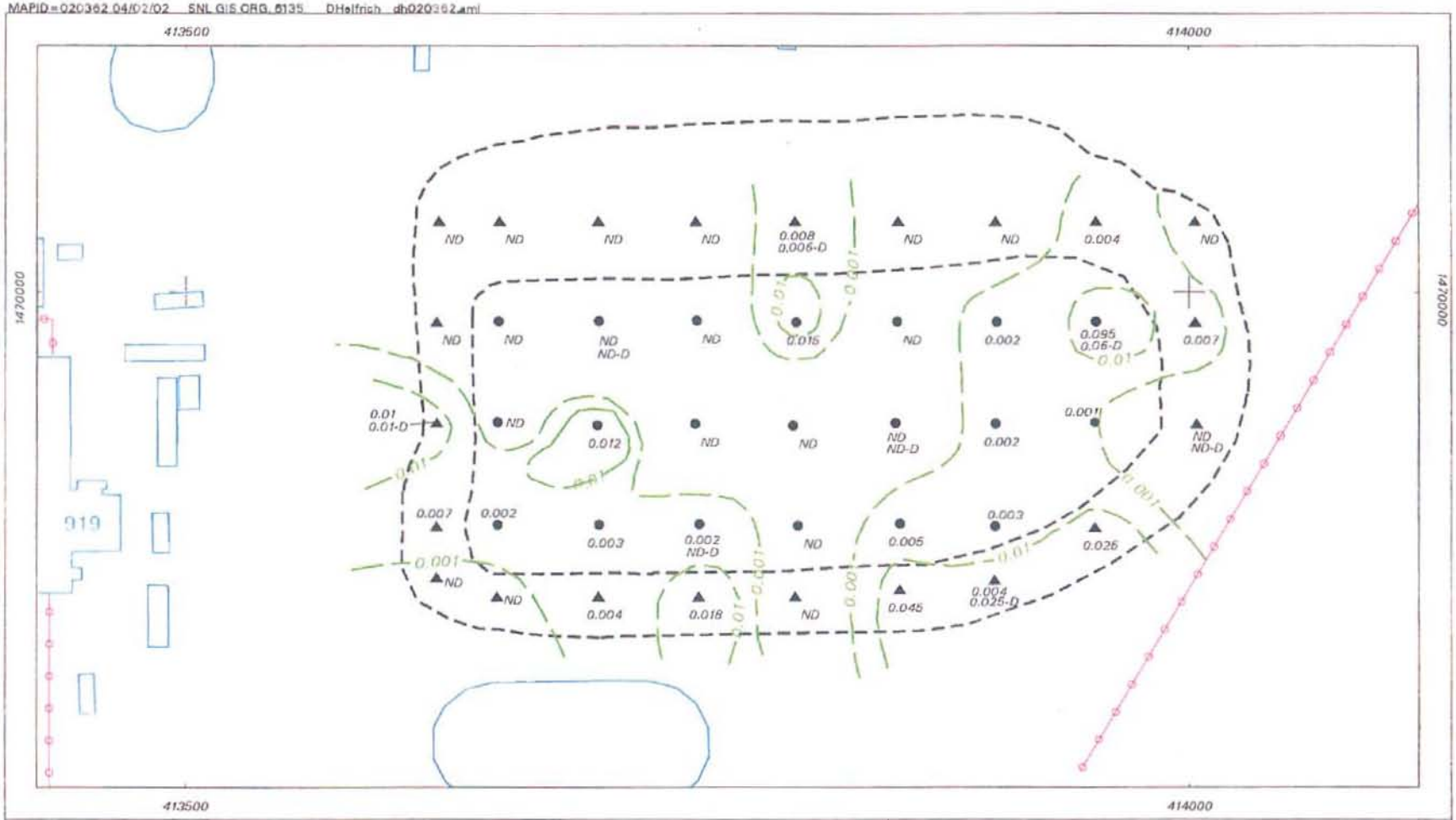
MAPID=020362 04/02/02 SNL GIS ORG. 6135 DHelfrich dh020362.aml



Legend

- Floor Verification Sample
- Sidewall Verification Sample
- Isoconcentration Contour (Total PCBs in mg/kg)
- Fence
- Building / Structure
- Final Excavation Limit / Floor

0 40 80
Scale in Feet

0 6.6 19.2
Scale in Meters

ND = Not Detected
D = Duplicate Sample

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Figure 12
Isoconcentration Plot for Total PCBs in VCM Excavation Soil Samples, Oct.-Nov. 2001

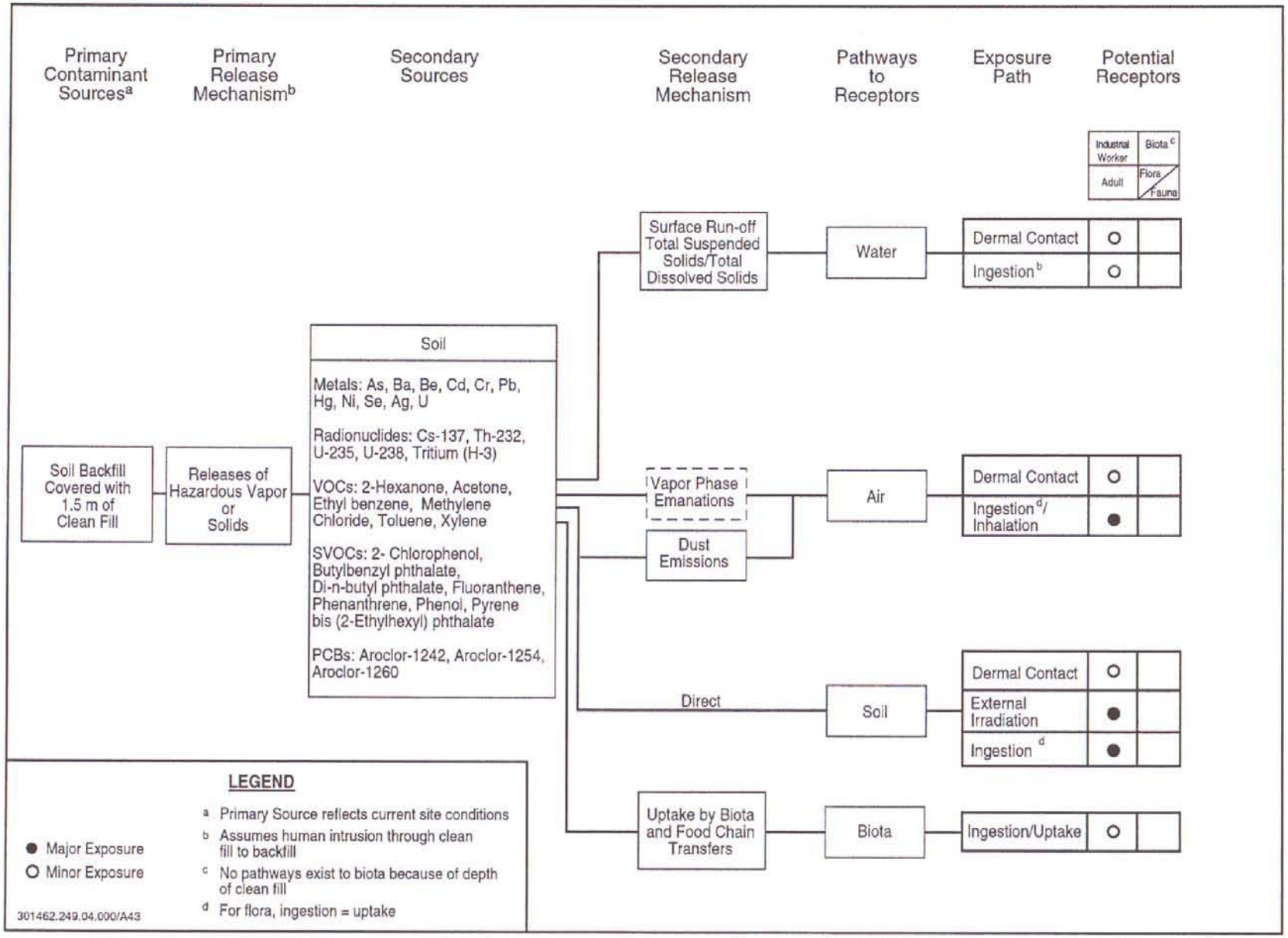

Figure 13

Conceptual Model Flow Diagram for SWMU 2, Classified Waste Landfill

Legend

- Verification Sample Location
- Verification Sample Grid
- Unpaved Road
- Fence / TA-II
- Excavation Limit
- Pile Slope
- Soil Pile

Figure 14
Verification Soil Sample Locations
Following Soil Pile Removal

0 80 160
Scale in Feet

0 20 40
Scale in Meters

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TABLES

Table 1
Identification Scheme for SWMU 2 Samples[a]

Explanation	Sample Location		Sample Details		Sample Type	
	Acronym	Explanation	Acronym	Explanation	Acronym	Explanation
TA2-2 = Technical Area 2, SWMU 2	ACF*4*	American Car Foundry Pit *4*	*C6*-BIN	Sample of soil scraped into a bin from artifacts found in disposal cell *C6*	D, DU, DUP	Duplicate sample
	BORROW	Soil sample from borrow area (used as backfill)	N, S, E, W	Sample locations on LAY-DOWN-BIN or PIT-BURM-MIX referenced to compass directions	EB*4*	Equipment blank *4*
	COBL-GRIZ	Sample of soil remaining after cobbles had been processed through screen plant	*001*-SL*04*	Sample *1* for Soil Lot 4	S, SA	Soil sample
	CYLI-NDER-BRM	Soil sample from berm around gas cylinder storage area	*500*N-*3800*E	Northing and easting coordinates for confirmatory samples collected from VCM excavation floor or sidewall	TB	Trip blank
	EAST-FNCE	Sample of overburden soil near the TA-2 east gate	*0.5, 12, 18, 7.0-8.0*	Sample depth below grade. Applicable to ACF, Western Pit, VCM excavation, and Soil Pile samples.		

Refer to footnotes at end of table.

Table 1 (Continued)
Identification Scheme for SWMU 2 Samples[a]

Explanation	Sample Location		Sample Details		Sample Type	
	Acronym	Explanation	Acronym	Explanation	Acronym	Explanation
TA2-2 = Technical Area 2, SWMU 2	FILL-DIRT	Sample collected between disposal cells 1 and 2 in Trench A	003	Soil Pile sample location; may also have a depth interval following location		
	FINAL-FLR	Confirmation sample from excavation floor				
	FINAL-SDW	Confirmation sample from excavation sidewall				
	4LAY-DOWN-BIN	Sample *4* from lay-down pad or bin				
	OVER	Overburden soil sample				
	OV*TE*	Overburden soil from *Trench E*				
	OVW*4*	Overburden soil from *Western Pit 4*				
	PIT-BURM-MIX	Composite soil sample made by scraping pit bottom and excavation berm				
	21-PCS-001	Potentially Contaminated Soil Pile *21*, *Location 1*				
	34-PUCS-018	Potentially Uncontaminated Soil Pile *34*, *Location 18*				
	PW*3*	Western Pit *3*				

Refer to footnotes at end of table.

Table 1 (Concluded)
Identification Scheme for SWMU 2 Samples[a]

Explanation	Sample Location		Sample Details		Sample Type	
	Acronym	Explanation	Acronym	Explanation	Acronym	Explanation
TA2-2 = Technical Area 2, SWMU 2	PTW*4*	Western Pit *4*				
	P*456*	Composite soil sample from Pits *4, 5, and 6*				
	SLPE	Overburden soil from a graded slope excavated over Trench E				
	TR*E*	Trench *E*				
	TR*1*-P*6*	Trench *1*, Pit (disposal cell) *6*				
	TR*3*-P*2/3*	Composite soil sample from Trench *3*-Pits *2 and 3*				

[a]Samples were identified using the following formatting scheme: **TA2-2-(Sample Location)-(Sample Details)-(Sample Type)**. The acronyms used for specific sample locations, details, and types are shown in this table. Note: Italicized letters and numbers are for illustration purposes and may vary for actual samples.

ACF = American Car & Foundry.
SWMU = Solid Waste Management Unit.
TA = Technical Area.
VCM = Voluntary Corrective Measure.

Table 2
Summary of COCs Detected in SWMU 2 Soil Samples

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Metals	356	Arsenic	4.4	8.3	2.94	TA2-2-TRB3-SL16-000-S TA2-2-2LAY-DOWN-BIN-S TA2-2-3LAY-DOWN-BIN-N TA2-2-BORROW-1 TA2-2-BORROW-2 TA2-2-PTW3-0001-12-S TA2-2-PTW4-0001-15-S TA2-2-FINAL-SDW-550N-4150E-1.0
	368	Barium	200	8,100	253.21	134 samples
		Beryllium	0.80	4.20	0.44	TA2-2-TRC8-C/F-BIN-S TA2-2-TRD8-C/F-BIN-S TA2-2-3LAY-DOWN-BIN-S TA2-2-3LAY-DOWN-BIN-W TA2-2-8LAY-DOWN-BIN-WDU TA2-2-9LAY-DOWN-BIN-E
		Cadmium	0.9	740	13.13	201 samples
		Chromium	12.8	460	14.80	104 samples
		Lead	11.2	620	20.28	94 samples
		Mercury	<0.1	180	1.94	200 samples
		Nickel	25.4	400	16.16	15 samples
	354	Selenium	<1	250	1.38	29 samples
	355	Silver	<1	110	1.52	61 samples
	318	Uranium	2.3	4.50	1.11	TA2-2-TRA1-SL01-000-S TA2-2-3LAY-DOWN-BIN-E TA2-2-8LAY-DOWN-BIN-W TA2-2-9LAY-DOWN-BIN-E

Refer to footnotes at end of table.

Table 2 (Continued)
Summary of COCs Detected in SWMU 2 Soil Samples

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Volatile Organic Compounds	171	2-Hexanone	NA	14 J µg/kg	30.2 µg/kg	TA2-2-PW12-0001-SL8-S TA2-2-SLPE-SL16-000-S
		Acetone	NA	19 µg/kg	16.8 µg/kg	TA2-2-ACF2-0001-15-S TA2-2-PTW1-0001-10-S TA2-2-PW12-0001-SL7-S TA2-2-PW12-0001-SL8-S TA2-2-PTW2-0001-12-S TA2-2-PTW3-0001-12-S TA2-2-PTW3-0001-SL4-S TA2-2-SLPE-0001-SL9-S 11 soil pile samples
		Ethyl benzene	NA	4.3 J µg/kg	6.2 µg/kg	TA2-2-ACF2-0001-SL4-S
		Methylene chloride	NA	7.3 µg/kg	3.6 µg/kg	TA2-2-ACF-2-001-15-S TA2-2-PTW1-0001-10-S TA2-2-TRE6-SL09-000-S TA2-2-TR2-EAST-FNCE-002-S TA2-2-TR2-P12A-SL6-DU TA2-2-TR2-P12A-SL6-S
		Toluene	NA	1 J µg/kg	3.2 µg/kg	TA2-2-ACF3-0001-12-S
	127	o-Xylene	NA	14 µg/kg	7.0 µg/kg	TA2-2-PW12-0001-SL8-S TA2-2-ACF2-0001-SL4-S
		p-, m-Xylenes	NA	21 µg/kg	10.9 µg/kg	TA2-2-PW12-0001-SL8-S TA2-2-ACF2-0001-SL4-S

Refer to footnotes at end of table.

Table 2 (Continued)
Summary of COCs Detected in SWMU 2 Soil Samples

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Semivolatile Organic Compounds	49	2-Chlorophenol	NA	0.01 J	0.035	TA2-2-38-PUCS-003-DU
		Butylbenzyl Phthalate	NA	0.243 J	0.042	TA2-2-16-PCS-001-S TA2-2-21-PCS-001-S
		Di-n-butylphthalate	NA	0.168 J	0.053	TA2-2-2-PCS-001-S TA2-2-7-PCS-001-S TA2-2-9-PCS-001-S TA2-2-21-PCS-001-S TA2-2-23-PCS-001-S TA2-2-26-PCS-001-DU
		Diphenylamine	NA	0.0809 J	0.045	TA2-2-1-PCS-001-S TA2-2-4-PCS-001-S
		Fluoranthene	NA	0.0203 J	0.034	TA2-2-2-PCS-001-S TA2-2-3-PCS-001-S TA2-2-21-PCS-001-S TA2-2-26-PCS-001-DU TA2-2-29-PCS-001-S TA2-2-38-PUCS-003-DU
		Phenanthrene	NA	0.0213 J	0.035	TA2-2-26-PCS-001-DU TA2-2-29-PCS-001-S TA2-2-38-PUCS-003-DU
		Phenol	NA	0.0122 J	0.034	TA2-2-36-PUCS-001-S

Refer to footnotes at end of table.

Table 2 (Continued)
Summary of COCs Detected in SWMU 2 Soil Samples

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Semivolatile Organic Compounds (cont.)	49	Pyrene	NA	0.0234 J	0.038	TA2-2-26-PCS-001-DU TA2-2-29-PCS-001-S
		bis(2-Ethylhexyl) phthalate	NA	0.251 J	0.077	TA2-2-TRE6-SL09-000-S 14 Soil pile samples
Polychlorinated Biphenyls	493	Aroclor-1242	NA	0.157	0.00167	111 Soil pile samples 4 VCM excavation samples
		Aroclor-1254	NA	5.58	0.113	421 Soil pile samples 25 VCM excavation samples
		Aroclor-1260	NA	0.224	0.0014	204 Soil pile samples 8 VCM excavation samples
High Explosives	10	None	NA	NA	NA	None
Radionuclides	453	Uranium-235	0.18 pCi/g	3.28 pCi/g	Not calculated[e]	17 samples
		Uranium-238	1.3 pCi/g	208 pCi/g	Not calculated[e]	TA2-2-TRE1-0001-000-S TA2-2-TRE1-SL06-000-S TA2-2-TRE1-SL-13-000-S TA2-2-TRE2-SL07-000-S TA2-2-TRE3-SL07-000-S TA2-2-TRD3-SL03-000-S TA2-2-TRD3-SL06-000-S TA2-2-TRC9-C/F-BIN-S TA2-2-TRB3-SL-16-000-S TA2-2-P191-5C/F-BIN-S

Refer to footnotes at end of table.

Table 2 (Concluded)
Summary of COCs Detected in SWMU 2 Soil Samples

COC Type	Number of Samples[a]	COCs Greater than Background	Maximum Background Limit/North Area Super Group[b] (mg/kg except where noted)	Maximum Concentration (mg/kg except where noted)	Average Concentration[c] (mg/kg except where noted)	Sampling Locations Where Background Concentration Exceeded[d]
Radionuclides (cont.)	453	Thorium-232	1.54 pCi/g	3.58 pCi/g	Not calculated[e]	TA2-2-TRA2-SL02-000-S
		Cesium-137	0.084 pCi/g	0.247 pCi/g	Not calculated[e]	TA2-2-TRC8-SL17-000-S TA2-2-TRC7-C6-BIN-S TA2-2-P298-C/F-BIN-S
	153	Gross Alpha	17.4 pCi/g	ND	Not calculated[e]	None
	153	Gross Beta	35.4 pCi/g	15.7	Not calculated[e]	None
	373	Tritium	420 pCi/L[f]	1,718,000 pCi/L	Not calculated[e]	310 samples

[a]Number of samples includes duplicates and splits.
[b]From Dinwiddie September 1997.
[c]Average concentration includes all samples. For nondetect results, the MDL is used to calculate the average.
[d]Includes samples with nondetect results where the MDA or MDL exceeds the approved background limit. Sample identification scheme is provided in Table 1.
[e]An average MDA is not calculated because of the variability in instrument counting error and the number of reported nondetect activities.
[f]From Tharp February 1999.
COC = Constituent of concern.
J = The reported value is greater than or equal to the MDL but is less than the practical quantitation limit.
MDA = Minimum detectable activity.
MDL = Method detection limit.
µg/kg = Microgram(s) per kilogram.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.

Table 3
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
Potentially Contaminated Soil Piles						
604548	TA2-2-**001**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**002**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**003**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**004**-PCS-001-S	06/18/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604548	TA2-2-**004**-PCS-001-DU	06/18/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604548	TA2-2-**005**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**006**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**007**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**008**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**009**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**009**-PCS-001-DU	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
604548	TA2-2-**013**-PCS-001-S	06/18/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165)
604550	TA2-2-**016**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**017**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**018**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**021**-PCS-001-S	06/19/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165)
604550	TA2-2-**022**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**023**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	**0.014**
604550	TA2-2-**023**-PCS-001-DU	06/19/01	NA	NA	NA	NA
604550	TA2-2-**024**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**025**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	**0.0917**
604550	TA2-2-**026**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**026**-PCS-001-DU	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**027**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	**0.0394 J**
604550	TA2-2-**028**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604550	TA2-2-**029**-PCS-001-S	06/19/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
Potentially Uncontaminated Soil Piles						
605042	TA2-2-**030**-PUCS-001	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**030**-PUCS-002	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605042	TA2-2-**030**-PUCS-003	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**030**-PUCS-004	10/25/01	ND (0.00158)	ND (0.00564)	ND (0.00145)	**0.0292 J**
605042	TA2-2-**030**-PUCS-005	10/25/01	ND (0.00158)	ND (0.00564)	ND (0.00145)	**0.0336 J**
605042	TA2-2-**030**-PUCS-006	10/25/01	ND (0.00158)	ND (0.00564)	ND (0.00145)	R
605042	TA2-2-**030**-PUCS-007	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**030**-PUCS-008	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0180 J**
605042	TA2-2-**030**-PUCS-008-D	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**031**-PUCS-001	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**031**-PUCS-002	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**031**-PUCS-003	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**031**-PUCS-004	10/25/01	ND (0.00158)	ND (0.00564)	ND (0.00145)	ND (0.00334)
605044	TA2-2-**032**-PUCS-001	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**032**-PUCS-002	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**032**-PUCS-003	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**032**-PUCS-004	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**033**-PUCS-001-S	06/20/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
605044	TA2-2-**033**-PUCS-001	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**033**-PUCS-002	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**033**-PUCS-003	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**033**-PUCS-004	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**033**-PUCS-004-D	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**034**-PUCS-001-S	06/20/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
605083	TA2-2-**034**-PUCS-001-1.0-2.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605083	TA2-2-**034**-PUCS-001-4.0-5.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00270 J**
605083	TA2-2-**034**-PUCS-001-7.0-8.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00300 J**
605083	TA2-2-**034**-PUCS-001-10.0-11.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605083	TA2-2-**034**-PUCS-001-10.0-11.0-D	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**034**-PUCS-002-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604554	TA2-2-**034**-PUCS-002-DU	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605082	TA2-2-**034**-PUCS-002-1.0-2.0	11/05/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605082	TA2-2-**034**-PUCS-002-4.0-5.0	11/05/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605082	TA2-2-**034**-PUCS-002-7.0-8.0	11/05/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605082	TA2-2-**034**-PUCS-002-10.0-11.0	11/05/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
604554	TA2-2-**034**-PUCS-003-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
605046	TA2-2-**034**-PUCS-003-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-003-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-003-4.0-5.0-D	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-003-7.0-8.0	11/01/01	ND (0.0790)	ND (0.282)	ND (0.0727)	ND (0.167)
605046	TA2-2-**034**-PUCS-003-10.0-11.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00500**
604554	TA2-2-**034**-PUCS-004-S	06/20/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
605045	TA2-2-**034**-PUCS-004-3.0-4.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-004-6.0-7.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**034**-PUCS-005-S	06/20/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
605045	TA2-2-**034**-PUCS-005-3.0-4.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-005-5.0-6.0	10/30/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605085	TA2-2-**034**-PUCS-006-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-006-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00550**
605085	TA2-2-**034**-PUCS-006-12.0-13.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00300 J**
605085	TA2-2-**034**-PUCS-006-17.0-18.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00460**
605085	TA2-2-**034**-PUCS-007-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-007-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-007-7.0-8.0-D	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-007-12.0-13.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-007-17.0-18.0	11/06/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605083	TA2-2-**034**-PUCS-008-2.0-3.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0052 J**
605083	TA2-2-**034**-PUCS-008-7.0-8.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0053 J**
605083	TA2-2-**034**-PUCS-008-7.0-8.0-D	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0051 J**
605083	TA2-2-**034**-PUCS-008-12.0-13.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0040 J**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605083	TA2-2-**034**-PUCS-008-17.0-18.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0048 J**
605084	TA2-2-**034**-PUCS-009-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-009-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-009-12.0-13.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-009-17.0-18.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-010-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-010-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0154**
605084	TA2-2-**034**-PUCS-010-12.0-13.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00800 J**
605084	TA2-2-**034**-PUCS-010-17.0-18.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0139 J**
605084	TA2-2-**034**-PUCS-010-17.0-18.0-D	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0215 J**
605084	TA2-2-**034**-PUCS-011-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-011-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00920**
605085	TA2-2-**034**-PUCS-011-12.0-13.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00270 J**
605085	TA2-2-**034**-PUCS-011-17.0-18.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00290 J**
605083	TA2-2-**034**-PUCS-012-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605083	TA2-2-**034**-PUCS-012-4.0-5.0	11/01/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605083	TA2-2-**034**-PUCS-012-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605083	TA2-2-**034**-PUCS-012-10.0-11.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-013-1.0-2.0	11/05/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605082	TA2-2-**034**-PUCS-013-4.0-5.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605083	TA2-2-**034**-PUCS-013-7.0-8.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605083	TA2-2-**034**-PUCS-013-10.0-11.0	11/01/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605047	TA2-2-**034**-PUCS-014-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-014-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-014-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-014-10.0-11.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-014-10.0-11.0-D	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-015-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-015-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605047	TA2-2-**034**-PUCS-015-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-015-10.0-11.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-016-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-016-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-016-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-016-10.0-11.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-017-1.0-2.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-017-4.0-5.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-017-4.0-5.0-D	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-017-7.0-8.0	11/05/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605082	TA2-2-**034**-PUCS-017-10.0-11.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00590**
605047	TA2-2-**034**-PUCS-018-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-018-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-018-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-018-10.0-11.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-019-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-019-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-019-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-019-10.0-11.0	11/01/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605046	TA2-2-**034**-PUCS-020-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-020-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-020-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-020-10.0-11.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-021-3.0-4.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-021-3.0-4.0-D	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-021-6.0-7.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-022-3.0-4.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-022-6.0-7.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-023-3.0-4.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605046	TA2-2-**034**-PUCS-023-6.0-7.0	11/01/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605046	TA2-2-**034**-PUCS-024-3.0-4.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-024-6.0-7.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605046	TA2-2-**034**-PUCS-024-6.0-7.0-D	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-025-3.0-4.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-025-6.0-7.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-026-3.0-4.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-026-6.0-7.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-026-6.0-7.0-D	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**034**-PUCS-027-0.0-1.0	10/30/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605044	TA2-2-**034**-PUCS-027-2.0-3.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-028-0.0-1.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-028-2.0-3.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-029-0.0-1.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-029-2.0-3.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-030-1.0-2.0	11/05/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605082	TA2-2-**034**-PUCS-030-4.0-5.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-030-7.0-8.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00360**
605082	TA2-2-**034**-PUCS-030-10.0-11.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-031-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00230 J**
605085	TA2-2-**034**-PUCS-031-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-031-12.0-13.0	11/06/01	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)
605085	TA2-2-**034**-PUCS-031-17.0-18.0	11/06/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605085	TA2-2-**034**-PUCS-032-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-032-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-032-12.0-13.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-032-17.0-18.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605085	TA2-2-**034**-PUCS-032-17.0-18.0-D	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605086	TA2-2-**034**-PUCS-033-2.0-3.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605086	TA2-2-**034**-PUCS-033-7.0-8.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	R
605086	TA2-2-**034**-PUCS-033-12.0-13.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-033-17.0-18.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-034-2.0-3.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-034-7.0-8.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-034-12.0-13.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-034-17.0-18.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-035-2.0-3.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-035-7.0-8.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-035-7.0-8.0-D	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-035-12.0-13.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**034**-PUCS-035-17.0-18.0	11/08/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605084	TA2-2-**034**-PUCS-036-2.0-3.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-036-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-036-12.0-13.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-036-17.0-18.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-037-1.0-2.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-037-4.0-5.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-037-7.0-8.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605047	TA2-2-**034**-PUCS-037-10.0-11.0	11/01/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-038-0.0-1.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-038-0.0-1.0-D	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605045	TA2-2-**034**-PUCS-038-2.0-3.0	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605082	TA2-2-**034**-PUCS-039-1.0-2.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00470**
605082	TA2-2-**034**-PUCS-039-4.0-5.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00280 J**
605082	TA2-2-**034**-PUCS-039-7.0-8.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00590**
605082	TA2-2-**034**-PUCS-039-10.0-11.0	11/05/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-040-1.0-2.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-040-4.0-5.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605084	TA2-2-**034**-PUCS-040-7.0-8.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-040-10.0-11.0	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605084	TA2-2-**034**-PUCS-040-10.0-11.0-D	11/06/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**035**-PUCS-001-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
605043	TA2-2-**035**-PUCS-001	10/25/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0531 J**
605043	TA2-2-**035**-PUCS-002	10/25/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0152 J**
605043	TA2-2-**035**-PUCS-003	10/25/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	**0.00940 JH**
605043	TA2-2-**035**-PUCS-004	10/25/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605043	TA2-2-**035**-PUCS-004-D	10/25/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0195 J**
604554	TA2-2-**036**-PUCS-001-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
605043	TA2-2-**036**-PUCS-001	10/25/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0516 J**
605043	TA2-2-**036**-PUCS-002	10/25/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	**0.118 J**
605043	TA2-2-**036**-PUCS-003	10/25/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	R
605043	TA2-2-**036**-PUCS-004	10/25/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	R
605044	TA2-2-**037**-PUCS-001	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**037**-PUCS-002	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**037**-PUCS-003	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**037**-PUCS-004	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**037**-PUCS-005	10/30/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605044	TA2-2-**037**-PUCS-006	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**037**-PUCS-007	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**037**-PUCS-008	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605044	TA2-2-**037**-PUCS-008-D	10/30/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**038**-PUCS-001-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
605101	TA2-2-**038**-PUCS-001-2.0-3.0	11/19/01	ND (0.00158 JH)	ND (0.00564 JH)	ND (0.00145 JH)	**0.0191 JH**
605101	TA2-2-**038**-PUCS-001-7.0-8.0	11/19/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605102	TA2-2-**038**-PUCS-001-12.0-13.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605102	TA2-2-**038**-PUCS-001-12.0-13.0-D	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605102	TA2-2-**038**-PUCS-001-17.0-18.0	11/19/01	ND (0.00158)	ND (0.00564)	ND (0.00145)	ND (0.00334)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
604554	TA2-2-**038**-PUCS-002-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
605091	TA2-2-**038**-PUCS-002-2.0-3.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605099	TA2-2-**038**-PUCS-002-7.0-8.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605099	TA2-2-**038**-PUCS-002-12.0-13.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605099	TA2-2-**038**-PUCS-002-12.0-13.0-D	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605099	TA2-2-**038**-PUCS-002-17.0-18.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**038**-PUCS-003-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
604554	TA2-2-**038**-PUCS-003-DU	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
605091	TA2-2-**038**-PUCS-003-2.0-3.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-003-7.0-8.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-003-12.0-13.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-003-17.0-18.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
604554	TA2-2-**038**-PUCS-004-S	06/20/01	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)
605087	TA2-2-**038**-PUCS-004-1.0-2.0	11/08/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.157**
605087	TA2-2-**038**-PUCS-004-1.0-2.0-D	11/08/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.113**
605087	TA2-2-**038**-PUCS-004-4.0-5.0	11/08/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605087	TA2-2-**038**-PUCS-004-7.0-8.0	11/08/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605087	TA2-2-**038**-PUCS-004-10.0-11.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
604554	TA2-2-**038**-PUCS-005-S	06/20/01	ND (0.000782 J)	ND (0.00279 J)	ND (0.000719 J)	ND (0.00165 J)
605088	TA2-2-**038**-PUCS-005-1.0-2.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0115**
605088	TA2-2-**038**-PUCS-005-4.0-5.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-005-7.0-8.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605088	TA2-2-**038**-PUCS-005-7.0-8.0-D	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605088	TA2-2-**038**-PUCS-005-10.0-11.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605102	TA2-2-**038**-PUCS-006-2.0-3.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605102	TA2-2-**038**-PUCS-006-7.0-8.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00323 J**
605102	TA2-2-**038**-PUCS-006-12.0-13.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00600**
605102	TA2-2-**038**-PUCS-006-17.0-18.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605101	TA2-2-**038**-PUCS-007-2.0-3.0	11/19/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605101	TA2-2-**038**-PUCS-007-7.0-8.0	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0193 J**
605101	TA2-2-**038**-PUCS-007-12.0-13.0	11/19/01	ND (0.00790 JH)	ND (0.0282 JH)	ND (0.00727 JH)	**0.0647 JH**
605101	TA2-2-**038**-PUCS-007-17.0-18.0	11/19/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0467 J**
605101	TA2-2-**038**-PUCS-008-2.0-3.0	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605101	TA2-2-**038**-PUCS-008-2.0-3.0-D	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0249 J**
605101	TA2-2-**038**-PUCS-008-7.0-8.0	11/19/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605101	TA2-2-**038**-PUCS-008-12.0-13.0	11/19/01	ND (0.00158 JH)	ND (0.00564 JH)	ND (0.00145 JH)	**0.0694 JH**
605101	TA2-2-**038**-PUCS-008-17.0-18.0	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0975 J**
605099	TA2-2-**038**-PUCS-009-2.0-3.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0141 J**
605099	TA2-2-**038**-PUCS-009-7.0-8.0	11/15/01	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)
605099	TA2-2-**038**-PUCS-009-12.0-13.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605099	TA2-2-**038**-PUCS-009-17.0-18.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605099	TA2-2-**038**-PUCS-010-2.0-3.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605099	TA2-2-**038**-PUCS-010-7.0-8.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605099	TA2-2-**038**-PUCS-010-12.0-13.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605099	TA2-2-**038**-PUCS-010-17.0-18.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605099	TA2-2-**038**-PUCS-011-2.0-3.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605099	TA2-2-**038**-PUCS-011-7.0-8.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605099	TA2-2-**038**-PUCS-011-12.0-13.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605099	TA2-2-**038**-PUCS-011-12.0-13.0-D	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605100	TA2-2-**038**-PUCS-011-17.0-18.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0593 J**
605100	TA2-2-**038**-PUCS-012-2.0-3.0	11/15/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605100	TA2-2-**038**-PUCS-012-7.0-8.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605100	TA2-2-**038**-PUCS-012-12.0-13.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605100	TA2-2-**038**-PUCS-012-17.0-18.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605101	TA2-2-**038**-PUCS-013-2.0-3.0	11/19/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605101	TA2-2-**038**-PUCS-013-2.0-3.0-D	11/19/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605101	TA2-2-**038**-PUCS-013-7.0-8.0	11/19/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605101	TA2-2-**038**-PUCS-013-12.0-13.0	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0429 J**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605101	TA2-2-**038**-PUCS-013-17.0-18.0	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0305 J**
605101	TA2-2-**038**-PUCS-014-2.0-3.0	11/19/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605101	TA2-2-**038**-PUCS-014-7.0-8.0	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605101	TA2-2-**038**-PUCS-014-12.0-13.0	11/19/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0066 J**
605101	TA2-2-**038**-PUCS-014-17.0-18.0	11/19/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605099	TA2-2-**038**-PUCS-015-2.0-3.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0124 J**
605099	TA2-2-**038**-PUCS-015-7.0-8.0	11/15/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605099	TA2-2-**038**-PUCS-015-12.0-13.0	11/15/01	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)
605099	TA2-2-**038**-PUCS-015-17.0-18.0	11/15/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605091	TA2-2-**038**-PUCS-016-2.0-3.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-016-7.0-8.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0025 J**
605091	TA2-2-**038**-PUCS-016-12.0-13.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-016-17.0-18.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605091	TA2-2-**038**-PUCS-017-2.0-3.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-017-2.0-3.0-D	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-017-7.0-8.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605091	TA2-2-**038**-PUCS-017-12.0-13.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605091	TA2-2-**038**-PUCS-017-17.0-18.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0024 J**
605091	TA2-2-**038**-PUCS-018-2.0-3.0	11/13/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605091	TA2-2-**038**-PUCS-018-7.0-8.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0033 J**
605091	TA2-2-**038**-PUCS-018-12.0-13.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0040 J**
605091	TA2-2-**038**-PUCS-018-17.0-18.0	11/13/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605089	TA2-2-**038**-PUCS-019-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0575 J**
605089	TA2-2-**038**-PUCS-019-4.0-5.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0612 J**
605089	TA2-2-**038**-PUCS-019-7.0-8.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0762 J**
605089	TA2-2-**038**-PUCS-019-7.0-8.0-D	11/12/01	ND (0.0395)	ND (0.141)	ND (0.0363)	ND (0.0835)
605089	TA2-2-**038**-PUCS-019-10.0-11.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605090	TA2-2-**038**-PUCS-020-1.0-2.0	11/13/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605090	TA2-2-**038**-PUCS-020-4.0-5.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605090	TA2-2-**038**-PUCS-020-7.0-8.0	11/13/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00720**
605090	TA2-2-**038**-PUCS-020-10.0-11.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605090	TA2-2-**038**-PUCS-021-1.0-2.0	11/13/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0284 J**
605090	TA2-2-**038**-PUCS-021-1.0-2.0-D	11/13/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0250 J**
605090	TA2-2-**038**-PUCS-021-4.0-5.0	11/13/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605090	TA2-2-**038**-PUCS-021-7.0-8.0	11/13/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605090	TA2-2-**038**-PUCS-021-10.0-11.0	11/13/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605090	TA2-2-**038**-PUCS-022-1.0-2.0	11/13/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0242 J**
605090	TA2-2-**038**-PUCS-022-4.0-5.0	11/13/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605090	TA2-2-**038**-PUCS-022-7.0-8.0	11/13/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605090	TA2-2-**038**-PUCS-022-10.0-11.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0070 J**
605090	TA2-2-**038**-PUCS-023-1.0-2.0	11/13/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605090	TA2-2-**038**-PUCS-023-4.0-5.0	11/13/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605090	TA2-2-**038**-PUCS-023-7.0-8.0	11/13/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605090	TA2-2-**038**-PUCS-023-10.0-11.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605090	TA2-2-**038**-PUCS-024-1.0-2.0	11/13/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605090	TA2-2-**038**-PUCS-024-4.0-5.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605090	TA2-2-**038**-PUCS-024-7.0-8.0	11/13/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00730**
605091	TA2-2-**038**-PUCS-024-7.0-8.0-D	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0024 J**
605091	TA2-2-**038**-PUCS-024-10.0-11.0	11/13/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0085 J**
605089	TA2-2-**038**-PUCS-025-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0414 J**
605089	TA2-2-**038**-PUCS-025-4.0-5.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605089	TA2-2-**038**-PUCS-025-7.0-8.0	11/12/01	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)
605089	TA2-2-**038**-PUCS-025-10.0-11.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605089	TA2-2-**038**-PUCS-026-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0668 J**
605089	TA2-2-**038**-PUCS-026-1.0-2.0-D	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.0570 J**
605089	TA2-2-**038**-PUCS-026-4.0-5.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605089	TA2-2-**038**-PUCS-026-7.0-8.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00640 J**
605089	TA2-2-**038**-PUCS-026-10.0-11.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605089	TA2-2-**038**-PUCS-027-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605089	TA2-2-**038**-PUCS-027-4.0-5.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0131 J**
605089	TA2-2-**038**-PUCS-027-7.0-8.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00910 J**
605089	TA2-2-**038**-PUCS-027-10.0-11.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-028-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-028-4.0-5.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605089	TA2-2-**038**-PUCS-028-7.0-8.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605089	TA2-2-**038**-PUCS-028-10.0-11.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0251 J**
605088	TA2-2-**038**-PUCS-029-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-029-4.0-5.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605088	TA2-2-**038**-PUCS-029-7.0-8.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-029-7.0-8.0-D	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605088	TA2-2-**038**-PUCS-029-10.0-11.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0079 J**
605088	TA2-2-**038**-PUCS-030-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-030-4.0-5.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-030-7.0-8.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-030-10.0-11.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00960**
605087	TA2-2-**038**-PUCS-031-1.0-2.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0105 J**
605087	TA2-2-**038**-PUCS-031-4.0-5.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605087	TA2-2-**038**-PUCS-031-7.0-8.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605087	TA2-2-**038**-PUCS-031-10.0-11.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605087	TA2-2-**038**-PUCS-032-1.0-2.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605087	TA2-2-**038**-PUCS-032-4.0-5.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0086 J**
605087	TA2-2-**038**-PUCS-032-7.0-8.0	11/08/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605087	TA2-2-**038**-PUCS-032-10.0-11.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	R
605088	TA2-2-**038**-PUCS-033-1.0-2.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-033-4.0-5.0	11/12/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605088	TA2-2-**038**-PUCS-033-7.0-8.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0048 J**
605088	TA2-2-**038**-PUCS-033-10.0-11.0	11/12/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605087	TA2-2-**038**-PUCS-034-1.0-2.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0157 J**
605087	TA2-2-**038**-PUCS-034-1.0-2.0-D	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0119 J**
605087	TA2-2-**038**-PUCS-034-4.0-5.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605087	TA2-2-**038**-PUCS-035-1.0-2.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605087	TA2-2-**038**-PUCS-035-4.0-5.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605086	TA2-2-**038**-PUCS-036-1.0-2.0	11/08/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605086	TA2-2-**038**-PUCS-036-4.0-5.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**038**-PUCS-037-1.0-2.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0179 J**
605086	TA2-2-**038**-PUCS-037-4.0-5.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0184 J**
605086	TA2-2-**038**-PUCS-038-1.0-2.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000790 J)	**0.0359 J**
605104	TA2-2-**038**-PUCS-039-2.0-3.0	11/26/01	ND (0.00158 J)	ND (0.00564 J)	ND (0.00145 J)	**0.0078 J**
605104	TA2-2-**038**-PUCS-040-2.0-3.0	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605104	TA2-2-**038**-PUCS-041-3.0-4.0	11/26/01	ND (0.0158 J)	ND (0.0564 J)	ND (0.0145 J)	ND (0.0334 J)
605104	TA2-2-**038**-PUCS-041-6.0-7.0	11/26/01	ND (0.0158 J)	ND (0.0564 J)	ND (0.0145 J)	ND (0.0334 J)
605104	TA2-2-**038**-PUCS-042-1.0-2.0	11/26/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0277 J**
605104	TA2-2-**038**-PUCS-042-1.0-2.0-D	11/26/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0275 J**
605104	TA2-2-**038**-PUCS-042-4.0-5.0	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605104	TA2-2-**038**-PUCS-042-7.0-8.0	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605104	TA2-2-**038**-PUCS-042-10.0-11.0	11/26/01	ND (0.0158 J)	ND (0.0564 J)	ND (0.0145 J)	ND (0.0334 J)
605104	TA2-2-**038**-PUCS-043-1.0-2.0	11/26/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	ND (0.00835 J)
605104	TA2-2-**038**-PUCS-043-4.0-5.0	11/26/01	ND (0.0158 J)	ND (0.0564 J)	ND (0.0145 J)	ND (0.0334 J)
605104	TA2-2-**038**-PUCS-043-7.0-8.0	11/26/01	ND (0.0158 J)	ND (0.0564 J)	ND (0.0145 J)	ND (0.0334 J)
605104	TA2-2-**038**-PUCS-043-10.0-11.0	11/26/01	ND (0.00158 J)	ND (0.00564 J)	ND (0.00145 J)	ND (0.00334 J)
605104	TA2-2-**038**-PUCS-044-1.0-2.0	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605104	TA2-2-**038**-PUCS-044-4.0-5.0	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605104	TA2-2-**038**-PUCS-044-7.0-8.0	11/26/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0275 J**
605104	TA2-2-**038**-PUCS-044-7.0-8.0-D	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605104	TA2-2-**038**-PUCS-044-10.0-11.0	11/26/01	ND (0.00395 J)	ND (0.0141 J)	ND (0.00363 J)	**0.0266 J**
605103	TA2-2-**038**-PUCS-045-1.0-2.0	11/26/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.027 J**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605103	TA2-2-**038**-PUCS-045-4.0-5.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0363**
605103	TA2-2-**038**-PUCS-045-7.0-8.0	11/26/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605103	TA2-2-**038**-PUCS-045-10.0-11.0	11/26/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605103	TA2-2-**038**-PUCS-046-1.0-2.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0582**
605103	TA2-2-**038**-PUCS-046-4.0-5.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0454**
605103	TA2-2-**038**-PUCS-046-7.0-8.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0492**
605103	TA2-2-**038**-PUCS-046-10.0-11.0	11/26/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	**0.154**
605103	TA2-2-**038**-PUCS-047-1.0-2.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0386**
605103	TA2-2-**038**-PUCS-047-1.0-2.0-D	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0585**
605103	TA2-2-**038**-PUCS-047-4.0-5.0	11/26/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0904**
605103	TA2-2-**038**-PUCS-047-7.0-8.0	11/26/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0846**
605103	TA2-2-**038**-PUCS-047-10.0-11.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0116 J**
605102	TA2-2-**038**-PUCS-048-1.0-2.0	11/19/01	ND (0.00553)	ND (0.0197)	ND (0.00509)	ND (0.0117)
605102	TA2-2-**038**-PUCS-048-4.0-5.0	11/19/01	ND (0.00474)	ND (0.0169)	ND (0.00436)	**0.144**
605102	TA2-2-**038**-PUCS-048-7.0-8.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0302 J**
605102	TA2-2-**038**-PUCS-048-10.0-11.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605103	TA2-2-**038**-PUCS-049-1.0-2.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0234 J**
605103	TA2-2-**038**-PUCS-049-4.0-5.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605103	TA2-2-**038**-PUCS-049-7.0-8.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605103	TA2-2-**038**-PUCS-049-7.0-8.0-D	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605103	TA2-2-**038**-PUCS-049-10.0-11.0	11/26/01	ND (0.00790)	ND (0.0282)	ND (0.00727)	ND (0.0167)
605102	TA2-2-**038**-PUCS-050-1.0-2.0	11/19/01	ND (0.00237)	ND (0.00846)	ND (0.00218)	ND (0.00501)
605102	TA2-2-**038**-PUCS-050-4.0-5.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605102	TA2-2-**038**-PUCS-050-7.0-8.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00970**
605102	TA2-2-**038**-PUCS-050-10.0-11.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605102	TA2-2-**038**-PUCS-051-3.0-4.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0102**
605102	TA2-2-**038**-PUCS-051-6.0-7.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00860**
605102	TA2-2-**038**-PUCS-052-2.0-3.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605102	TA2-2-**038**-PUCS-052-2.0-3.0-D	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605102	TA2-2-**038**-PUCS-053-2.0-3.0	11/19/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.00510**
605104	TA2-2-**038**-PUCS-054-2.0-3.0	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605104	TA2-2-**038**-PUCS-054-2.0-3.0-D	11/26/01	ND (0.00790 J)	ND (0.0282 J)	ND (0.00727 J)	ND (0.0167 J)
605103	TA2-2-**038**-PUCS-055-2.0-3.0	11/26/01	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)
605103	TA2-2-**038**-PUCS-056-2.0-3.0	11/26/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	**0.0219 J**
605086	TA2-2-**038**-PUCS-057-1.0-2.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605086	TA2-2-**038**-PUCS-057-4.0-5.0	11/08/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0270 J**
605087	TA2-2-**038**-PUCS-058-1.0-2.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605087	TA2-2-**038**-PUCS-058-4.0-5.0	11/08/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
Equipment Blanks (µg/L)						
604548	TA2-2-PCS-EB1-S	06/18/01	ND (0.0175)	ND (0.0833)	ND (0.038)	ND (0.0444)
604550	TA2-2-PCS-EB2-S	06/19/01	ND (0.0175)	ND (0.0833)	ND (0.038)	ND (0.0444)
604554	TA2-2-PUCS-EB1-S	06/20/01	ND (0.0175)	ND (0.8333)	ND (0.038)	ND (0.0444)
605044	TA2-2-EB4-001	10/30/01	ND (0.0162)	ND (0.0771)	ND (0.0352)	ND (0.0411)
605046	TA2-2-EB5-001	11/01/01	ND (0.0162)	ND (0.0771)	ND (0.0352)	ND (0.0411)
605082	TA2-2-EB6-001	11/05/01	ND (0.0167)	ND (0.0793)	ND (0.0362)	ND (0.0423)
605084	TA2-2-EB7-001	11/06/01	ND (0.0168)	ND (0.0801)	ND (0.0365)	ND (0.0427)
605086	TA2-2-EB8-001	11/08/01	ND (0.0168)	ND (0.0801)	ND (0.0365)	ND (0.0427)
605088	TA2-2-EB9-001	11/12/01	ND (0.0162)	ND (0.0771)	ND (0.0352)	ND (0.0411)
605090	TA2-2-EB10-001	11/13/01	ND (0.0168)	ND (0.0801)	ND (0.0365)	ND (0.0427)
605099	TA2-2-EB11-001	11/15/01	ND (0.0168)	ND (0.0801)	ND (0.0365)	ND (0.0427)
605101	TA2-2-EB12-001	11/19/01	ND (0.0162)	ND (0.0771)	ND (0.0352)	ND (0.0411)
605103	TA2-2-EB13-001	11/26/01	ND (0.0162)	ND (0.0771)	ND (0.0352)	ND (0.0411)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
Potentially Contaminated Soil Piles					
604548	TA2-2-**001**-PCS-001-S	06/18/01	ND (0.000898 J)	**2.50 J**	ND (0.00142 J)
604548	TA2-2-**002**-PCS-001-S	06/18/01	ND (0.000898 J)	**0.977 J**	ND (0.00142 J)
604548	TA2-2-**003**-PCS-001-S	06/18/01	ND (0.000898 J)	**0.636 J**	ND (0.00142 J)
604548	TA2-2-**004**-PCS-001-S	06/18/01	ND (0.000898)	**0.0593**	ND (0.00142)
604548	TA2-2-**004**-PCS-001-DU	06/18/01	ND (0.000898)	**0.0862**	ND (0.00142)
604548	TA2-2-**005**-PCS-001-S	06/18/01	ND (0.000898 J)	**2.83 J**	ND (0.00142 J)
604548	TA2-2-**006**-PCS-001-S	06/18/01	ND (0.000898 J)	**0.972 J**	ND (0.00142 J)
604548	TA2-2-**007**-PCS-001-S	06/18/01	ND (0.000898 J)	**5.58 J**	ND (0.00142 J)
604548	TA2-2-**008**-PCS-001-S	06/18/01	ND (0.000898 J)	**1.64 J**	ND (0.00142 J)
604548	TA2-2-**009**-PCS-001-S	06/18/01	ND (0.000898 J)	**1.28 J**	ND (0.00142 J)
604548	TA2-2-**009**-PCS-001-DU	06/18/01	ND (0.000898 J)	**1.33 J**	ND (0.00142 J)
604548	TA2-2-**013**-PCS-001-S	06/18/01	ND (0.000898 J)	**0.0708**	ND (0.00142)
604550	TA2-2-**016**-PCS-001-S	06/19/01	ND (0.000898)	**0.0098**	ND (0.00142)
604550	TA2-2-**017**-PCS-001-S	06/19/01	ND (0.000898)	**0.0072**	ND (0.00142)
604550	TA2-2-**018**-PCS-001-S	06/19/01	ND (0.000898)	**0.0087**	ND (0.00142)
604550	TA2-2-**021**-PCS-001-S	06/19/01	ND (0.000898 J)	**2.32 J**	ND (0.00142)
604550	TA2-2-**022**-PCS-001-S	06/19/01	ND (0.000898)	**0.0678**	ND (0.00142)
604550	TA2-2-**023**-PCS-001-S	06/19/01	ND (0.000898)	**0.0659**	ND (0.00142)
604550	TA2-2-**023**-PCS-001-DU	06/19/01	NA	NA	NA
604550	TA2-2-**024**-PCS-001-S	06/19/01	ND (0.000898)	**0.0455**	ND (0.00142)
604550	TA2-2-**025**-PCS-001-S	06/19/01	ND (0.000898)	**0.0589**	ND (0.00142)
604550	TA2-2-**026**-PCS-001-S	06/19/01	ND (0.000898)	**0.637**	ND (0.00142)
604550	TA2-2-**026**-PCS-001-DU	06/19/01	ND (0.000898)	**0.400**	ND (0.00142)
604550	TA2-2-**027**-PCS-001-S	06/19/01	ND (0.000898)	**0.0296**	**0.0205**
604550	TA2-2-**028**-PCS-001-S	06/19/01	ND (0.000898)	**0.0298**	ND (0.00142)
604550	TA2-2-**029**-PCS-001-S	06/19/01	ND (0.000898)	**0.0346**	ND (0.00142)
Potentially Uncontaminated Soil Piles					
605042	TA2-2-**030**-PUCS-001	10/25/01	ND (0.000907)	**0.0547**	**0.00880**
605042	TA2-2-**030**-PUCS-002	10/25/01	ND (0.000907)	**0.0694**	**0.0107**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605042	TA2-2-**030**-PUCS-003	10/25/01	ND (0.000907)	**0.0814**	**0.0121**
605042	TA2-2-**030**-PUCS-004	10/25/01	ND (0.00181)	**0.171**	**0.0201**
605042	TA2-2-**030**-PUCS-005	10/25/01	ND (0.00181)	**0.184**	**0.0428**
605042	TA2-2-**030**-PUCS-006	10/25/01	ND (0.00181)	**0.198**	**0.0253**
605042	TA2-2-**030**-PUCS-007	10/25/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-**030**-PUCS-008	10/25/01	ND (0.000907)	**0.101**	**0.0185**
605042	TA2-2-**030**-PUCS-008-D	10/25/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-**031**-PUCS-001	10/25/01	ND (0.000907)	**0.0135**	**0.00160 J**
605042	TA2-2-**031**-PUCS-002	10/25/01	ND (0.000907)	**0.0121**	**0.00170 J**
605042	TA2-2-**031**-PUCS-003	10/25/01	ND (0.000907)	**0.0218**	**0.00270 J**
605042	TA2-2-**031**-PUCS-004	10/25/01	ND (0.00181)	**0.116**	**0.0129**
605044	TA2-2-**032**-PUCS-001	10/30/01	ND (0.000907)	**0.00840**	ND (0.00143)
605044	TA2-2-**032**-PUCS-002	10/30/01	ND (0.000907)	**0.00620**	ND (0.00143)
605044	TA2-2-**032**-PUCS-003	10/30/01	ND (0.000907)	**0.0111**	ND (0.00143)
605044	TA2-2-**032**-PUCS-004	10/30/01	ND (0.000907)	**0.0197**	ND (0.00143)
604554	TA2-2-**033**-PUCS-001-S	06/20/01	ND (0.000898 J)	**0.00720 J**	ND (0.00142 J)
605044	TA2-2-**033**-PUCS-001	10/30/01	ND (0.000907)	**0.00710**	ND (0.00143)
605044	TA2-2-**033**-PUCS-002	10/30/01	ND (0.000907)	**0.00850**	ND (0.00143)
605044	TA2-2-**033**-PUCS-003	10/30/01	ND (0.000907)	**0.0488**	ND (0.00143)
605044	TA2-2-**033**-PUCS-004	10/30/01	ND (0.000907)	**0.0129**	ND (0.00143)
605044	TA2-2-**033**-PUCS-004-D	10/30/01	ND (0.000907)	**0.0115**	ND (0.00143)
604554	TA2-2-**034**-PUCS-001-S	06/20/01	ND (0.000898 J)	ND (0.00136 J)	ND (0.00142 J)
605083	TA2-2-**034**-PUCS-001-1.0-2.0	11/05/01	ND (0.000907)	**0.00860**	**0.00350**
605083	TA2-2-**034**-PUCS-001-4.0-5.0	11/05/01	ND (0.000907)	**0.00860**	**0.00320 J**
605083	TA2-2-**034**-PUCS-001-7.0-8.0	11/05/01	ND (0.000907)	**0.0118**	**0.00410**
605083	TA2-2-**034**-PUCS-001-10.0-11.0	11/05/01	ND (0.000907)	**0.00360**	**0.0046 J**
605083	TA2-2-**034**-PUCS-001-10.0-11.0-D	11/05/01	ND (0.000907)	**0.00390**	**0.00277 J**
604554	TA2-2-**034**-PUCS-002-S	06/20/01	ND (0.000898)	ND (0.00136)	ND (0.00142)
604554	TA2-2-**034**-PUCS-002-DU	06/20/01	ND (0.000898)	**0.0024 J**	ND (0.00142)
605082	TA2-2-**034**-PUCS-002-1.0-2.0	11/05/01	ND (0.00907)	**0.0181 J**	ND (0.0143)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605082	TA2-2-**034**-PUCS-002-4.0-5.0	11/05/01	ND (0.00907)	**0.0174 J**	ND (0.0143)
605082	TA2-2-**034**-PUCS-002-7.0-8.0	11/05/01	ND (0.00907)	ND (0.0137)	ND (0.0143)
605082	TA2-2-**034**-PUCS-002-10.0-11.0	11/05/01	ND (0.00907)	ND (0.0137)	ND (0.0143)
604554	TA2-2-**034**-PUCS-003-S	06/20/01	ND (0.000898)	ND (0.00136)	ND (0.00142)
605046	TA2-2-**034**-PUCS-003-1.0-2.0	11/01/01	ND (0.000907)	**0.0178**	ND (0.00143)
605046	TA2-2-**034**-PUCS-003-4.0-5.0	11/01/01	ND (0.000907)	**0.0104**	ND (0.00143)
605046	TA2-2-**034**-PUCS-003-4.0-5.0-D	11/01/01	ND (0.000907)	**0.0193**	ND (0.00143)
605046	TA2-2-**034**-PUCS-003-7.0-8.0	11/01/01	ND (0.0907)	ND (0.137)	ND (0.143)
605046	TA2-2-**034**-PUCS-003-10.0-11.0	11/01/01	ND (0.000907)	**0.00320 J**	**0.00160 J**
604554	TA2-2-**034**-PUCS-004-S	06/20/01	ND (0.000898 J)	ND (0.00136 J)	ND (0.00142 J)
605045	TA2-2-**034**-PUCS-004-3.0-4.0	10/30/01	ND (0.000907)	**0.0243**	**0.00760**
605045	TA2-2-**034**-PUCS-004-6.0-7.0	10/30/01	ND (0.000907)	**0.0114**	**0.00370**
604554	TA2-2-**034**-PUCS-005-S	06/20/01	ND (0.000898 J)	ND (0.00136 J)	ND (0.00142 J)
605045	TA2-2-**034**-PUCS-005-3.0-4.0	10/30/01	ND (0.000907)	**0.00410**	**0.0052 J**
605045	TA2-2-**034**-PUCS-005-5.0-6.0	10/30/01	ND (0.00907)	ND (0.0137)	ND (0.0143)
605085	TA2-2-**034**-PUCS-006-2.0-3.0	11/06/01	ND (0.000907)	**0.00740**	**0.00290 J**
605085	TA2-2-**034**-PUCS-006-7.0-8.0	11/06/01	ND (0.000907)	**0.0076 J**	**0.00283 J**
605085	TA2-2-**034**-PUCS-006-12.0-13.0	11/06/01	ND (0.000907)	**0.00340**	ND (0.00143)
605085	TA2-2-**034**-PUCS-006-17.0-18.0	11/06/01	ND (0.000907)	**0.00170 J**	ND (0.00143)
605085	TA2-2-**034**-PUCS-007-2.0-3.0	11/06/01	ND (0.000907)	**0.00360**	ND (0.00143)
605085	TA2-2-**034**-PUCS-007-7.0-8.0	11/06/01	ND (0.000907)	**0.0147 J**	**0.00370**
605085	TA2-2-**034**-PUCS-007-7.0-8.0-D	11/06/01	ND (0.000907)	**0.0114 J**	**0.00320 J**
605085	TA2-2-**034**-PUCS-007-12.0-13.0	11/06/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605085	TA2-2-**034**-PUCS-007-17.0-18.0	11/06/01	ND (0.000907 J)	**0.0057 J**	ND (0.00143 J)
605083	TA2-2-**034**-PUCS-008-2.0-3.0	11/05/01	ND (0.000907)	**0.0223**	**0.00710**
605083	TA2-2-**034**-PUCS-008-7.0-8.0	11/05/01	ND (0.000907)	**0.0229**	**0.00683**
605083	TA2-2-**034**-PUCS-008-7.0-8.0-D	11/05/01	ND (0.000907)	**0.0211**	**0.0199**
605083	TA2-2-**034**-PUCS-008-12.0-13.0	11/05/01	ND (0.000907)	**0.0178**	**0.00490**
605083	TA2-2-**034**-PUCS-008-17.0-18.0	11/05/01	ND (0.000907)	**0.0209**	**0.00610**
605084	TA2-2-**034**-PUCS-009-2.0-3.0	11/06/01	ND (0.000907)	**0.00960 J**	**0.00400 J**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605084	TA2-2-**034**-PUCS-009-7.0-8.0	11/06/01	ND (0.000907)	**0.00890**	ND (0.00143)
605084	TA2-2-**034**-PUCS-009-12.0-13.0	11/06/01	ND (0.000907)	**0.00730**	ND (0.00143)
605084	TA2-2-**034**-PUCS-009-17.0-18.0	11/06/01	ND (0.000907)	**0.00750**	ND (0.00143)
605084	TA2-2-**034**-PUCS-010-2.0-3.0	11/06/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605084	TA2-2-**034**-PUCS-010-7.0-8.0	11/06/01	ND (0.000907)	**0.00680**	**0.00360**
605084	TA2-2-**034**-PUCS-010-12.0-13.0	11/06/01	ND (0.000907)	**0.0052 J**	ND (0.00143)
605084	TA2-2-**034**-PUCS-010-17.0-18.0	11/06/01	ND (0.000907)	**0.00250 J**	ND (0.00143)
605084	TA2-2-**034**-PUCS-010-17.0-18.0-D	11/06/01	ND (0.000907)	**0.00840 J**	ND (0.00143)
605084	TA2-2-**034**-PUCS-011-2.0-3.0	11/06/01	ND (0.000907)	**0.0117**	ND (0.00143)
605084	TA2-2-**034**-PUCS-011-7.0-8.0	11/06/01	ND (0.000907)	**0.0140**	ND (0.00143)
605085	TA2-2-**034**-PUCS-011-12.0-13.0	11/06/01	ND (0.000907)	R	ND (0.00143)
605085	TA2-2-**034**-PUCS-011-17.0-18.0	11/06/01	ND (0.000907)	**0.0176 J**	ND (0.00143)
605083	TA2-2-**034**-PUCS-012-1.0-2.0	11/01/01	ND (0.000907)	**0.0213**	**0.00640**
605083	TA2-2-**034**-PUCS-012-4.0-5.0	11/01/01	ND (0.00907)	**0.0289 J**	ND (0.0143)
605083	TA2-2-**034**-PUCS-012-7.0-8.0	11/01/01	ND (0.000907)	**0.0143**	**0.00457**
605083	TA2-2-**034**-PUCS-012-10.0-11.0	11/01/01	ND (0.000907)	**0.00670**	ND (0.00143)
605082	TA2-2-**034**-PUCS-013-1.0-2.0	11/05/01	ND (0.00907)	ND (0.0137)	ND (0.0143)
605082	TA2-2-**034**-PUCS-013-4.0-5.0	11/05/01	ND (0.000907)	**0.00570**	ND (0.00143)
605083	TA2-2-**034**-PUCS-013-7.0-8.0	11/05/01	ND (0.000907)	**0.0100**	**0.00380**
605083	TA2-2-**034**-PUCS-013-10.0-11.0	11/01/01	ND (0.00907)	ND (0.0137)	ND (0.0143)
605047	TA2-2-**034**-PUCS-014-1.0-2.0	11/01/01	ND (0.000907)	**0.0136**	**0.00270 J**
605047	TA2-2-**034**-PUCS-014-4.0-5.0	11/01/01	ND (0.000907)	**0.00750**	ND (0.00143)
605047	TA2-2-**034**-PUCS-014-7.0-8.0	11/01/01	ND (0.000907)	**0.00670**	**0.00390**
605047	TA2-2-**034**-PUCS-014-10.0-11.0	11/01/01	ND (0.000907)	**0.0123**	**0.00320 J**
605047	TA2-2-**034**-PUCS-014-10.0-11.0-D	11/01/01	ND (0.000907)	**0.0113**	**0.00260 J**
605047	TA2-2-**034**-PUCS-015-1.0-2.0	11/01/01	ND (0.000907)	**0.0142**	ND (0.00143)
605047	TA2-2-**034**-PUCS-015-4.0-5.0	11/01/01	ND (0.000907)	**0.0273**	**0.00620**
605047	TA2-2-**034**-PUCS-015-7.0-8.0	11/01/01	ND (0.000907)	**0.00140 J**	ND (0.00143)
605047	TA2-2-**034**-PUCS-015-10.0-11.0	11/01/01	ND (0.000907)	**0.00760**	ND (0.00143)
605047	TA2-2-**034**-PUCS-016-1.0-2.0	11/01/01	ND (0.000907)	**0.0130**	**0.00260 J**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605047	TA2-2-034-PUCS-016-4.0-5.0	11/01/01	ND (0.000907)	**0.00990**	ND (0.00143)
605047	TA2-2-034-PUCS-016-7.0-8.0	11/01/01	ND (0.000907)	**0.0103**	**0.00243 J**
605082	TA2-2-034-PUCS-016-10.0-11.0	11/05/01	ND (0.000907)	**0.00890**	ND (0.00143)
605082	TA2-2-034-PUCS-017-1.0-2.0	11/05/01	ND (0.000907)	**0.00850**	ND (0.00143)
605082	TA2-2-034-PUCS-017-4.0-5.0	11/05/01	ND (0.000907)	**0.00560**	ND (0.00143)
605082	TA2-2-034-PUCS-017-4.0-5.0-D	11/05/01	ND (0.000907)	**0.0331**	**0.0110**
605082	TA2-2-034-PUCS-017-7.0-8.0	11/05/01	ND (0.00907)	**0.0214 J**	ND (0.0143)
605082	TA2-2-034-PUCS-017-10.0-11.0	11/05/01	ND (0.000907)	**0.00550**	ND (0.00143)
605047	TA2-2-034-PUCS-018-1.0-2.0	11/01/01	ND (0.000907)	**0.0176**	ND (0.00143)
605047	TA2-2-034-PUCS-018-4.0-5.0	11/01/01	ND (0.000907)	**0.00750**	ND (0.00143)
605047	TA2-2-034-PUCS-018-7.0-8.0	11/01/01	ND (0.000907)	**0.0346**	ND (0.00143)
605047	TA2-2-034-PUCS-018-10.0-11.0	11/01/01	ND (0.000907)	**0.00910**	ND (0.00143)
605046	TA2-2-034-PUCS-019-1.0-2.0	11/01/01	ND (0.000907)	**0.0214**	ND (0.00143)
605046	TA2-2-034-PUCS-019-4.0-5.0	11/01/01	ND (0.000907)	**0.0389**	ND (0.00143)
605046	TA2-2-034-PUCS-019-7.0-8.0	11/01/01	ND (0.000907)	**0.0154**	ND (0.00143)
605046	TA2-2-034-PUCS-019-10.0-11.0	11/01/01	ND (0.00907)	**0.140**	ND (0.0143)
605046	TA2-2-034-PUCS-020-1.0-2.0	11/01/01	ND (0.000907)	**0.00880**	ND (0.00143)
605046	TA2-2-034-PUCS-020-4.0-5.0	11/01/01	ND (0.000907)	**0.0160**	ND (0.00143)
605046	TA2-2-034-PUCS-020-7.0-8.0	11/01/01	ND (0.000907)	**0.0104**	ND (0.00143)
605046	TA2-2-034-PUCS-020-10.0-11.0	11/01/01	ND (0.000907)	**0.00240 J**	ND (0.00143)
605045	TA2-2-034-PUCS-021-3.0-4.0	10/30/01	ND (0.000907)	**0.0172**	**0.00720**
605045	TA2-2-034-PUCS-021-3.0-4.0-D	10/30/01	ND (0.000907)	**0.0175**	**0.0114**
605045	TA2-2-034-PUCS-021-6.0-7.0	10/30/01	ND (0.000907)	**0.0135**	**0.00530**
605046	TA2-2-034-PUCS-022-3.0-4.0	11/01/01	ND (0.000907)	**0.00520**	**0.00190 J**
605046	TA2-2-034-PUCS-022-6.0-7.0	11/01/01	ND (0.000907)	**0.00420**	**0.00290 J**
605046	TA2-2-034-PUCS-023-3.0-4.0	11/01/01	ND (0.000907)	**0.0107**	**0.00360**
605046	TA2-2-034-PUCS-023-6.0-7.0	11/01/01	ND (0.00907)	**0.0252 J**	ND (0.0143)
605046	TA2-2-034-PUCS-024-3.0-4.0	11/01/01	ND (0.000907)	**0.0134**	**0.00480**
605046	TA2-2-034-PUCS-024-6.0-7.0	11/01/01	ND (0.000907)	**0.00510**	ND (0.00143)
605046	TA2-2-034-PUCS-024-6.0-7.0-D	11/01/01	ND (0.000907)	**0.00380**	ND (0.00143)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605045	TA2-2-034-PUCS-025-3.0-4.0	10/30/01	ND (0.000907)	**0.0418**	**0.0142**
605045	TA2-2-034-PUCS-025-6.0-7.0	10/30/01	ND (0.000907)	**0.00260 J**	ND (0.00143)
605045	TA2-2-034-PUCS-026-3.0-4.0	10/30/01	ND (0.000907)	**0.0105**	**0.00430**
605045	TA2-2-034-PUCS-026-6.0-7.0	10/30/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605045	TA2-2-034-PUCS-026-6.0-7.0-D	10/30/01	ND (0.000907)	**0.00300 J**	ND (0.00143)
605044	TA2-2-034-PUCS-027-0.0-1.0	10/30/01	ND (0.000907 JH)	**0.0209 JH**	**0.0022 JH**
605044	TA2-2-034-PUCS-027-2.0-3.0	10/30/01	ND (0.000907)	**0.0101**	**0.00184 J**
605045	TA2-2-034-PUCS-028-0.0-1.0	10/30/01	ND (0.000907)	**0.00970**	**0.00410**
605045	TA2-2-034-PUCS-028-2.0-3.0	10/30/01	ND (0.000907)	**0.00690**	**0.00300 J**
605045	TA2-2-034-PUCS-029-0.0-1.0	10/30/01	ND (0.000907)	**0.00620**	**0.00250 J**
605045	TA2-2-034-PUCS-029-2.0-3.0	10/30/01	ND (0.000907)	**0.00440**	**0.00210 J**
605082	TA2-2-034-PUCS-030-1.0-2.0	11/05/01	ND (0.00453)	**0.0807**	ND (0.00717)
605082	TA2-2-034-PUCS-030-4.0-5.0	11/05/01	ND (0.000907)	**0.0118**	**0.00330 J**
605082	TA2-2-034-PUCS-030-7.0-8.0	11/05/01	ND (0.000907)	**0.0140**	**0.00720**
605082	TA2-2-034-PUCS-030-10.0-11.0	11/05/01	ND (0.000907)	**0.0103**	**0.00370**
605085	TA2-2-034-PUCS-031-2.0-3.0	11/06/01	ND (0.000907)	R	**0.0102 J**
605085	TA2-2-034-PUCS-031-7.0-8.0	11/06/01	ND (0.000907)	**0.0074 J**	ND (0.00143)
605085	TA2-2-034-PUCS-031-12.0-13.0	11/06/01	ND (0.0181)	ND (0.0274)	ND (0.0287)
605085	TA2-2-034-PUCS-031-17.0-18.0	11/06/01	ND (0.00907)	**0.0448**	ND (0.0143)
605085	TA2-2-034-PUCS-032-2.0-3.0	11/06/01	ND (0.000907)	**0.0282 J**	**0.00760**
605085	TA2-2-034-PUCS-032-7.0-8.0	11/06/01	ND (0.000907)	**0.0128 J**	ND (0.00143)
605085	TA2-2-034-PUCS-032-12.0-13.0	11/06/01	ND (0.000907)	**0.0064 J**	ND (0.00143)
605085	TA2-2-034-PUCS-032-17.0-18.0	11/06/01	ND (0.000907)	**0.0278 J**	**0.00650**
605085	TA2-2-034-PUCS-032-17.0-18.0-D	11/06/01	ND (0.000907)	**0.0199 J**	**0.00530**
605086	TA2-2-034-PUCS-033-2.0-3.0	11/08/01	ND (0.000907 J)	**0.0158 J**	ND (0.00143 J)
605086	TA2-2-034-PUCS-033-7.0-8.0	11/08/01	ND (0.000907 J)	**0.00310 J**	ND (0.00143 J)
605086	TA2-2-034-PUCS-033-12.0-13.0	11/08/01	ND (0.000907 J)	**0.00890 J**	ND (0.00143 J)
605086	TA2-2-034-PUCS-033-17.0-18.0	11/08/01	ND (0.000907 J)	**0.00270 J**	ND (0.00143 J)
605086	TA2-2-034-PUCS-034-2.0-3.0	11/08/01	ND (0.000907 J)	**0.00370 J**	ND (0.00143 J)
605086	TA2-2-034-PUCS-034-7.0-8.0	11/08/01	ND (0.000907 J)	**0.00320 J**	ND (0.00143 J)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605086	TA2-2-**034**-PUCS-034-12.0-13.0	11/08/01	ND (0.000907 J)	**0.00760 J**	ND (0.00143 J)
605086	TA2-2-**034**-PUCS-034-17.0-18.0	11/08/01	ND (0.000907 J)	**0.00160 J**	ND (0.00143 J)
605086	TA2-2-**034**-PUCS-035-2.0-3.0	11/08/01	ND (0.000907 J)	**0.0448 J**	**0.00690 J**
605086	TA2-2-**034**-PUCS-035-7.0-8.0	11/08/01	ND (0.000907 J)	**0.0112 J**	ND (0.00143 J)
605086	TA2-2-**034**-PUCS-035-7.0-8.0-D	11/08/01	ND (0.000907 J)	**0.0127 J**	ND (0.00143 J)
605086	TA2-2-**034**-PUCS-035-12.0-13.0	11/08/01	ND (0.000907 J)	**0.00500 J**	ND (0.00143 J)
605086	TA2-2-**034**-PUCS-035-17.0-18.0	11/08/01	ND (0.000907 JH)	**0.0380 JH**	**0.00420 JH**
605084	TA2-2-**034**-PUCS-036-2.0-3.0	11/06/01	ND (0.000907)	**0.0221 J**	**0.00440**
605084	TA2-2-**034**-PUCS-036-7.0-8.0	11/06/01	ND (0.000907)	**0.0320 J**	**0.0231 J**
605084	TA2-2-**034**-PUCS-036-12.0-13.0	11/06/01	ND (0.000907)	**0.0254 J**	**0.00500**
605084	TA2-2-**034**-PUCS-036-17.0-18.0	11/06/01	ND (0.000907)	**0.0514**	**0.00870**
605047	TA2-2-**034**-PUCS-037-1.0-2.0	11/01/01	ND (0.000907)	**0.0137**	**0.00380**
605047	TA2-2-**034**-PUCS-037-4.0-5.0	11/01/01	ND (0.000907)	**0.00750**	ND (0.00143)
605047	TA2-2-**034**-PUCS-037-7.0-8.0	11/01/01	ND (0.000907)	**0.00798**	ND (0.00143)
605047	TA2-2-**034**-PUCS-037-10.0-11.0	11/01/01	ND (0.000907)	**0.0127**	ND (0.00143)
605045	TA2-2-**034**-PUCS-038-0.0-1.0	10/30/01	ND (0.000907)	**0.00420**	**0.00190 J**
605045	TA2-2-**034**-PUCS-038-0.0-1.0-D	10/30/01	ND (0.000907)	**0.00610**	**0.00300 J**
605045	TA2-2-**034**-PUCS-038-2.0-3.0	10/30/01	ND (0.000907)	**0.00600**	**0.0046 J**
605082	TA2-2-**034**-PUCS-039-1.0-2.0	11/05/01	ND (0.000907)	**0.0246**	**0.00730**
605082	TA2-2-**034**-PUCS-039-4.0-5.0	11/05/01	ND (0.000907)	**0.0149**	**0.00430**
605082	TA2-2-**034**-PUCS-039-7.0-8.0	11/05/01	ND (0.000907)	**0.0138**	**0.0094 J**
605082	TA2-2-**034**-PUCS-039-10.0-11.0	11/05/01	ND (0.000907)	**0.0263**	**0.0119**
605084	TA2-2-**034**-PUCS-040-1.0-2.0	11/06/01	ND (0.000907)	**0.0112 J**	**0.00420 J**
605084	TA2-2-**034**-PUCS-040-4.0-5.0	11/06/01	ND (0.000907)	**0.0106**	**0.0030 J**
605084	TA2-2-**034**-PUCS-040-7.0-8.0	11/06/01	ND (0.000907)	**0.0123 J**	**0.00320 J**
605084	TA2-2-**034**-PUCS-040-10.0-11.0	11/06/01	ND (0.000907)	**0.0177**	**0.00520**
605084	TA2-2-**034**-PUCS-040-10.0-11.0-D	11/06/01	ND (0.000907)	**0.0173**	**0.00300 J**
604554	TA2-2-**035**-PUCS-001-S	06/20/01	ND (0.000898)	**0.418 J**	ND (0.00142)
605043	TA2-2-**035**-PUCS-001	10/25/01	ND (0.00453 J)	**0.204 J**	**0.0237 J**
605043	TA2-2-**035**-PUCS-002	10/25/01	ND (0.000907 J)	**0.0364 J**	**0.00920 J**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605043	TA2-2-**035**-PUCS-003	10/25/01	ND (0.000907 JH)	**0.0519 JH**	**0.00957 JH**
605043	TA2-2-**035**-PUCS-004	10/25/01	ND (0.000907 J)	**0.102 J**	**0.0136 J**
605043	TA2-2-**035**-PUCS-004-D	10/25/01	ND (0.000907 J)	**0.0906 J**	**0.0121 J**
604554	TA2-2-**036**-PUCS-001-S	06/20/01	ND (0.000898)	**0.827 J**	ND (0.00142)
605043	TA2-2-**036**-PUCS-001	10/25/01	ND (0.00453 J)	**0.314 J**	**0.0353 J**
605043	TA2-2-**036**-PUCS-002	10/25/01	ND (0.00907 J)	**0.827 J**	**0.0907 J**
605043	TA2-2-**036**-PUCS-003	10/25/01	ND (0.00907 J)	**0.709 J**	**0.0851 J**
605043	TA2-2-**036**-PUCS-004	10/25/01	ND (0.00907 J)	**0.999 J**	**0.0992 J**
605044	TA2-2-**037**-PUCS-001	10/30/01	ND (0.000907)	**0.00230 J**	ND (0.00143)
605044	TA2-2-**037**-PUCS-002	10/30/01	ND (0.000907)	**0.00260 J**	ND (0.00143)
605044	TA2-2-**037**-PUCS-003	10/30/01	ND (0.000907)	**0.00680**	ND (0.00143)
605044	TA2-2-**037**-PUCS-004	10/30/01	ND (0.000907)	**0.00410**	ND (0.00143)
605044	TA2-2-**037**-PUCS-005	10/30/01	ND (0.000907 JH)	**0.0142 JH**	**0.00230 JH**
605044	TA2-2-**037**-PUCS-006	10/30/01	ND (0.000907)	**0.00280 J**	ND (0.00143)
605044	TA2-2-**037**-PUCS-007	10/30/01	ND (0.000907)	**0.00440**	ND (0.00143)
605044	TA2-2-**037**-PUCS-008	10/30/01	ND (0.000907)	**0.0176**	**0.00210 J**
605044	TA2-2-**037**-PUCS-008-D	10/30/01	ND (0.000907)	**0.0388**	**0.00419**
604554	TA2-2-**038**-PUCS-001-S	06/20/01	ND (0.000898)	**0.0586 J**	ND (0.00142)
605101	TA2-2-**038**-PUCS-001-2.0-3.0	11/19/01	ND (0.00181 JH)	**0.0953 JH**	**0.0226 JH**
605101	TA2-2-**038**-PUCS-001-7.0-8.0	11/19/01	ND (0.00907 J)	**0.117 J**	**0.0327 J**
605102	TA2-2-**038**-PUCS-001-12.0-13.0	11/19/01	ND (0.000907)	**0.0474 J**	**0.0114**
605102	TA2-2-**038**-PUCS-001-12.0-13.0-D	11/19/01	ND (0.000907)	**0.0363**	**0.0125**
605102	TA2-2-**038**-PUCS-001-17.0-18.0	11/19/01	ND (0.00181)	**0.0727**	**0.0254 J**
604554	TA2-2-**038**-PUCS-002-S	06/20/01	ND (0.000898)	**0.0218 J**	ND (0.00142)
605091	TA2-2-**038**-PUCS-002-2.0-3.0	11/13/01	ND (0.00453 J)	**0.0725 J**	ND (0.00717 J)
605099	TA2-2-**038**-PUCS-002-7.0-8.0	11/15/01	ND (0.000907)	**0.0429**	**0.0053 J**
605099	TA2-2-**038**-PUCS-002-12.0-13.0	11/15/01	ND (0.000907)	**0.00280 J**	ND (0.00143)
605099	TA2-2-**038**-PUCS-002-12.0-13.0-D	11/15/01	ND (0.000907)	**0.00420**	ND (0.00143)
605099	TA2-2-**038**-PUCS-002-17.0-18.0	11/15/01	ND (0.000907)	**0.00700**	ND (0.00143)
604554	TA2-2-**038**-PUCS-003-S	06/20/01	ND (0.000898)	**0.147 J**	ND (0.00142)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
604554	TA2-2-038-PUCS-003-DU	06/20/01	ND (0.000898)	**0.0599 J**	ND (0.00142)
605091	TA2-2-038-PUCS-003-2.0-3.0	11/13/01	ND (0.00453 J)	**0.0574 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-003-7.0-8.0	11/13/01	ND (0.00453 J)	**0.0638 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-003-12.0-13.0	11/13/01	ND (0.00453 J)	**0.0647 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-003-17.0-18.0	11/13/01	ND (0.00453 J)	**0.108 J**	ND (0.00717 J)
604554	TA2-2-038-PUCS-004-S	06/20/01	ND (0.000898)	**0.506 J**	ND (0.00142)
605087	TA2-2-038-PUCS-004-1.0-2.0	11/08/01	ND (0.00453)	**0.425**	**0.224**
605087	TA2-2-038-PUCS-004-1.0-2.0-D	11/08/01	ND (0.00907)	**0.452**	**0.153**
605087	TA2-2-038-PUCS-004-4.0-5.0	11/08/01	ND (0.00453)	**0.191**	**0.0298**
605087	TA2-2-038-PUCS-004-7.0-8.0	11/08/01	ND (0.00907)	**0.633**	**0.0737**
605087	TA2-2-038-PUCS-004-10.0-11.0	11/08/01	ND (0.000907)	**0.0862**	**0.0143**
604554	TA2-2-038-PUCS-005-S	06/20/01	ND (0.000898 J)	ND (0.00136 J)	ND (0.00142 J)
605088	TA2-2-038-PUCS-005-1.0-2.0	11/12/01	ND (0.000907)	**0.0503**	ND (0.00143)
605088	TA2-2-038-PUCS-005-4.0-5.0	11/12/01	ND (0.00907)	**0.110**	ND (0.0143)
605088	TA2-2-038-PUCS-005-7.0-8.0	11/12/01	ND (0.000907)	**0.00470**	ND (0.00143)
605088	TA2-2-038-PUCS-005-7.0-8.0-D	11/12/01	ND (0.000907)	**0.00540**	ND (0.00143)
605088	TA2-2-038-PUCS-005-10.0-11.0	11/12/01	ND (0.000907)	**0.00630**	ND (0.00143)
605102	TA2-2-038-PUCS-006-2.0-3.0	11/19/01	ND (0.000907)	**0.0320**	**0.0074 J**
605102	TA2-2-038-PUCS-006-7.0-8.0	11/19/01	ND (0.000907)	**0.0196**	**0.00560 J**
605102	TA2-2-038-PUCS-006-12.0-13.0	11/19/01	ND (0.000907)	**0.0217**	**0.00927 J**
605102	TA2-2-038-PUCS-006-17.0-18.0	11/19/01	ND (0.000907)	**0.0264 J**	**0.0133 J**
605101	TA2-2-038-PUCS-007-2.0-3.0	11/19/01	ND (0.00907 J)	**0.163 J**	**0.0336 J**
605101	TA2-2-038-PUCS-007-7.0-8.0	11/19/01	ND (0.00453 J)	**0.0705 J**	**0.0192 J**
605101	TA2-2-038-PUCS-007-12.0-13.0	11/19/01	ND (0.00907 JH)	**0.122 JH**	ND (0.0143 JH)
605101	TA2-2-038-PUCS-007-17.0-18.0	11/19/01	ND (0.000907 J)	**0.0240 J**	ND (0.00143 J)
605101	TA2-2-038-PUCS-008-2.0-3.0	11/19/01	ND (0.00453 J)	**0.0579 J**	ND (0.00717 J)
605101	TA2-2-038-PUCS-008-2.0-3.0-D	11/19/01	ND (0.00453 J)	**0.0835 J**	ND (0.00717 J)
605101	TA2-2-038-PUCS-008-7.0-8.0	11/19/01	ND (0.000907 J)	**0.00520 J**	ND (0.00143 J)
605101	TA2-2-038-PUCS-008-12.0-13.0	11/19/01	ND (0.00181 JH)	**0.0264 JH**	**0.00570 JH**
605101	TA2-2-038-PUCS-008-17.0-18.0	11/19/01	ND (0.00453 J)	**0.0395 J**	ND (0.00717 J)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605099	TA2-2-**038**-PUCS-009-2.0-3.0	11/15/01	ND (0.000907)	**0.0723**	**0.0102**
605099	TA2-2-**038**-PUCS-009-7.0-8.0	11/15/01	ND (0.0181)	**0.741**	**0.0825**
605099	TA2-2-**038**-PUCS-009-12.0-13.0	11/15/01	ND (0.00453)	**0.136**	**0.0204**
605099	TA2-2-**038**-PUCS-009-17.0-18.0	11/15/01	ND (0.00453)	**0.158**	**0.0162 J**
605099	TA2-2-**038**-PUCS-010-2.0-3.0	11/15/01	ND (0.00453)	**0.107**	**0.0367**
605099	TA2-2-**038**-PUCS-010-7.0-8.0	11/15/01	ND (0.00453)	**0.0684**	**0.0134 J**
605099	TA2-2-**038**-PUCS-010-12.0-13.0	11/15/01	ND (0.00453)	**0.0962**	**0.0184**
605099	TA2-2-**038**-PUCS-010-17.0-18.0	11/15/01	ND (0.000907)	**0.0606**	**0.0101**
605099	TA2-2-**038**-PUCS-011-2.0-3.0	11/15/01	ND (0.00453)	**0.103**	**0.0134 J**
605099	TA2-2-**038**-PUCS-011-7.0-8.0	11/15/01	ND (0.000907)	**0.0464**	**0.00690**
605099	TA2-2-**038**-PUCS-011-12.0-13.0	11/15/01	ND (0.000907)	**0.0217**	**0.00570**
605099	TA2-2-**038**-PUCS-011-12.0-13.0-D	11/15/01	ND (0.000907)	**0.0270**	**0.00620**
605100	TA2-2-**038**-PUCS-011-17.0-18.0	11/15/01	ND (0.00453)	**0.144**	**0.0312**
605100	TA2-2-**038**-PUCS-012-2.0-3.0	11/15/01	ND (0.00453)	**0.0934**	**0.0265 J**
605100	TA2-2-**038**-PUCS-012-7.0-8.0	11/15/01	ND (0.000907)	**0.0524**	**0.0179**
605100	TA2-2-**038**-PUCS-012-12.0-13.0	11/15/01	ND (0.000907)	**0.0454**	**0.0136**
605100	TA2-2-**038**-PUCS-012-17.0-18.0	11/15/01	ND (0.000907)	**0.0525**	**0.0180**
605101	TA2-2-**038**-PUCS-013-2.0-3.0	11/19/01	ND (0.00907 J)	**0.117 J**	**0.0381 J**
605101	TA2-2-**038**-PUCS-013-2.0-3.0-D	11/19/01	ND (0.00907 J)	**0.147 J**	**0.0441 J**
605101	TA2-2-**038**-PUCS-013-7.0-8.0	11/19/01	ND (0.00907 J)	**0.115 J**	ND (0.0143 J)
605101	TA2-2-**038**-PUCS-013-12.0-13.0	11/19/01	ND (0.00453 J)	**0.0349 J**	ND (0.00717 J)
605101	TA2-2-**038**-PUCS-013-17.0-18.0	11/19/01	ND (0.00453 J)	**0.0439 J**	ND (0.00717 J)
605101	TA2-2-**038**-PUCS-014-2.0-3.0	11/19/01	ND (0.00907 J)	**0.112 J**	ND (0.0143 J)
605101	TA2-2-**038**-PUCS-014-7.0-8.0	11/19/01	ND (0.00453 J)	**0.0640 J**	ND (0.00717 J)
605101	TA2-2-**038**-PUCS-014-12.0-13.0	11/19/01	ND (0.000907 J)	**0.0237 J**	ND (0.00143 J)
605101	TA2-2-**038**-PUCS-014-17.0-18.0	11/19/01	ND (0.00453 J)	**0.0466 J**	**0.0151 J**
605099	TA2-2-**038**-PUCS-015-2.0-3.0	11/15/01	ND (0.000907)	**0.0778**	**0.0167**
605099	TA2-2-**038**-PUCS-015-7.0-8.0	11/15/01	ND (0.00907)	**0.188**	**0.0298 J**
605099	TA2-2-**038**-PUCS-015-12.0-13.0	11/15/01	ND (0.0181)	**0.857**	**0.158**
605099	TA2-2-**038**-PUCS-015-17.0-18.0	11/15/01	ND (0.000907)	**0.0270**	**0.00540**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605091	TA2-2-038-PUCS-016-2.0-3.0	11/13/01	ND (0.00453 J)	**0.153 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-016-7.0-8.0	11/13/01	ND (0.000907 J)	**0.0536 J**	ND (0.00143 J)
605091	TA2-2-038-PUCS-016-12.0-13.0	11/13/01	ND (0.00453 J)	**0.0958 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-016-17.0-18.0	11/13/01	ND (0.000907 J)	**0.0076 J**	ND (0.00143 J)
605091	TA2-2-038-PUCS-017-2.0-3.0	11/13/01	ND (0.00453 J)	**0.0735 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-017-2.0-3.0-D	11/13/01	ND (0.00453 J)	**0.122 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-017-7.0-8.0	11/13/01	ND (0.000907 J)	**0.0177 J**	**0.0099 J**
605091	TA2-2-038-PUCS-017-12.0-13.0	11/13/01	ND (0.000907 J)	**0.0163 J**	**0.0109 J**
605091	TA2-2-038-PUCS-017-17.0-18.0	11/13/01	ND (0.000907 J)	**0.0203 J**	**0.0193 J**
605091	TA2-2-038-PUCS-018-2.0-3.0	11/13/01	ND (0.00453 J)	**0.144 J**	ND (0.00717 J)
605091	TA2-2-038-PUCS-018-7.0-8.0	11/13/01	ND (0.000907 J)	**0.0136 J**	ND (0.00143 J)
605091	TA2-2-038-PUCS-018-12.0-13.0	11/13/01	ND (0.000907 J)	**0.00747 J**	**0.0044 J**
605091	TA2-2-038-PUCS-018-17.0-18.0	11/13/01	ND (0.00907 J)	**0.0736 J**	ND (0.0143 J)
605089	TA2-2-038-PUCS-019-1.0-2.0	11/12/01	ND (0.00907)	**0.217 J**	**0.0506 J**
605089	TA2-2-038-PUCS-019-4.0-5.0	11/12/01	ND (0.00907)	**0.195 J**	**0.0736 J**
605089	TA2-2-038-PUCS-019-7.0-8.0	11/12/01	ND (0.00907)	**0.351 J**	**0.0879 J**
605089	TA2-2-038-PUCS-019-7.0-8.0-D	11/12/01	ND (0.0453)	**2.150**	ND (0.0717)
605089	TA2-2-038-PUCS-019-10.0-11.0	11/12/01	ND (0.00907)	**0.132**	ND (0.0143)
605090	TA2-2-038-PUCS-020-1.0-2.0	11/13/01	ND (0.00907)	**0.159**	**0.0285 J**
605090	TA2-2-038-PUCS-020-4.0-5.0	11/13/01	ND (0.000907 J)	**0.0148 J**	ND (0.00143 J)
605090	TA2-2-038-PUCS-020-7.0-8.0	11/13/01	ND (0.000907)	**0.00330 J**	ND (0.00143)
605090	TA2-2-038-PUCS-020-10.0-11.0	11/13/01	ND (0.000907 J)	**0.00260 J**	ND (0.00143 J)
605090	TA2-2-038-PUCS-021-1.0-2.0	11/13/01	ND (0.00907)	**0.164**	**0.0435**
605090	TA2-2-038-PUCS-021-1.0-2.0-D	11/13/01	ND (0.00907)	**0.153**	**0.0385**
605090	TA2-2-038-PUCS-021-4.0-5.0	11/13/01	ND (0.000907)	**0.0182**	ND (0.00143)
605090	TA2-2-038-PUCS-021-7.0-8.0	11/13/01	ND (0.00453)	**0.0717**	**0.0218**
605090	TA2-2-038-PUCS-021-10.0-11.0	11/13/01	ND (0.000907)	**0.00320 J**	ND (0.00143)
605090	TA2-2-038-PUCS-022-1.0-2.0	11/13/01	ND (0.00907)	**0.363**	ND (0.0143)
605090	TA2-2-038-PUCS-022-4.0-5.0	11/13/01	ND (0.00453)	**0.0387**	ND (0.00717)
605090	TA2-2-038-PUCS-022-7.0-8.0	11/13/01	ND (0.00453)	**0.0630**	ND (0.00717)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605090	TA2-2-038-PUCS-022-10.0-11.0	11/13/01	ND (0.000907 J)	**0.0260 J**	ND (0.00143 J)
605090	TA2-2-038-PUCS-023-1.0-2.0	11/13/01	ND (0.00907)	**0.218**	ND (0.0143)
605090	TA2-2-038-PUCS-023-4.0-5.0	11/13/01	ND (0.000907)	**0.0364**	ND (0.00143)
605090	TA2-2-038-PUCS-023-7.0-8.0	11/13/01	ND (0.000907)	**0.0374**	ND (0.00143)
605090	TA2-2-038-PUCS-023-10.0-11.0	11/13/01	ND (0.000907 J)	**0.0128 J**	**0.00440 J**
605090	TA2-2-038-PUCS-024-1.0-2.0	11/13/01	ND (0.00907)	**0.196**	ND (0.0143)
605090	TA2-2-038-PUCS-024-4.0-5.0	11/13/01	ND (0.000907 J)	**0.0220 J**	ND (0.00143 J)
605090	TA2-2-038-PUCS-024-7.0-8.0	11/13/01	ND (0.000907)	**0.00690**	ND (0.00143)
605091	TA2-2-038-PUCS-024-7.0-8.0-D	11/13/01	ND (0.000907 J)	**0.0072 J**	**0.0033 J**
605091	TA2-2-038-PUCS-024-10.0-11.0	11/13/01	ND (0.000907 J)	**0.0234 J**	**0.0062 J**
605089	TA2-2-038-PUCS-025-1.0-2.0	11/12/01	ND (0.00907)	**0.137 J**	**0.0377 J**
605089	TA2-2-038-PUCS-025-4.0-5.0	11/12/01	ND (0.00907)	**0.197 J**	**0.0522 J**
605089	TA2-2-038-PUCS-025-7.0-8.0	11/12/01	ND (0.0181)	**0.699 J**	**0.150 J**
605089	TA2-2-038-PUCS-025-10.0-11.0	11/12/01	ND (0.00907)	**0.418 J**	**0.0981 J**
605089	TA2-2-038-PUCS-026-1.0-2.0	11/12/01	ND (0.00907)	**0.217 J**	**0.0530 J**
605089	TA2-2-038-PUCS-026-1.0-2.0-D	11/12/01	ND (0.00907)	**0.230 J**	**0.0625 J**
605089	TA2-2-038-PUCS-026-4.0-5.0	11/12/01	ND (0.000907)	**0.00370 J**	ND (0.00143)
605089	TA2-2-038-PUCS-026-7.0-8.0	11/12/01	ND (0.000907)	**0.0140 J**	**0.00460 J**
605089	TA2-2-038-PUCS-026-10.0-11.0	11/12/01	ND (0.000907)	**0.00620 J**	ND (0.00143)
605089	TA2-2-038-PUCS-027-1.0-2.0	11/12/01	ND (0.00907)	**0.123 J**	**0.0284 J**
605089	TA2-2-038-PUCS-027-4.0-5.0	11/12/01	ND (0.000907)	**0.0567 J**	**0.0175 J**
605089	TA2-2-038-PUCS-027-7.0-8.0	11/12/01	ND (0.000907)	**0.00590 J**	ND (0.00143)
605089	TA2-2-038-PUCS-027-10.0-11.0	11/12/01	ND (0.00907)	**0.0141 J**	ND (0.0143)
605088	TA2-2-038-PUCS-028-1.0-2.0	11/12/01	ND (0.00907)	**0.170**	ND (0.0143)
605088	TA2-2-038-PUCS-028-4.0-5.0	11/12/01	ND (0.000907)	**0.00580**	ND (0.00143)
605089	TA2-2-038-PUCS-028-7.0-8.0	11/12/01	ND (0.00907)	**0.0854 J**	ND (0.0143)
605089	TA2-2-038-PUCS-028-10.0-11.0	11/12/01	ND (0.000907)	**0.0158 J**	ND (0.00143)
605088	TA2-2-038-PUCS-029-1.0-2.0	11/12/01	ND (0.00907)	**0.352**	ND (0.0143)
605088	TA2-2-038-PUCS-029-4.0-5.0	11/12/01	ND (0.000907)	**0.0614**	ND (0.00143)
605088	TA2-2-038-PUCS-029-7.0-8.0	11/12/01	ND (0.00907)	**0.153**	ND (0.0143)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605088	TA2-2-038-PUCS-029-7.0-8.0-D	11/12/01	ND (0.000907)	**0.0310**	ND (0.00143)
605088	TA2-2-038-PUCS-029-10.0-11.0	11/12/01	ND (0.000907)	**0.0231**	**0.00700**
605088	TA2-2-038-PUCS-030-1.0-2.0	11/12/01	ND (0.00907)	**0.261**	ND (0.0143)
605088	TA2-2-038-PUCS-030-4.0-5.0	11/12/01	ND (0.00907)	**0.152**	ND (0.0143)
605088	TA2-2-038-PUCS-030-7.0-8.0	11/12/01	ND (0.00907)	**0.168**	ND (0.0143)
605088	TA2-2-038-PUCS-030-10.0-11.0	11/12/01	ND (0.000907)	**0.00630**	ND (0.00143)
605087	TA2-2-038-PUCS-031-1.0-2.0	11/08/01	ND (0.000907)	**0.0418**	**0.00500**
605087	TA2-2-038-PUCS-031-4.0-5.0	11/08/01	ND (0.000907)	**0.0354**	**0.00660**
605087	TA2-2-038-PUCS-031-7.0-8.0	11/08/01	ND (0.000907)	**0.0347**	ND (0.00143)
605087	TA2-2-038-PUCS-031-10.0-11.0	11/08/01	ND (0.000907)	**0.0307**	**0.00560**
605087	TA2-2-038-PUCS-032-1.0-2.0	11/08/01	ND (0.000907)	**0.114**	ND (0.00143)
605087	TA2-2-038-PUCS-032-4.0-5.0	11/08/01	ND (0.000907)	**0.0290**	**0.0048 J**
605087	TA2-2-038-PUCS-032-7.0-8.0	11/08/01	ND (0.00453)	**0.142**	ND (0.00717)
605087	TA2-2-038-PUCS-032-10.0-11.0	11/08/01	ND (0.000907)	**0.0474 J**	**0.0446**
605088	TA2-2-038-PUCS-033-1.0-2.0	11/12/01	ND (0.00907)	**0.0753**	ND (0.0143)
605088	TA2-2-038-PUCS-033-4.0-5.0	11/12/01	ND (0.00907)	**0.104**	ND (0.0143)
605088	TA2-2-038-PUCS-033-7.0-8.0	11/12/01	ND (0.000907)	**0.0175**	**0.00730**
605088	TA2-2-038-PUCS-033-10.0-11.0	11/12/01	ND (0.000907)	**0.00490**	ND (0.00143)
605087	TA2-2-038-PUCS-034-1.0-2.0	11/08/01	ND (0.000907)	**0.0395**	ND (0.00143)
605087	TA2-2-038-PUCS-034-1.0-2.0-D	11/08/01	ND (0.000907)	**0.0346**	ND (0.00143)
605087	TA2-2-038-PUCS-034-4.0-5.0	11/08/01	ND (0.000907 J)	**0.0188 J**	ND (0.00143 J)
605087	TA2-2-038-PUCS-035-1.0-2.0	11/08/01	ND (0.000907)	**0.0762**	ND (0.00143)
605087	TA2-2-038-PUCS-035-4.0-5.0	11/08/01	ND (0.000907)	**0.103**	ND (0.00143)
605086	TA2-2-038-PUCS-036-1.0-2.0	11/08/01	ND (0.00453 J)	**0.156 J**	**0.0322 J**
605086	TA2-2-038-PUCS-036-4.0-5.0	11/08/01	ND (0.000907 J)	**0.0596 J**	**0.00700 J**
605086	TA2-2-038-PUCS-037-1.0-2.0	11/08/01	ND (0.000907 J)	**0.0189 J**	ND (0.00143 J)
605086	TA2-2-038-PUCS-037-4.0-5.0	11/08/01	ND (0.000907 J)	**0.0180 J**	ND (0.00143 J)
605086	TA2-2-038-PUCS-038-1.0-2.0	11/08/01	ND (0.000907 J)	**0.0406 J**	**0.00561 J**
605104	TA2-2-038-PUCS-039-2.0-3.0	11/26/01	ND (0.00181 J)	**0.0495 J**	**0.0110 J**
605104	TA2-2-038-PUCS-040-2.0-3.0	11/26/01	ND (0.00907 J)	**0.284 J**	**0.0487 J**

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605104	TA2-2-**038**-PUCS-041-3.0-4.0	11/26/01	ND (0.0181 J)	**0.405 J**	**0.0609 J**
605104	TA2-2-**038**-PUCS-041-6.0-7.0	11/26/01	ND (0.0181 J)	**0.555 J**	ND (0.0287 J)
605104	TA2-2-**038**-PUCS-042-1.0-2.0	11/26/01	ND (0.00453 J)	**0.0623 J**	**0.0102 J**
605104	TA2-2-**038**-PUCS-042-1.0-2.0-D	11/26/01	ND (0.00453 J)	**0.0921 J**	**0.0167 J**
605104	TA2-2-**038**-PUCS-042-4.0-5.0	11/26/01	ND (0.00907 J)	**0.181 J**	**0.0285 J**
605104	TA2-2-**038**-PUCS-042-7.0-8.0	11/26/01	ND (0.00907 J)	**0.287 J**	**0.0380 J**
605104	TA2-2-**038**-PUCS-042-10.0-11.0	11/26/01	ND (0.0181 J)	**0.870 J**	**0.116 J**
605104	TA2-2-**038**-PUCS-043-1.0-2.0	11/26/01	ND (0.00453 J)	**0.0845 J**	**0.0133 J**
605104	TA2-2-**038**-PUCS-043-4.0-5.0	11/26/01	ND (0.0181 J)	**0.426 J**	**0.0673 J**
605104	TA2-2-**038**-PUCS-043-7.0-8.0	11/26/01	ND (0.0181 J)	**0.653 J**	**0.0820 J**
605104	TA2-2-**038**-PUCS-043-10.0-11.0	11/26/01	ND (0.00181 J)	**0.0711 J**	ND (0.00287 J)
605104	TA2-2-**038**-PUCS-044-1.0-2.0	11/26/01	ND (0.00907 J)	**0.233 J**	**0.0291 J**
605104	TA2-2-**038**-PUCS-044-4.0-5.0	11/26/01	ND (0.00907 J)	**0.207 J**	**0.0295 J**
605104	TA2-2-**038**-PUCS-044-7.0-8.0	11/26/01	ND (0.00453 J)	**0.138 J**	**0.0188 J**
605104	TA2-2-**038**-PUCS-044-7.0-8.0-D	11/26/01	ND (0.00907 J)	**0.150 J**	**0.0259 J**
605104	TA2-2-**038**-PUCS-044-10.0-11.0	11/26/01	ND (0.00453 J)	**0.130 J**	ND (0.00717 J)
605103	TA2-2-**038**-PUCS-045-1.0-2.0	11/26/01	ND (0.00453)	**0.102**	ND (0.00717)
605103	TA2-2-**038**-PUCS-045-4.0-5.0	11/26/01	ND (0.000907)	**0.0484**	**0.00550**
605103	TA2-2-**038**-PUCS-045-7.0-8.0	11/26/01	ND (0.00453)	**0.137**	**0.0199**
605103	TA2-2-**038**-PUCS-045-10.0-11.0	11/26/01	ND (0.00453)	**0.129**	**0.0160 J**
605103	TA2-2-**038**-PUCS-046-1.0-2.0	11/26/01	ND (0.000907)	**0.0406**	ND (0.00143)
605103	TA2-2-**038**-PUCS-046-4.0-5.0	11/26/01	ND (0.000907)	**0.0258**	ND (0.00143)
605103	TA2-2-**038**-PUCS-046-7.0-8.0	11/26/01	ND (0.000907)	**0.0215**	ND (0.00143)
605103	TA2-2-**038**-PUCS-046-10.0-11.0	11/26/01	ND (0.00907)	**0.0492 J**	ND (0.0143)
605103	TA2-2-**038**-PUCS-047-1.0-2.0	11/26/01	ND (0.000907)	**0.0152**	ND (0.00143)
605103	TA2-2-**038**-PUCS-047-1.0-2.0-D	11/26/01	ND (0.000907)	**0.0189**	ND (0.00143)
605103	TA2-2-**038**-PUCS-047-4.0-5.0	11/26/01	ND (0.00453)	**0.0315**	ND (0.00717)
605103	TA2-2-**038**-PUCS-047-7.0-8.0	11/26/01	ND (0.00453)	**0.0357**	ND (0.00717)
605103	TA2-2-**038**-PUCS-047-10.0-11.0	11/26/01	ND (0.000907)	**0.0156**	ND (0.00143)
605102	TA2-2-**038**-PUCS-048-1.0-2.0	11/19/01	ND (0.00635)	**0.252**	ND (0.0100)

Refer to footnotes at end of table.

Table 3 (Continued)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605102	TA2-2-**038**-PUCS-048-4.0-5.0	11/19/01	ND (0.00544)	ND (0.00822)	ND (0.00860)
605102	TA2-2-**038**-PUCS-048-7.0-8.0	11/19/01	ND (0.000907)	**0.0292**	**0.00610**
605102	TA2-2-**038**-PUCS-048-10.0-11.0	11/19/01	ND (0.000907)	**0.0385**	**0.00760**
605103	TA2-2-**038**-PUCS-049-1.0-2.0	11/26/01	ND (0.000907)	**0.0337**	**0.00410**
605103	TA2-2-**038**-PUCS-049-4.0-5.0	11/26/01	ND (0.000907)	**0.0310**	ND (0.00143)
605103	TA2-2-**038**-PUCS-049-7.0-8.0	11/26/01	ND (0.000907)	**0.0265**	ND (0.00143)
605103	TA2-2-**038**-PUCS-049-7.0-8.0-D	11/26/01	ND (0.000907)	**0.0274**	**0.00400**
605103	TA2-2-**038**-PUCS-049-10.0-11.0	11/26/01	ND (0.00907)	**0.129 J**	ND (0.0143)
605102	TA2-2-**038**-PUCS-050-1.0-2.0	11/19/01	ND (0.00272)	**0.0839**	ND (0.00430)
605102	TA2-2-**038**-PUCS-050-4.0-5.0	11/19/01	ND (0.000907)	**0.00620**	**0.00470 J**
605102	TA2-2-**038**-PUCS-050-7.0-8.0	11/19/01	ND (0.000907)	**0.0275**	**0.00920 J**
605102	TA2-2-**038**-PUCS-050-10.0-11.0	11/19/01	ND (0.000907)	**0.0531 J**	**0.0119**
605102	TA2-2-**038**-PUCS-051-3.0-4.0	11/19/01	ND (0.000907)	**0.0108**	**0.0085 J**
605102	TA2-2-**038**-PUCS-051-6.0-7.0	11/19/01	ND (0.000907)	**0.00980**	**0.0038 J**
605102	TA2-2-**038**-PUCS-052-2.0-3.0	11/19/01	ND (0.000907)	**0.00460**	**0.0022 J**
605102	TA2-2-**038**-PUCS-052-2.0-3.0-D	11/19/01	ND (0.000907)	**0.0106 J**	**0.0030 J**
605102	TA2-2-**038**-PUCS-053-2.0-3.0	11/19/01	ND (0.000907)	**0.0114**	**0.0036 J**
605104	TA2-2-**038**-PUCS-054-2.0-3.0	11/26/01	ND (0.00907 J)	**0.296 J**	**0.0395 J**
605104	TA2-2-**038**-PUCS-054-2.0-3.0-D	11/26/01	ND (0.00907 J)	**0.160 J**	**0.0299 J**
605103	TA2-2-**038**-PUCS-055-2.0-3.0	11/26/01	ND (0.00453)	**0.141**	ND (0.00717)
605103	TA2-2-**038**-PUCS-056-2.0-3.0	11/26/01	ND (0.000907)	**0.0297**	ND (0.00143)
605086	TA2-2-**038**-PUCS-057-1.0-2.0	11/08/01	ND (0.000907 J)	**0.00780 J**	ND (0.00143 J)
605086	TA2-2-**038**-PUCS-057-4.0-5.0	11/08/01	ND (0.000907 J)	**0.00780 J**	ND (0.00143 J)
605087	TA2-2-**038**-PUCS-058-1.0-2.0	11/08/01	ND (0.000907)	**0.0346**	**0.00440**
605087	TA2-2-**038**-PUCS-058-4.0-5.0	11/08/01	ND (0.000907)	**0.0133 J**	ND (0.00143)
Equipment Blanks (µg/L)					
604548	TA2-2-PCS-EB1-S	06/18/01	ND (0.027)	ND (0.0251)	ND (0.0134)
604550	TA2-2-PCS-EB2-S	06/19/01	ND (0.027)	ND (0.0251)	ND (0.0134)
604554	TA2-2-PUCS-EB1-S	06/20/01	ND (0.027)	ND (0.0251)	ND (0.0134)
605044	TA2-2-EB4-001	10/30/01	ND (0.025)	ND (0.0232)	ND (0.0124)

Refer to footnotes at end of table.

Table 3 (Concluded)
PCB Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001 and October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605046	TA2-2-EB5-001	11/01/01	ND (0.025)	ND (0.0232)	ND (0.0124)
605082	TA2-2-EB6-001	11/05/01	ND (0.0257)	ND (0.0239)	ND (0.0128)
605084	TA2-2-EB7-001	11/06/01	ND (0.026)	ND (0.0241)	ND (0.0129)
605086	TA2-2-EB8-001	11/08/01	ND (0.026)	ND (0.0241)	ND (0.0129)
605088	TA2-2-EB9-001	11/12/01	ND (0.025)	ND (0.0232)	ND (0.0124)
605090	TA2-2-EB10-001	11/13/01	ND (0.026)	ND (0.0241)	ND (0.0129)
605099	TA2-2-EB11-001	11/15/01	ND (0.026)	ND (0.0241)	ND (0.0129)
605101	TA2-2-EB12-001	11/19/01	ND (0.025)	ND (0.0232)	ND (0.0124)
605103	TA2-2-EB13-001	11/26/01	ND (0.025)	ND (0.0232)	ND (0.0124)

Note: Values in **bold** represent detected PCBs. Shaded cells represent June 2001 samples.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample-naming scheme is provided in Table 1. ER Sample ID number segment in **bold** represents soil pile number.
D = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
µg/L = Microgram(s) per liter.
mg/kg = Milligram(s) per kilogram.
NA = Not analyzed.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
PCB = Polychlorinated biphenyl(s).
PCS = Potentially contaminated soil pile.
PUCS = Potentially uncontaminated soil pile.
R = Value rejected during data validation.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table 4
PCB Analytical Results for VCM Excavation Sampling, SWMU 2, October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
VCM Excavation Samples						
605039	TA2-2-**SDW**-550N-3770E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**SDW**-500N-3770E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**SDW**-450N-3770E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**SDW**-450N-3770E-D	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**SDW**-400N-3770E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**SDW**-375N-3770E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**SDW**-365N-3800E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**FLR**-400N-3800E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**FLR**-450N-3800E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**FLR**-500N-3800E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**SDW**-550N-3800E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**SDW**-550N-3850E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**FLR**-500N-3850E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**FLR**-500N-3850E-D	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605039	TA2-2-**FLR**-450N-3850E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**FLR**-400N-3850E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**SDW**-365N-3850E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**SDW**-365N-3900E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	**0.00340 JH**
605039	TA2-2-**FLR**-400N-3900E	10/22/01	ND (0.000790 JH)	ND (0.00282 JH)	ND (0.000727 JH)	ND (0.00167 JH)
605039	TA2-2-**FLR**-400N-3900E-D	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605040	TA2-2-**FLR**-450N-3900E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605040	TA2-2-**FLR**-500N-3900E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605040	TA2-2-**SDW**-550N-3900E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605040	TA2-2-**SDW**-550N-3950E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605040	TA2-2-**SDW**-550N-3950E-D	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605040	TA2-2-**FLR**-500N-3950E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)

Refer to footnotes at end of table.

Table 4 (Continued)
PCB Analytical Results for VCM Excavation Sampling, SWMU 2, October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
605040	TA2-2-**FLR**-450N-3950E	10/22/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605041	TA2-2-**FLR**-400N-3950E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**SDW**-365N-3950E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**SDW**-370N-4000E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0156 J**
605041	TA2-2-**FLR**-400N-4000E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**FLR**-450N-4000E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**FLR**-450N-4000E-D	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**FLR**-500N-4000E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**SDW**-550N-4000E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**SDW**-550N-4050E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**SDW**-550N-4100E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**FLR**-500N-4050E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**FLR**-450N-4050E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**FLR**-400N-4050E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**SDW**-375N-4050E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.0058 J**
605041	TA2-2-**SDW**-375N-4050-D	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	**0.00420 J**
605041	TA2-2-**SDW**-400N-4100E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605041	TA2-2-**FLR**-450N-4100E	10/23/01	ND (0.000790 J)	ND (0.00282 J)	ND (0.000727 J)	ND (0.00167 J)
605042	TA2-2-**FLR**-500N-4100E	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	R
605042	TA2-2-**FLR**-500N-4100E-D	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**SDW**-500N-4150E	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**SDW**-450N-4150E	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**SDW**-450N-4150E-D	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
605042	TA2-2-**SDW**-550N-4150E	10/25/01	ND (0.000790)	ND (0.00282)	ND (0.000727)	ND (0.00167)
Equipment Blanks (µg/L)						
605040	TA2-2-EB1-001	10/22/01	ND (0.0163)	ND (0.0775)	ND (0.0353)	ND (0.0413)
605041	TA2-2-EB2-001	10/23/01	ND (0.0168)	ND (0.0801)	ND (0.0365)	ND (0.0427)
605042	TA2-2-EB3-001	10/25/01	ND (0.0168)	ND (0.0801)	ND (0.0365)	ND (0.0427)

Refer to footnotes at end of table.

Table 4 (Continued)
PCB Analytical Results for VCM Excavation Sampling, SWMU 2, October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
VCM Excavation Samples					
605039	TA2-2-**SDW**-550N-3770E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**SDW**-500N-3770E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**SDW**-450N-3770E	10/22/01	ND (0.000907 JH)	**0.0101 JH**	ND (0.00143 JH)
605039	TA2-2-**SDW**-450N-3770E-D	10/22/01	ND (0.000907 JH)	**0.0102 JH**	ND (0.00143 JH)
605039	TA2-2-**SDW**-400N-3770E	10/22/01	ND (0.000907 JH)	**0.00750 JH**	ND (0.00143 JH)
605039	TA2-2-**SDW**-375N-3770E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**SDW**-365N-3800E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**FLR**-400N-3800E	10/22/01	ND (0.000907 JH)	**0.00220 JH**	ND (0.00143 JH)
605039	TA2-2-**FLR**-450N-3800E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**FLR**-500N-3800E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**SDW**-550N-3800E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**SDW**-550N-3850E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**FLR**-500N-3850E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**FLR**-500N-3850E-D	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-**FLR**-450N-3850E	10/22/01	ND (0.000907 JH)	**0.00870 JH**	**0.00493 JH**
605039	TA2-2-**FLR**-400N-3850E	10/22/01	ND (0.000907 JH)	**0.00350 JH**	ND (0.00143 JH)
605039	TA2-2-**SDW**-365N-3850E	10/22/01	ND (0.000907 JH)	**0.00440 JH**	ND (0.00143 JH)
605039	TA2-2-**SDW**-365N-3900E	10/22/01	ND (0.000907 JH)	**0.0107 JH**	**0.006 JH**
605039	TA2-2-**FLR**-400N-3900E	10/22/01	ND (0.000907 JH)	**0.00230 JH**	ND (0.00143 JH)
605039	TA2-2-**FLR**-400N-3900E-D	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-**FLR**-450N-3900E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-**FLR**-500N-3900E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-**SDW**-550N-3900E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-**SDW**-550N-3950E	10/22/01	ND (0.000907)	**0.00790**	ND (0.00143)
605040	TA2-2-**SDW**-550N-3950E-D	10/22/01	ND (0.000907)	**0.00650**	ND (0.00143)
605040	TA2-2-**FLR**-500N-3950E	10/22/01	ND (0.000907)	**0.0102**	**0.00510**
605040	TA2-2-**FLR**-450N-3950E	10/22/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-**FLR**-400N-3950E	10/23/01	ND (0.000907 J)	ND (0.00137 J)	ND (0.00143 J)
605041	TA2-2-**SDW**-365N-3950E	10/23/01	ND (0.000907 J)	ND (0.00137 J)	ND (0.00143 J)
605041	TA2-2-**SDW**-370N-4000E	10/23/01	ND (0.000907 J)	**0.0223 J**	**0.00690 J**
605041	TA2-2-**FLR**-400N-4000E	10/23/01	ND (0.000907 J)	**0.00470 J**	ND (0.00143 J)
605041	TA2-2-**FLR**-450N-4000E	10/23/01	ND (0.000907 J)	ND (0.00137 J)	ND (0.00143 J)
605041	TA2-2-**FLR**-450N-4000E-D	10/23/01	ND (0.000907 J)	ND (0.00137 J)	ND (0.00143 J)

Refer to footnotes at end of table.

Table 4 (Concluded)
PCB Analytical Results for VCM Excavation Sampling, SWMU 2, October–November 2001

Sample Attributes			Analyte (EPA Method 8082[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Aroclor-1248	Aroclor-1254	Aroclor-1260
605041	TA2-2-**FLR**-500N-4000E	10/23/01	ND (0.000907 J)	ND (0.00137 J)	ND (0.00143 J)
605041	TA2-2-**SDW**-550N-4000E	10/23/01	ND (0.000907 J)	ND (0.00137 J)	ND (0.00143 J)
605041	TA2-2-**SDW**-550N-4050E	10/23/01	ND (0.000907 J)	ND (0.00137 J)	ND (0.00143 J)
605041	TA2-2-**SDW**-550N-4100E	10/23/01	ND (0.000907 J)	**0.00360 J**	ND (0.00143 J)
605041	TA2-2-**FLR**-500N-4050E	10/23/01	ND (0.000907 J)	**0.00250 J**	ND (0.00143 J)
605041	TA2-2-**FLR**-450N-4050E	10/23/01	ND (0.000907 J)	**0.00220 J**	ND (0.00143 J)
605041	TA2-2-**FLR**-400N-4050E	10/23/01	ND (0.000907 J)	**0.00340 J**	ND (0.00143 J)
605041	TA2-2-**SDW**-375N-4050E	10/23/01	ND (0.000907 J)	**0.0270 J**	**0.00940 J**
605041	TA2-2-**SDW**-375N-4050-D	10/23/01	ND (0.000907 J)	**0.0157 J**	**0.00563 J**
605041	TA2-2-**SDW**-400N-4100E	10/23/01	ND (0.000907 J)	**0.0166 J**	**0.00810 J**
605041	TA2-2-**FLR**-450N-4100E	10/23/01	ND (0.000907 J)	**0.00140 J**	ND (0.00143 J)
605042	TA2-2-**FLR**-500N-4100E	10/25/01	ND (0.000907)	**0.0876**	**0.0117**
605042	TA2-2-**FLR**-500N-4100E-D	10/25/01	ND (0.000907)	**0.0606**	ND (0.00143)
605042	TA2-2-**SDW**-500N-4150E	10/25/01	ND (0.000907)	**0.00660**	ND (0.00143)
605042	TA2-2-**SDW**-450N-4150E	10/25/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-**SDW**-450N-4150E-D	10/25/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-**SDW**-550N-4150E	10/25/01	ND (0.000907)	ND (0.00137)	ND (0.00143)
Equipment Blanks (µg/L)					
605040	TA2-2-EB1-001	10/22/01	ND (0.0251)	ND (0.0233)	ND (0.0125)
605041	TA2-2-EB2-001	10/23/01	ND (0.026)	ND (0.0241)	ND (0.0129)
605042	TA2-2-EB3-001	10/25/01	ND (0.026)	ND (0.0241)	ND (0.0129)

Note: Values in **bold** represent detected PCBs.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample-naming scheme is provided in Table 1.

D = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
FLR = Floor.
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
µg/L = Microgram(s) per liter.
mg/kg = Milligram(s) per kilogram.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
PCB = Polychlorinated biphenyl(s).
R = Value rejected during data validation.
SDW = Sidewall.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.

Table 5
VOC Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes		Analyte (EPA Method 8260A[a]) (mg/kg)		
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Methylene Chloride
Potentially Contaminated Soil Piles				
604548	TA2-2-1-PCS-001-S	06/18/01	ND (0.001)	**0.000735 J**
604548	TA2-2-2-PCS-001-S	06/18/01	ND (0.001)	**0.00187 J**
604548	TA2-2-3-PCS-001-S	06/18/01	ND (0.001)	**0.00138 J**
604548	TA2-2-4-PCS-001-S	06/18/01	ND (0.001)	**0.000605 J**
604548	TA2-2-4-PCS-001-DU	06/18/01	ND (0.001)	**0.00047 J**
604548	TA2-2-5-PCS-001-S	06/18/01	ND (0.001)	**0.00111 J**
604548	TA2-2-6-PCS-001-S	06/18/01	ND (0.001)	ND (0.00044)
604548	TA2-2-7-PCS-001-S	06/18/01	ND (0.001)	**0.000558 J**
604548	TA2-2-8-PCS-001-S	06/18/01	ND (0.001)	**0.000475 J**
604548	TA2-2-9-PCS-001-S	06/18/01	ND (0.001)	**0.00149 J**
604548	TA2-2-9-PCS-001-DU	06/18/01	ND (0.001)	**0.000993 J**
604548	TA2-2-13-PCS-001-S	06/18/01	ND (0.001)	**0.00086 J**
604550	TA2-2-16-PCS-001-S	06/19/01	ND (0.001)	ND (0.00472 U)
604550	TA2-2-17-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-18-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-21-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-22-PCS-001-S	06/19/01	ND (0.001)	ND (0.0049 U)
604550	TA2-2-23-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-24-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-25-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-26-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-26-PCS-001-DU	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-27-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-28-PCS-001-S	06/19/01	ND (0.001)	ND (0.005 U)
604550	TA2-2-29-PCS-001-S	06/19/01	ND (0.001)	ND (0.0049 U)
Potentially Uncontaminated Soil Piles				
604554	TA2-2-33-PUCS-001-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-34-PUCS-001-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-34-PUCS-002-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-34-PUCS-002-DU	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-34-PUCS-003-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-34-PUCS-004-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-34-PUCS-005-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-35-PUCS-001-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-36-PUCS-001-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-38-PUCS-001-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-38-PUCS-002-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-38-PUCS-003-S	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-38-PUCS-003-DU	06/20/01	ND (0.001)	ND (0.005 U)
604554	TA2-2-38-PUCS-004-S	06/20/01	ND (0.001)	ND (0.005 U)

Refer to footnotes at end of table.

Table 5 (Concluded)
VOC Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes		Analyte (EPA Method 8260A[a]) (mg/kg)		
Record Number[b]	ER Sample Id[c]	Sample Date	Acetone	Methylene Chloride
604554	TA2-2-**38**-PUCS-005-S	06/20/01	ND (0.001)	ND (0.005 U)
Equipment and Trip Blanks (mg/L)				
604548	TA2-2-PCS-EB1-S	06/18/01	ND (0.00082 J)	ND (0.005 U)
604548	TA2-2-PCS-TB-1-S	06/18/01	ND (0.00082)	ND (0.00063)
604548	TA2-2-PCS-TB3-S	06/18/01	ND (0.00082)	ND (0.005 U)
604550	TA2-2-PCS-EB2-S	06/19/01	ND (0.00082)	ND (0.005 U)
604550	TA2-2-PCS-TB2-S	06/19/01	ND (0.00082)	ND (0.00063)
604554	TA2-2-PUCS-EB1-S	06/20/01	**0.00244 J**	**0.000974 J**
604554	TA2-2-PUCS-TB3-S	06/20/01	ND (0.00082)	**0.00204 J**

Note: Values in **bold** represent detected VOCs.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample-naming scheme is provided in Table 1. ER Sample ID number segment in **bold** represents soil pile number.
DU = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
PCS = Potentially contaminated soil pile.
PUCS = Potentially uncontaminated soil pile.
S = Soil Sample.
SWMU = Solid Waste Management Unit.
TB = Trip blank.
U = Analytical result was qualified as not detected.
VOC = Volatile organic compound.

Table 6
SVOC Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes		Analyte (EPA Method 8270C[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	2-Chlorophenol	Butylbenzyl-phthalate	Di-n-butylphthalate	Diphenylamine	Fluoranthene
Potentially Contaminated Soil Piles							
604548	TA2-2-**1**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	**0.0809 J**	ND (0.00333)
604548	TA2-2-**2**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	**0.0555**	ND (0.0157)	**0.00446 J**
604548	TA2-2-**3**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	**0.0074 J**
604548	TA2-2-**4**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	**0.0474 J**	ND (0.00333)
604548	TA2-2-**4**-PCS-001-DU	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604548	TA2-2-**5**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604548	TA2-2-**6**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604548	TA2-2-**7**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	**0.0345 J**	ND (0.0157)	ND (0.00333)
604548	TA2-2-**8**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604548	TA2-2-**9**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604548	TA2-2-**9**-PCS-001-DU	06/18/01	ND (0.005)	ND (0.0127)	**0.0417 J**	ND (0.0157)	ND (0.00333)
604548	TA2-2-**13**-PCS-001-S	06/18/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**16**-PCS-001-S	06/19/01	ND (0.005)	**0.0237 J**	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**17**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**18**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**21**-PCS-001-S	06/19/01	ND (0.005)	**0.243 J**	**0.082 J**	ND (0.0157)	**0.0141 J**
604550	TA2-2-**22**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**23**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	**0.168 J**	ND (0.0157)	ND (0.00333)
	TA2-2-**23**-PCS-001-DU	06/19/01	NA	NA	NA	NA	NA
604550	TA2-2-**24**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**25**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**26**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**26**-PCS-001-DU	06/19/01	ND (0.005)	ND (0.0127)	**0.0217 J**	ND (0.0157)	**0.0203 J**

Refer to footnotes at end of table.

Table 6 (Continued)
SVOC Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes		Analyte (EPA Method 8270C[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	2-Chlorophenol	Butylbenzyl-phthalate	Di-n-butylphthalate	Diphenylamine	Fluoranthene
604550	TA2-2-**27**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**28**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604550	TA2-2-**29**-PCS-001-S	06/19/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	**0.011**
Potentially Uncontaminated Piles							
604554	TA2-2-**34**-PUCS-004-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**34**-PUCS-005-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**35**-PUCS-001-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**36**-PUCS-001-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**38**-PUCS-001-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**38**-PUCS-002-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**38**-PUCS-003-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**38**-PUCS-003-DU	06/20/01	**0.010 J**	ND (0.0127)	ND (0.0206)	ND (0.0157)	**0.00534 J**
604554	TA2-2-**38**-PUCS-004-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
604554	TA2-2-**38**-PUCS-005-S	06/20/01	ND (0.005)	ND (0.0127)	ND (0.0206)	ND (0.0157)	ND (0.00333)
Equipment Blanks (mg/L)							
604548	TA2-2-PCS-EB1-S	06/18/01	ND (0.00124)	ND (0.00182)	ND (0.00182)	ND (0.00102)	ND (0.00012)
604550	TA2-2-PCS-EB2-S	06/19/01	ND (0.00124)	ND (0.00182)	ND (0.00182)	ND (0.00102)	ND (0.00012)
604554	TA2-2-PUCS-EB1-S	06/20/01	ND (0.00124)	ND (0.00182)	ND (0.00182)	ND (0.00102)	ND (0.00012)

Refer to footnotes at end of table.

Table 6 (Continued)
SVOC Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes		Analyte (EPA Method 8270C[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Phenanthrene	Phenol	Pyrene	bis (2-Ethylhexyl) phthalate
Potentially Contaminated Soil Piles						
604548	TA2-2-1-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.112**
604548	TA2-2-2-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.0333)
604548	TA2-2-3-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.0534)
604548	TA2-2-4-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.0347)
604548	TA2-2-4-PCS-001-DU	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.0415)
604548	TA2-2-5-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.0951)
604548	TA2-2-6-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.0493)
604548	TA2-2-7-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.175**
604548	TA2-2-8-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.127**
604548	TA2-2-9-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.247**
604548	TA2-2-9-PCS-001-DU	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.105)
604548	TA2-2-13-PCS-001-S	06/18/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.0521)
604550	TA2-2-16-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604550	TA2-2-17-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604550	TA2-2-18-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.141**
604550	TA2-2-21-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604550	TA2-2-22-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.0474**
604550	TA2-2-23-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
	TA2-2-23-PCS-001-DU	06/19/01	NA	NA	NA	NA
604550	TA2-2-24-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.0832**
604550	TA2-2-25-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604550	TA2-2-26-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.0235 J**
604550	TA2-2-26-PCS-001-DU	06/19/01	**0.0213 J**	ND (0.00366)	**0.0234 J**	**0.0693**
604550	TA2-2-27-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604550	TA2-2-28-PCS-001-S	06/19/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604550	TA2-2-29-PCS-001-S	06/19/01	**0.017**	ND (0.00366)	**0.00942**	**0.0957**

Refer to footnotes at end of table.

Table 6 (Concluded)
SVOC Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			Analyte (EPA Method 8270C[a]) (mg/kg)			
Record Number[b]	ER Sample ID[c]	Sample Date	Phenanthrene	Phenol	Pyrene	bis (2-Ethylhexyl) phthalate
Potentially Uncontaminated Piles						
604554	TA2-2-**34**-PUCS-004-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604554	TA2-2-**34**-PUCS-005-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604554	TA2-2-**35**-PUCS-001-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	**0.0536 J**
604554	TA2-2-**36**-PUCS-001-S	06/20/01	ND (0.004)	**0.0122 J**	ND (0.00866)	**0.0548 J**
604554	TA2-2-**38**-PUCS-001-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604554	TA2-2-**38**-PUCS-002-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604554	TA2-2-**38**-PUCS-003-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604554	TA2-2-**38**-PUCS-003-DU	06/20/01	**0.00459 J**	ND (0.00366)	ND (0.00866)	**0.251 J**
604554	TA2-2-**38**-PUCS-004-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
604554	TA2-2-**38**-PUCS-005-S	06/20/01	ND (0.004)	ND (0.00366)	ND (0.00866)	ND (0.00699)
Equipment Blanks (mg/L)						
604548	TA2-2-PCS-EB1-S	06/18/01	ND (0.00012)	ND (0.00084)	ND (0.00014)	ND (0.00004)
604550	TA2-2-PCS-EB2-S	06/19/01	ND (0.00012)	ND (0.00084)	ND (0.00014)	ND (0.00004)
604554	TA2-2-PUCS-EB1-S	06/20/01	ND (0.00012)	ND (0.00084)	ND (0.00014)	ND (0.00004)

Note: Values in **bold** represent detected SVOCs.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample-naming scheme is provided in Table 1. ER Sample ID number segment in **bold** represents soil pile number.
DU = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not analyzed.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
PCS = Potentially contaminated soil pile.
PUCS = Potentially uncontaminated soil pile.
S = Soil sample.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.

Table 7
Gross Alpha and Gross Beta Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting) (pCi/g)				Off-Site Laboratory Analysis Analyte (EPA Method 900.0[a]) (pCi/g)		
Record Number[b]	ER Sample ID[c]	Sample Date	Gross Alpha	2-Sigma Error	Gross Beta	2-Sigma Error	Record Number[b]	Gross Alpha	Gross Beta
Potentially Contaminated Soil Piles									
604547	TA2-2-**1**-PCS-001-S	06/18/01	ND (2.25)	--	ND (5.74)	--	--	--	--
604547	TA2-2-**2**-PCS-001-S	06/18/01	ND (2.25)	--	9.48	4.26	--	--	--
604547	TA2-2-**3**-PCS-001-S	06/18/01	ND (2.25)	--	9.17	4.21	--	--	--
604547	TA2-2-**4**-PCS-001-S	06/18/01	ND (2.25)	--	ND (5.74)	--	--	--	--
604547	TA2-2-**4**-PCS-001-DU	06/18/01	ND (2.25)	--	ND (5.74)	--	--	--	--
604547	TA2-2-**5**-PCS-001-S	06/18/01	ND (2.25)	--	ND (5.74)	--	604548	11.9	20.6
604547	TA2-2-**6**-PCS-001-S	06/18/01	ND (2.25)	--	6.70	4.00	--	--	--
604547	TA2-2-**7**-PCS-001-S	06/18/01	ND (2.25)	--	5.83	3.88	--	--	--
604547	TA2-2-**8**-PCS-001-S	06/18/01	ND (2.25)	--	6.84	3.98	--	--	--
604547	TA2-2-**9**-PCS-001-S	06/18/01	ND (2.25)	--	ND (5.74)	--	--	--	--
604547	TA2-2-**9**-PCS-001-DU	06/18/01	ND (2.25)	--	ND (5.74)	--	--	--	--
604547	TA2-2-**13**-PCS-001-S	06/18/01	ND (2.25)	--	ND (5.74)	--	604548	5.22	22.5
604549	TA2-2-**16**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**17**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**18**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**21**-PCS-001-S	06/19/01	ND (2.18)	--	7.65	4.09	--	--	--
604549	TA2-2-**22**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**23**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	604550	7.24	22.2
	TA2-2-**23**-PCS-001-DU	06/19/01	NA	--	NA	--	604550	6.26	20.9
604549	TA2-2-**24**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**25**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**26**-PCS-001-S	06/19/01	ND (2.18)	--	6.62	3.94	--	--	--
604549	TA2-2-**26**-PCS-001-DU	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**27**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**28**-PCS-001-S	06/19/01	ND (2.18)	--	ND (5.72)	--	--	--	--
604549	TA2-2-**29**-PCS-001-S	06/19/01	ND (2.18)	--	7.95	4.08	--	--	--

Refer to footnotes at end of table.

Table 7 (Continued)
Gross Alpha and Gross Beta Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis				Off-Site Laboratory Analysis		
			Analyte (Liquid Scintillation Counting) (pCi/g)				Analyte (EPA Method 900.0[a]) (pCi/g)		
Record Number[b]	ER Sample ID[c]	Sample Date	Gross Alpha	2-Sigma Error	Gross Beta	2-Sigma Error	Record Number[b]	Gross Alpha	Gross Beta
Potentially Uncontaminated Soil Piles									
604555	TA2-2-**30**-PUCS-001-S	06/21/01	ND (2.14)	--	6.10	3.93	--	--	--
604555	TA2-2-**30**-PUCS-002-S	06/21/01	ND (2.14)	--	8.42	4.19	--	--	--
604555	TA2-2-**31**-PUCS-001-S	06/21/01	ND (2.14)	--	15.7	4.88	--	--	--
604555	TA2-2-**32**-PUCS-001-S	06/21/01	ND (2.14)	--	ND (5.65)	--	--	--	--
604553	TA2-2-**33**-PUCS-001-S	06/20/01	ND (2.14)	--	11.4	4.39	604554	11.7	22
604553	TA2-2-**34**-PUCS-001-S	06/20/01	ND (2.14)	--	12.00	4.43	604554	13.6	21.2
604553	TA2-2-**34**-PUCS-002-S	06/20/01	ND (2.14)	--	9.24	4.17	604554	13.5	19
604553	TA2-2-**34**-PUCS-002-DU	06/20/01	ND (2.14)	--	13.3	4.60	604554	18	25.8
604553	TA2-2-**34**-PUCS-003-S	06/20/01	ND (2.14)	--	10.3	4.25	604554	11.8	17.5 J
604553	TA2-2-**34**-PUCS-004-S	06/20/01	ND (2.14)	--	8.72	4.12	604554	12.4	21.4
604553	TA2-2-**34**-PUCS-005-S	06/20/01	ND (2.14)	--	8.31	4.10	604554	11.5	19
604555	TA2-2-**34**-PUCS-006-S	06/21/01	ND (2.14)	--	5.77	3.88	--	--	--
604555	TA2-2-**34**-PUCS-007-S	06/21/01	ND (2.14)	--	6.13	3.92	--	--	--
604555	TA2-2-**34**-PUCS-008-S	06/21/01	ND (2.14)	--	7.99	4.09	--	--	--
604555	TA2-2-**34**-PUCS-009-S	06/21/01	ND (2.14)	--	5.85	3.85	--	--	--
604555	TA2-2-**34**-PUCS-010-S	06/21/01	ND (2.14)	--	7.05	3.97	--	--	--
604555	TA2-2-**34**-PUCS-011-S	06/21/01	ND (2.14)	--	ND (5.65)	--	--	--	--
604555	TA2-2-**34**-PUCS-012-S	06/21/01	ND (2.00)	--	7.01	4.00	--	--	--
604555	TA2-2-**34**-PUCS-013-S	06/21/01	ND (2.00)	--	6.88	3.95	--	--	--
604555	TA2-2-**34**-PUCS-014-S	06/21/01	ND (2.00)	--	16.3	4.92	--	--	--
604555	TA2-2-**34**-PUCS-015-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-**34**-PUCS-015-DU	06/21/01	ND (2.00)	--	6.33	3.88	--	--	--
604555	TA2-2-**34**-PUCS-016-S	06/21/01	ND (2.00)	--	7.71	4.03	--	--	--
604555	TA2-2-**34**-PUCS-017-S	06/21/01	ND (2.00)	--	10.2	4.31	--	--	--
604555	TA2-2-**34**-PUCS-018-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-**34**-PUCS-019-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--

Refer to footnotes at end of table.

Table 7 (Continued)
Gross Alpha and Gross Beta Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis				Off-Site Laboratory Analysis		
			Analyte (Liquid Scintillation Counting) (pCi/g)				Analyte (EPA Method 900.0[a]) (pCi/g)		
Record Number[b]	ER Sample ID[c]	Sample Date	Gross Alpha	2-Sigma Error	Gross Beta	2-Sigma Error	Record Number[b]	Gross Alpha	Gross Beta
604555	TA2-2-**34**-PUCS-020-S	06/21/01	ND (2.00)	--	8.83	4.16	--	--	--
604555	TA2-2-**34**-PUCS-021-S	06/21/01	ND (2.00)	--	10.7	4.38	--	--	--
604555	TA2-2-**34**-PUCS-021-DU	06/21/01	ND (2.00)	--	5.96	3.90	--	--	--
604555	TA2-2-**34**-PUCS-022-S	06/21/01	ND (2.00)	--	6.41	3.91	--	--	--
604555	TA2-2-**34**-PUCS-023-S	06/21/01	ND (2.00)	--	9.79	4.27	--	--	--
604555	TA2-2-**34**-PUCS-024-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-**34**-PUCS-025-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-**34**-PUCS-026-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-**34**-PUCS-027-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-**34**-PUCS-027-DU	06/21/01	ND (2.00)	--	6.32	3.90	--	--	--
604555	TA2-2-**34**-PUCS-028-S	06/21/01	ND (2.00)	--	6.86	3.94	--	--	--
604555	TA2-2-**34**-PUCS-029-S	06/21/01	ND (2.00)	--	7.39	3.99	--	--	--
604555	TA2-2-**34**-PUCS-030-S	06/21/01	ND (2.00)	--	6.41	3.90	--	--	--
604555	TA2-2-**34**-PUCS-031-S	06/21/01	ND (2.00)	--	8.59	4.12	--	--	--
604556	TA2-2-**34**-PUCS-032-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-**34**-PUCS-033-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-**34**-PUCS-033-DU	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-**34**-PUCS-034-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-**34**-PUCS-035-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-**34**-PUCS-036-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-**34**-PUCS-037-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-**34**-PUCS-038-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604553	TA2-2-**35**-PUCS-001-S	06/20/01	ND (2.14)	--	8.71	4.13	604554	11.0	23.4
604553	TA2-2-**36**-PUCS-001-S	06/20/01	ND (2.14)	--	9.05	4.15	604554	10.4	20.9
604555	TA2-2-**37**-PUCS-001-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-**37**-PUCS-002-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604553	TA2-2-**38**-PUCS-001-S	06/20/01	ND (2.14)	--	7.70	4.00	604554	12.9	21.6

Refer to footnotes at end of table.

Table 7 (Continued)
Gross Alpha and Gross Beta Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting) (pCi/g)				Off-Site Laboratory Analysis Analyte (EPA Method 900.0[a]) (pCi/g)		
Record Number[b]	ER Sample ID[c]	Sample Date	Gross Alpha	2-Sigma Error	Gross Beta	2-Sigma Error	Record Number[b]	Gross Alpha	Gross Beta
604553	TA2-2-38-PUCS-002-S	06/20/01	ND (2.14)	--	ND (5.67)	--	604554	5.95	19.5
604553	TA2-2-38-PUCS-003-S	06/20/01	ND (2.14)	--	ND (5.67)	--	604554	14.7	15.7 J
604553	TA2-2-38-PUCS-003-DU	06/20/01	ND (2.14)	--	6.41	3.88	604554	10.2	21.9
604553	TA2-2-38-PUCS-004-S	06/20/01	ND (2.14)	--	7.64	4.02	604554	16.1	17.7 J
604553	TA2-2-38-PUCS-005-S	06/20/01	ND (2.14)	--	7.87	4.03	604554	6.35	24.3
604557	TA2-2-38-PUCS-006-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-007-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-007-DU	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-008-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-009-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-010-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-011-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-012-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-013-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-014-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-014-DU	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-015-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-016-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-017-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-018-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604556	TA2-2-38-PUCS-019-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-38-PUCS-020-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-38-PUCS-021-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-38-PUCS-022-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-38-PUCS-023-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-38-PUCS-024-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604556	TA2-2-38-PUCS-024-DU	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--

Refer to footnotes at end of table.

Table 7 (Continued)
Gross Alpha and Gross Beta Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting) (pCi/g)				Off-Site Laboratory Analysis Analyte (EPA Method 900.0[a]) (pCi/g)		
Record Number[b]	ER Sample ID[c]	Sample Date	Gross Alpha	2-Sigma Error	Gross Beta	2-Sigma Error	Record Number[b]	Gross Alpha	Gross Beta
604556	TA2-2-38-PUCS-025-S	06/25/01	ND (1.42)	--	ND (6.08)	--	--	--	--
604555	TA2-2-38-PUCS-026-S	06/21/01	ND (2.00)	--	5.65	3.81	--	--	--
604555	TA2-2-38-PUCS-027-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-38-PUCS-028-S	06/21/01	ND (2.00)	--	5.89	3.84	--	--	--
604555	TA2-2-38-PUCS-029-S	06/21/01	ND (2.00)	--	6.11	3.85	--	--	--
604555	TA2-2-38-PUCS-030-S	06/21/01	ND (2.00)	--	8.48	4.11	--	--	--
604555	TA2-2-38-PUCS-031-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-38-PUCS-032-S	06/21/01	ND (2.00)	--	6.45	3.89	--	--	--
604555	TA2-2-38-PUCS-033-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-38-PUCS-034-S	06/21/01	ND (2.00)	--	10.1	4.28	--	--	--
604555	TA2-2-38-PUCS-034-DU	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-38-PUCS-035-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-38-PUCS-036-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-38-PUCS-037-S	06/21/01	ND (2.00)	--	ND (5.62)	--	--	--	--
604555	TA2-2-38-PUCS-038-S	06/21/01	ND (2.00)	--	7.57	4.04	--	--	--
604557	TA2-2-38-PUCS-039-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-040-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-041-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-042-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-043-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-044-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-045-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-046-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-047-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-047-DU	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-048-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-049-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-050-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-38-PUCS-051-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--

Refer to footnotes at end of table.

Table 7 (Concluded)
Gross Alpha and Gross Beta Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting) (pCi/g)				Off-Site Laboratory Analysis Analyte (EPA Method 900.0[a]) (pCi/g)		
Record Number[b]	ER Sample ID[c]	Sample Date	Gross Alpha	2-Sigma Error	Gross Beta	2-Sigma Error	Record Number[b]	Gross Alpha	Gross Beta
604557	TA2-2-**38**-PUCS-052-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
604557	TA2-2-**38**-PUCS-053-S	06/26/01	ND (1.83)	--	ND (5.70)	--	--	--	--
Equipment Blanks (pCi/L)									
604548	TA2-2-PCS-EB1-S	06/18/01	--	--	--	--	604548	ND (0.689)	ND (0.256 J)
604549	TA2-2-PCS-EB2-S	06/19/01	--	--	--	--	604550	ND (0.839)	ND (0.536 J)
604554	TA2-2-PUCS-EB1-S	06/20/01	--	--	--	--	604554	ND (0.350 J)	0.287 J
604555	TA2-2-PUCS-EB4	06/21/01	ND (45.7)	--	44.6	82.7	--	--	--
604557	TA2-2-PUCS-EB5	06/26/01	ND (49.4)	--	ND (129)	--	--	--	--
604557	TA2-2-PUCS-EB6	06/26/01	ND (49.4)	--	ND (129)	--	--	--	--

[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample-naming scheme is provided in Table 1. ER Sample ID number segment in **bold** represents soil pile number.
DU = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
NA = Not analyzed.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
PCS = Potentially contaminated soil pile.
PUCS = Potentially uncontaminated soil pile.
S = Soil sample.
SWMU = Solid Waste Management Unit
-- = No sample.

Table 8
Tritium Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis				Off-Site Laboratory Analysis	
			Analyte (Liquid Scintillation Counting)				Analyte (EPA 906.0[a])	
Record Number[b]	ER Sample ID[c]	Sample Date	Tritium (pCi/g)[d]	2-Sigma Error	Tritium (pCi/L)[e]	2-Sigma Error	Record Number[b]	Tritium (pCi/L)[f]
Potentially Contaminated Soil Piles								
604547	TA2-2-**1**-PCS-001-S	06/18/01	15.1	12.7	302,000	254,000	--	--
604547	TA2-2-**2**-PCS-001-S	06/18/01	17.9	13.8	358,000	276,000	--	--
604547	TA2-2-**3**-PCS-001-S	06/18/01	14.3	12.6	286,000	252,000	--	--
604547	TA2-2-**4**-PCS-001-S	06/18/01	24.7	12.8	494,000	256,000	--	--
604547	TA2-2-**4**-PCS-001-DU	06/18/01	22.8	12.2	456,000	244,000	--	--
604547	TA2-2-**5**-PCS-001-S	06/18/01	21.9	13.6	438,000	272,000	604548	60,000
604547	TA2-2-**6**-PCS-001-S	06/18/01	19.2	14.9	384,000	298,000	--	--
604547	TA2-2-**7**-PCS-001-S	06/18/01	21.2	13.7	424,000	274,000	--	--
604547	TA2-2-**8**-PCS-001-S	06/18/01	23.3	13.6	466,000	272,000	--	--
604547	TA2-2-**9**-PCS-001-S	06/18/01	22.6	14.6	452,000	292,000	--	--
604547	TA2-2-**9**-PCS-001-DU	06/18/01	30.9	16.0	618,000	320,000	--	--
604547	TA2-2-**13**-PCS-001-S	06/18/01	20.6	12.6	412,000	252,000	604548	82,500
604549	TA2-2-**16**-PCS-001-S	06/19/01	25.6	12.8	512,000	256,000	--	--
604549	TA2-2-**17**-PCS-001-S	06/19/01	25.3	12.4	506,000	248,000	--	--
604549	TA2-2-**18**-PCS-001-S	06/19/01	21.3	12.4	426,000	248,000	--	--
604549	TA2-2-**21**-PCS-001-S	06/19/01	34.7	16.4	694,000	328,000	--	--
604549	TA2-2-**22**-PCS-001-S	06/19/01	23.9	14.1	478,000	282,000	--	--
604549	TA2-2-**23**-PCS-001-S	06/19/01	31.6	13.0	632,000	260,000	604550	327,000
604549	TA2-2-**23**-PCS-001-DU	06/19/01	--	--	--	--	604550	394,000
604549	TA2-2-**24**-PCS-001-S	06/19/01	40.4	15.0	808,000	300,000	--	--
604549	TA2-2-**25**-PCS-001-S	06/19/01	32.4	11.4	648,000	228,000	--	--
604549	TA2-2-**26**-PCS-001-S	06/19/01	23.1	12.8	462,000	256,000	--	--
604549	TA2-2-**26**-PCS-001-DU	06/19/01	27.0	13.8	540,000	276,000	--	--
604549	TA2-2-**27**-PCS-001-S	06/19/01	24.0	13.6	480,000	272,000	--	--
604549	TA2-2-**28**-PCS-001-S	06/19/01	16.2	12.6	324,000	252,000	--	--
604549	TA2-2-**29**-PCS-001-S	06/19/01	21.3	13.0	426,000	260,000	--	--

Refer to footnotes at end of table.

Table 8 (Continued)
Tritium Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting)				Off-Site Laboratory Analysis Analyte (EPA 906.0[a])	
Record Number[b]	ER Sample ID[c]	Sample Date	Tritium (pCi/g)[d]	2-Sigma Error	Tritium (pCi/L)[e]	2-Sigma Error	Record Number[b]	Tritium (pCi/L)[f]
Potentially Uncontaminated Soil Piles								
604555	TA2-2-**30**-PUCS-001-S	06/21/01	18.1	14.3	362,000	286,000	--	--
604555	TA2-2-**30**-PUCS-002-S	06/21/01	25.5	16.4	510,000	328,000	--	--
604555	TA2-2-**31**-PUCS-001-S	06/21/01	30.1	14.8	602,000	296,000	--	--
604555	TA2-2-**32**-PUCS-001-S	06/21/01	29.0	14.9	580,000	298,000	--	--
604553	TA2-2-**33**-PUCS-001-S	06/20/01	27.0	13.6	540,000	272,000	604554	20,400
604553	TA2-2-**34**-PUCS-001-S	06/20/01	29.3	12.8	586,000	256,000	604554	99,900
604553	TA2-2-**34**-PUCS-002-S	06/20/01	13.5	12.2	270,000	244,000	604554	13,800
604553	TA2-2-**34**-PUCS-002-DU	06/20/01	30.3	14.8	606,000	296,000	604554	24,700
604553	TA2-2-**34**-PUCS-003-S	06/20/01	22.0	11.8	440,000	236,000	604554	20,300
604553	TA2-2-**34**-PUCS-004-S	06/20/01	19.1	13.2	382,000	264,000	604554	6,540
604553	TA2-2-**34**-PUCS-005-S	06/20/01	26.8	14.7	536,000	294,000	604554	17,100
604555	TA2-2-**34**-PUCS-006-S	06/21/01	14.3	13.5	286,000	270,000	--	--
604555	TA2-2-**34**-PUCS-007-S	06/21/01	16.0	13.4	320,000	268,000	--	--
604555	TA2-2-**34**-PUCS-008-S	06/21/01	26.2	14.0	524,000	280,000	--	--
604555	TA2-2-**34**-PUCS-009-S	06/21/01	15.3	11.5	306,000	230,000	--	--
604555	TA2-2-**34**-PUCS-010-S	06/21/01	21.8	12.5	436,000	250,000	--	--
604555	TA2-2-**34**-PUCS-011-S	06/21/01	10.9	12.4	218,000	248,000	--	--
604555	TA2-2-**34**-PUCS-012-S	06/21/01	27.5	15.6	550,000	312,000	--	--
604555	TA2-2-**34**-PUCS-013-S	06/21/01	19.1	13.3	382,000	266,000	--	--
604555	TA2-2-**34**-PUCS-014-S	06/21/01	26.8	14.9	536,000	298,000	--	--
604555	TA2-2-**34**-PUCS-015-S	06/21/01	12.6	11.4	252,000	228,000	--	--
604555	TA2-2-**34**-PUCS-015-DU	06/21/01	22.5	12.7	450,000	254,000	--	--
604555	TA2-2-**34**-PUCS-016-S	06/21/01	13.0	12.3	260,000	246,000	--	--
604555	TA2-2-**34**-PUCS-017-S	06/21/01	21.8	14.6	436,000	292,000	--	--
604555	TA2-2-**34**-PUCS-018-S	06/21/01	13.8	12.9	276,000	258,000	--	--

Refer to footnotes at end of table.

Table 8 (Continued)
Tritium Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting)				Off-Site Laboratory Analysis Analyte (EPA 906.0[a])	
Record Number[b]	ER Sample ID[c]	Sample Date	Tritium (pCi/g)[d]	2-Sigma Error	Tritium (pCi/L)[e]	2-Sigma Error	Record Number[b]	Tritium (pCi/L)[f]
604555	TA2-2-**34**-PUCS-019-S	06/21/01	11.4	12.9	228,000	258,000	--	--
604555	TA2-2-**34**-PUCS-020-S	06/21/01	15.3	13.1	306,000	262,000	--	--
604555	TA2-2-**34**-PUCS-021-S	06/21/01	22.5	15.8	450,000	316,000	--	--
604555	TA2-2-**34**-PUCS-021-DU	06/21/01	8.68	14.0	173,600	280,000	--	--
604555	TA2-2-**34**-PUCS-022-S	06/21/01	16.8	13.0	336,000	260,000	--	--
604555	TA2-2-**34**-PUCS-023-S	06/21/01	23.3	14.8	466,000	296,000	--	--
604555	TA2-2-**34**-PUCS-024-S	06/21/01	12.2	13.0	244,000	260,000	--	--
604555	TA2-2-**34**-PUCS-025-S	06/21/01	12.4	12.2	248,000	244,000	--	--
604555	TA2-2-**34**-PUCS-026-S	06/21/01	12.1	10.2	242,000	204,000	--	--
604555	TA2-2-**34**-PUCS-027-S	06/21/01	18.0	11.9	360,000	238,000	--	--
604555	TA2-2-**34**-PUCS-027-DU	06/21/01	24.7	14.1	494,000	282,000	--	--
604555	TA2-2-**34**-PUCS-028-S	06/21/01	15.1	12.1	302,000	242,000	--	--
604555	TA2-2-**34**-PUCS-029-S	06/21/01	25.8	12.9	516,000	258,000	--	--
604555	TA2-2-**34**-PUCS-030-S	06/21/01	24.8	13.6	496,000	272,000	--	--
604555	TA2-2-**34**-PUCS-031-S	06/21/01	21.8	13.6	358,000	272,000	--	--
604556	TA2-2-**34**-PUCS-032-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**34**-PUCS-033-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**34**-PUCS-033-DU	06/25/01	5.83	10.0	116,600	200,000	--	--
604556	TA2-2-**34**-PUCS-034-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**34**-PUCS-035-S	06/25/01	1.18	10.8	23,600	216,000	--	--
604556	TA2-2-**34**-PUCS-036-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**34**-PUCS-037-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**34**-PUCS-038-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604553	TA2-2-**35**-PUCS-001-S	06/20/01	29.9	14.9	598,000	298,000	604554	25,900
604553	TA2-2-**36**-PUCS-001-S	06/20/01	24.6	13.0	492,000	260,000	604554	199,000
604555	TA2-2-**37**-PUCS-001-S	06/21/01	14.0	12.3	280,000	246,000	--	--
604555	TA2-2-**37**-PUCS-002-S	06/21/01	14.8	12.0	296,000	240,000	--	--
604553	TA2-2-**38**-PUCS-001-S	06/20/01	34.6	14.0	692,000	280,000	604554	216,000

Refer to footnotes at end of table.

Table 8 (Continued)
Tritium Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting)				Off-Site Laboratory Analysis Analyte (EPA 906.0[a])	
Record Number[b]	ER Sample ID[c]	Sample Date	Tritium (pCi/g)[d]	2-Sigma Error	Tritium (pCi/L)[e]	2-Sigma Error	Record Number[b]	Tritium (pCi/L)[f]
604553	TA2-2-**38**-PUCS-002-S	06/20/01	72.0	18.6	1,440,000	372,000	604554	935,000
604553	TA2-2-**38**-PUCS-003-S	06/20/01	39.8	14.8	796,000	296,000	604554	388,000
604553	TA2-2-**38**-PUCS-003-DU	06/20/01	40.5	15.0	810,000	300,000	604554	407,000
604553	TA2-2-**38**-PUCS-004-S	06/20/01	30.1	14.3	602,000	286,000	604554	94,800
604553	TA2-2-**38**-PUCS-005-S	06/20/01	41.2	15.3	824,000	306,000	604554	401,000
604557	TA2-2-**38**-PUCS-006-S	06/26/01	3.1	11.3	62,000	226,000	--	--
604557	TA2-2-**38**-PUCS-007-S	06/26/01	1.76	11.0	35,200	220,000	--	--
604557	TA2-2-**38**-PUCS-007-DU	06/26/01	6.01	11.1	120,200	222,000	--	--
604557	TA2-2-**38**-PUCS-008-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-**38**-PUCS-009-S	06/26/01	1.85	10.5	37,000	210,000	--	--
604557	TA2-2-**38**-PUCS-010-S	06/26/01	6.35	12.3	127,000	246,000	--	--
604557	TA2-2-**38**-PUCS-011-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-**38**-PUCS-012-S	06/26/01	2.61	11.2	52,200	224,000	--	--
604557	TA2-2-**38**-PUCS-013-S	06/26/01	6.35	11.0	127,000	220,000	--	--
604557	TA2-2-**38**-PUCS-014-S	06/26/01	2.56	11.0	51,200	220,000	--	--
604557	TA2-2-**38**-PUCS-014-DU	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-**38**-PUCS-015-S	06/26/01	0.761	10.0	15,220	200,000	--	--
604557	TA2-2-**38**-PUCS-016-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-**38**-PUCS-017-S	06/26/01	5.58	10.9	111,600	218,000	--	--
604557	TA2-2-**38**-PUCS-018-S	06/26/01	9.70	11.5	194,000	230,000	--	--
604556	TA2-2-**38**-PUCS-019-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**38**-PUCS-020-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**38**-PUCS-021-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**38**-PUCS-022-S	06/25/01	2.68	9.85	53,600	197,000	--	--
604556	TA2-2-**38**-PUCS-023-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**38**-PUCS-024-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**38**-PUCS-024-DU	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--
604556	TA2-2-**38**-PUCS-025-S	06/25/01	ND (17.9)	--	ND (358,000)	--	--	--

Refer to footnotes at end of table.

Table 8 (Continued)
Tritium Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting)				Off-Site Laboratory Analysis Analyte (EPA 906.0[a])	
Record Number[b]	ER Sample ID[c]	Sample Date	Tritium (pCi/g)[d]	2-Sigma Error	Tritium (pCi/L)[e]	2-Sigma Error	Record Number[b]	Tritium (pCi/L)[f]
604555	TA2-2-38-PUCS-026-S	06/21/01	15.6	11.9	312,000	238,000	--	--
604555	TA2-2-38-PUCS-027-S	06/21/01	19.2	12.8	384,000	256,000	--	--
604555	TA2-2-38-PUCS-028-S	06/21/01	19.4	12.6	388,000	252,000	--	--
604555	TA2-2-38-PUCS-029-S	06/21/01	21.7	12.3	434,000	246,000	--	--
604555	TA2-2-38-PUCS-030-S	06/21/01	19.6	13.2	392,000	264,000	--	--
604555	TA2-2-38-PUCS-031-S	06/21/01	21.6	12.7	432,000	254,000	--	--
604555	TA2-2-38-PUCS-032-S	06/21/01	38.7	14.0	774,000	280,000	--	--
604555	TA2-2-38-PUCS-033-S	06/21/01	27.0	14.3	540,000	286,000	--	--
604555	TA2-2-38-PUCS-034-S	06/21/01	34.9	15.2	698,000	304,000	--	--
604555	TA2-2-38-PUCS-034-DU	06/21/01	20.9	13.1	418,000	262,000	--	--
604555	TA2-2-38-PUCS-035-S	06/21/01	22.7	13.1	454,000	262,000	--	--
604555	TA2-2-38-PUCS-036-S	06/21/01	26.9	13.3	538,000	266,000	--	--
604555	TA2-2-38-PUCS-037-S	06/21/01	15.6	12.7	312,000	254,000	--	--
604555	TA2-2-38-PUCS-038-S	06/21/01	24.5	14.9	490,000	298,000	--	--
604557	TA2-2-38-PUCS-039-S	06/26/01	3.17	11.0	63,400	220,000	--	--
604557	TA2-2-38-PUCS-040-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-38-PUCS-041-S	06/26/01	3.26	11.2	65,200	224,000	--	--
604557	TA2-2-38-PUCS-042-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-38-PUCS-043-S	06/26/01	5.75	12.1	115,000	242,000	--	--
604557	TA2-2-38-PUCS-044-S	06/26/01	2.92	11.7	58,400	234,000	--	--
604557	TA2-2-38-PUCS-045-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-38-PUCS-046-S	06/26/01	4.90	11.1	98,000	222,000	--	--
604557	TA2-2-38-PUCS-047-S	06/26/01	4.77	12.1	95,400	242,000	--	--
604557	TA2-2-38-PUCS-047-DU	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-38-PUCS-048-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-38-PUCS-049-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
604557	TA2-2-38-PUCS-050-S	06/26/01	7.98	11.2	159,600	224,000	--	--
604557	TA2-2-38-PUCS-051-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--

Refer to footnotes at end of table.

Table 8 (Concluded)
Tritium Analytical Results for Excavated Soil Pile Sampling, SWMU 2, June 2001

Sample Attributes			On-Site Laboratory Analysis Analyte (Liquid Scintillation Counting)				Off-Site Laboratory Analysis Analyte (EPA 906.0[a])	
Record Number[b]	ER Sample ID[c]	Sample Date	Tritium (pCi/g)[d]	2-Sigma Error	Tritium (pCi/L)[e]	2-Sigma Error	Record Number[b]	Tritium (pCi/L)[f]
604557	TA2-2-**38**-PUCS-052-S	06/26/01	5.53	11.1	110,600	222,000	--	--
604557	TA2-2-**38**-PUCS-053-S	06/26/01	ND (15.3)	--	ND (306,000)	--	--	--
Equipment Blanks (pCi/L)								
	TA2-2-PCS-EB1-S	06/18/01	--	--	--	--	604548	ND (96.0)
	TA2-2-PCS-EB2-S	06/19/01	--	--	--	--	604550	ND (99.7)
	TA2-2-PUCS-EB1-S	06/20/01	--	--	--	--	604554	ND (96.9)
604555	TA2-2-PUCS-EB4	06/21/01	ND (352)	--	--	--	--	--
604557	TA2-2-PUCS-EB5	06/26/01	ND (426)	--	--	--	--	--
604557	TA2-2-PUCS-EB6	06/26/01	138	290	--	--	--	--

[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample-naming scheme is provided in Table 1. ER Sample ID number segment in **bold** represents soil pile number.
[d]Sample analyzed using Liquid Scintillation Counting. Data is considered to be qualitative and suitable for screening purposes only.
[e]On-site laboratory results converted based upon an assumed soil density of 1 gram/cubic centimeter and soil moisture of 5 percent.
[f]Analyzed by tritium distillation.
DU = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ID = Identification.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
PCS = Potentially contaminated soil pile.
PUCS = Potentially uncontaminated soil pile.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = No sample.

ANNEX A
Analytical Results for Soil Excavated During the VCM

ANNEX A
LIST OF TABLES

Table

Table A-1
Summary of SWMU 2 Excavated Soil Sample VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600003	TA2-2-BORROW-1	3-05-98	ND (5.4)	ND (2.2 J)	ND (5.4 J)	ND (1.1)	ND (1.1)	ND (2.2 J)	ND (3.2)
600003	TA2-2-BORROW-2	3-05-98	ND (5.4)	ND (2.2 J)	ND (5.4 J)	ND (1.1)	ND (1.1)	ND (2.2 J)	ND (3.3)
600046	TA2-2-ACF1-0001-SL2-S	4-01-98	ND (5.5 J)	ND (2.1)	ND (5.3)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600048	TA2-2-ACF4-0001-SL5-S	4-02-98	ND (5.2)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600061	TA2-2-PW12-0001-SL7-S	4-07-98	**8.1 J (21)**	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600061	TA2-2-PW12-0001-SL8-S	4-07-98	**11 J (21)**	ND (2.1)	**14 J (21)**	ND (1)	ND (1)	**4 J (8.4)**	**6.5 J (12)**
600066	TA2-2-ACF2-0001-SL4-S	4-13-98	ND (5.2)	**4.3 J (8.4)**	ND (5.2)	ND (1)	ND (1)	**14**	**21**
600069	TA2-2-PTW3-0001-SL4-S	4-14-98	**5.7 J (21)**	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600071	TA2-2-OVER-0001-SL2-S	4-16-98	R	R	R	R	R	R	R
600076	TA2-2-PTW4-SL14-000-S	4-24-98	ND (5)	ND (2)	ND (5 J)	ND (1)	ND (1)	ND (2)	ND (3)
600081	TA2-2-OVW4-0001-SL5-S	4-29-98	ND (5)	ND (2)	ND (5 J)	ND (1)	ND (1)	ND (2)	ND (3)
600083	TA2-2-OVW4-0001-SL8-S	5-04-98	ND (5.3 J)	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600083	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600083	TA2-2-SLPE-0001-SL9-S	5-04-98	**7.6 J (21)**	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600083	TA2-2-SLPE-SL14-000-S	5-04-98	ND (5.3 J)	ND (2.1)	ND (5.3)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600085	TA2-2-TRE1-SL06-000-S	5-06-98	ND (5.2 J)	ND (2.1 J)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1 J)	ND (3.1 J)
600085	TA2-2-TRE1-SL13-000-S	5-06-98	ND (5.2 J)	ND (2.1 J)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1 J)	ND (3.1 J)
600087	TA2-2-TRE2-SL07-000-S	5-11-98	ND (5.2 J)	ND (2.1 J)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1 J)	ND (3.1 J)
600277	TA2-2-SLPE-SL16-000-S	5-18-98	ND (5.2 J)	ND (2.1)	**8.3 J (21)**	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL19-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL22-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL23-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL32-000-S	5-18-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600277	TA2-2-SLPE-SL34-000-S	5-18-98	ND (5.1 J)	ND (2)	ND (5.1)	ND (1)	ND (1)	ND (2)	ND (3.1)
600279	TA2-2-TRE3-SL07-000-S	5-21-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600279	TA2-2-TRE4-SL10-000-S	5-21-98	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600281	TA2-2-OVTE-SL03-000-S	5-26-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600281	TA2-2-OVTE-SL08-000-S	5-26-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600285	TA2-2-OVTE-SL11-000-DUP	6-01-98	ND (5.3)	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600285	TA2-2-OVTE-SL11-000-S	6-01-98	ND (5.3)	ND (2.1)	ND (5.3)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600285	TA2-2-TRE5-SL08-000-S	6-01-98	ND (5.2)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600285	TA2-2-TRE5-SL17-000-S	6-01-98	ND (5.2)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600290	TA2-2-TRE6-SL09-000-S	6-08-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory split)	6-08-98	ND (2.2)	ND (0.23)	ND (4.4)	**0.74 J (1)**	ND (0.22)	NA	NA
600290	TA2-2-TRE6-SL22-000-DUP	6-08-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)

Refer to footnotes at end of table.

Table A-1 (Continued)
Summary of SWMU 2 Excavated Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600290	TA2-2-TRE6-SL22-000-S	6-08-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600292	TA2-2-OVA5-SL05-000-S	6-10-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600292	TA2-2-OVA5-SL11-000-S	6-10-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600292	TA2-2-OVA5-SL13-000-S	6-10-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600296	TA2-2-TRE7-SL08-000-S	6-17-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600296	TA2-2-TRE7-SL13-000-S	6-17-98	ND (5.2 J)	ND (2.1)	ND (5.2 J)	ND (1)	ND (1)	ND (2.1)	ND (3.2)
600296	TA2-2-TRE7-SL25-000-S	6-17-98	ND (5.3 J)	ND (2.1)	ND (5.3 J)	ND (1.1)	ND (1.1)	ND (2.1)	ND (3.2)
600299	TA2-2-TRE7-SL37-000-S	6-23-98	ND (26)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
600299	TA2-2-TRE7-SL49-000-S	6-23-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600299	TA2-2-TRE7-SL55-000-S	6-23-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600301	TA2-2-TRE8-SL01-000-S	6-25-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600301	TA2-2-TRE8-SL14-000-S	6-25-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600303	TA2-2-TRE8-SL07-000-S	6-29-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600303	TA2-2-TRE8-SL21-000-S	6-29-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600303	TA2-2-TRE8-SL29-000-S	6-29-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (15)
600461	TA2-2-ACF5-SL06-000-S	7-07-98	ND (26)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
600461	TA2-2-OVD1-SL01-000-S	7-07-98	ND (26)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
600461	TA2-2-OVD2-SL02-000-S	7-07-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600463	TA2-2-TRD1-SL02-000-S	7-07-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600463	TA2-2-TRD1-SL06-000-S	7-07-98	ND (27)	ND (11)	ND (54)	ND (5.4)	ND (5.4)	ND (11)	ND (16)
600463	TA2-2-TRD1-SL09-000-S	7-07-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600463	TA2-2-TRD1-SL12-000-S	7-07-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600465	TA2-2-OVD3-SL01-000-S	7-13-98	ND (26)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
600465	TA2-2-TRD2-SL01-000-S	7-13-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600465	TA2-2-TRD2-SL05-000-S	7-13-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600467	TA2-2-TRD3-SL03-000-S	7-20-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600467	TA2-2-TRD3-SL06-000-S	7-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600467	TA2-2-TRD3-SL12-000-S	7-20-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600470	TA2-2-TRD4-SL03-000-DUP	8-10-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600470	TA2-2-TRD4-SL03-000-S	8-10-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600470	TA2-2-TRD4-SL07-000-S	8-10-98	ND (27)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
600470	TA2-2-TRD4-SL14-000-S	8-10-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600470	TA2-2-TRD5-SL05-000-DUP	8-10-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600470	TA2-2-TRD5-SL05-000-S	8-10-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600474	TA2-2-OVD4-SL03-000-S	8-17-98	ND (27)	ND (11)	ND (54)	ND (5.4)	ND (5.4)	ND (11)	ND (16)
600474	TA2-2-TRD6-SL03-000-S	8-17-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
600474	TA2-2-TRD6-SL08-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600474	TA2-2-TRD6-SL15-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)

Refer to footnotes at end of table.

Table A-1 (Continued)
Summary of SWMU 2 Excavated Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600474	TA2-2-TRD6-SL19-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600474	TA2-2-TRD6-SL23-000-S	8-17-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-OVD7-SL02-000-S	9-14-98	ND (26)	ND (10)	ND (52)	ND (6.9 J)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-OVD8-SL02-000-S	9-14-98	ND (26)	ND (10)	ND (52)	ND (6.8 J)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL03-000-DUP	9-14-98	ND (26)	ND (10)	ND (53)	ND (7 J)	ND (5.3)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL03-000-S	9-14-98	ND (26)	ND (11)	ND (53)	ND (6.6 J)	ND (5.3)	ND (11)	ND (16)
600489	TA2-2-TRD7-SL11-000-S	9-14-98	ND (26)	ND (10)	ND (53)	ND (6.3 J)	ND (5.3)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL13-000-S	9-14-98	ND (25)	ND (10)	ND (52)	ND (6.7 J)	ND (5.2)	ND (10)	ND (16)
600489	TA2-2-TRD7-SL23-000-S	9-14-98	ND (2[illegible])	ND (10)	ND (52)	ND (6.9 J)	ND (5.2)	ND (10)	ND (16)
600493	TA2-2-SLPE-SL39-000-S	9-21-98	ND (26)	ND (10)	ND (52)	ND (6.7 J)	ND (5.2)	ND (10)	ND (16)
600493	TA2-2-SLPE-SL41-000-S	9-21-98	ND (26)	ND (10)	ND (53)	ND (6.6 J)	ND (5.3)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL01-049-DUP	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (15)
600502	TA2-2-TRD8-SL01-049-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (15)
600502	TA2-2-TRD8-SL04-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL16-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL27-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL33-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600502	TA2-2-TRD8-SL45-000-S	10-20-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2 J)	ND (10)	ND (16)
600505	TA2-2-SLPE-SL44-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (15)
600505	TA2-2-TRC9-SL01-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600506	TA2-2-TRC9-SL01-000-SP (off-site laboratory split)	11-03-98	R	ND (0.23)	ND (4.4)	ND (0.25 J)	ND (0.22)	NA	NA
600505	TA2-2-TRC9-SL05-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
600505	TA2-2-TRC9-SL19-000-S	11-03-98	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601134	TA2-2-TRC9-SL24-000-S	11-17-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
601134	TA2-2-TRC9-SL42-000-S	11-17-98	ND (27)	ND (11)	ND (54)	ND (5.4)	ND (5.4)	ND (11)	ND (16)
601134	TA2-2-TRC9-SL57-000-S	11-17-98	ND (27)	ND (11)	ND (53)	ND (5.3)	ND (5.3)	ND (11)	ND (16)
601134	TA2-2-TRC9-SL71-000-S	11-17-98	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
601143	TA2-2-TRC7-SL01-000-S	1-14-99	ND (26)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
601143	TA2-2-TRC7-SL21-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601143	TA2-2-TRC8-SL04-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (15)
601143	TA2-2-TRC8-SL11-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601143	TA2-2-TRC8-SL17-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601143	TA2-2-TRC9-SL83-000-S	1-14-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
601145	TA2-2-TRC6-SL07-000-S	1-21-99	ND (26)	ND (10)	ND (53)	ND (5.3)	ND (5.3)	ND (10)	ND (16)
601154	TA2-2-TRC5-SL07-000-S	2-01-99	ND (26)	ND (10)	ND (52)	ND (5.2)	ND (5.2)	ND (10)	ND (16)
602606	TA2-2-EAST-FNCE-001-DU	8-23-99	ND (25)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)
602606	TA2-2-EAST-FNCE-001-S	8-23-99	ND (25)	ND (10)	ND (51)	ND (5.1)	ND (5.1)	ND (10)	ND (15)

Refer to footnotes at end of table.

Table A-1 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Date	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
602606	TA2-2-TR2-P12-SL6-DU	8-23-99	ND (25)	ND (10)	ND (50)	ND (5)	ND (5)	ND (10)	ND (15)
602606	TA2-2-TR2-P12-SL6-S	8-23-99	ND (25)	ND (10)	ND (50)	ND (5)	ND (5)	ND (10)	ND (15)
602607	TA2-2-TR2-EAST-FNCE-002-DU (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	ND (1.4)	ND (0.9)	NA	NA
602607	TA2-2-TR2-EAST-FNCE-002-S (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	**2.9 J (5)**	ND (0.9)	NA	NA
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	**5.5**	ND (0.9)	NA	NA
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	ND (10.3)	ND (0.3)	ND (2.8)	**7.3**	ND (0.9)	NA	NA
Quality Assurance/Quality Control Samples (µg/L)									
600283	TA2-2-TRE5-001-EB	6-01-98	ND (2.2 J)	ND (0.23)	ND (4.4)	ND (4.6 J)	ND (0.22)	NA	NA
600283	TA2-2-TRE5-001-TB	6-01-98	R	R	R	R	R	NA	NA
600288	TA2-2-TRE6-SL09-000-TB	6-08-98	ND (2.2)	ND (0.23)	ND (4.4)	1	ND (0.22)	NA	NA
600459	TA2-2-TRD1-0006-EB	7-06-98	ND (2.2)	ND (0.23)	ND (4.4)	1.6	ND (0.22)	NA	NA
600459	TA2-2-TRD1-0006-TB	7-06-98	ND (2.2)	ND (0.23)	ND (4.4)	2.3	ND (0.22)	NA	NA
600472	TA2-2-TRD6-0015-EB	8-11-98	R	ND (0.23)	ND (4.4 J)	ND (1.1 J)	ND (0.22)	NA	NA
600472	TA2-2-TRD6-0015-TB	8-11-98	R	ND (0.23)	ND (4.4 J)	ND (1.5 J)	ND (0.22)	NA	NA
600494	TA2-2-TRD8-0025-EB	9-21-98	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
600494	TA2-2-TRD8-0025-TB	9-21-98	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
600506	TA2-2-TRC9-SL01-000-TB	11-03-98	R	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
601139	TA2-2-TRC7-0003-000-EB	11-30-98	ND (3.7)	ND (0.3)	ND (3.2)	1.5 J (5)	ND (0.5)	NA	NA
601139	TA2-2-TRC7-0003-000-TB	11-30-98	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA
602607	TA2-2-TR2-EAST-TR2-P12-TB	8-23-99	ND (3.7)	ND (0.3)	ND (3.2)	ND (1.2)	ND (0.5)	NA	NA

Note: Values in **bold** represent detected VOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Sample naming scheme is provided in Table 1.

[d]All quality assurance/quality control samples were analyzed by an off-site laboratory.

DU, DUP = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantitation limit, shown in parentheses.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
NA = Not analyzed.
ND = Not detected above the method detection limit, shown in parentheses.
R = Value rejected during data validation.
S = Soil sample.
SWMU = Solid Waste Management Unit.
TB = Trip blank.
VOC = Volatile organic compound.

Table A-2
Summary of SWMU 2 Excavated Soil and Confirmatory Soil Sampling
SVOC Analytical Results
March–December 1998
(Off-site Laboratory)

Sample Attributes			Analyte (EPA Method 8270[a]) (µg/kg)
Record Number[b]	ER Sample ID[c]	Sample Depth (ft)	bis(2-Ethylhexyl) phthalate
600004	TA2-2-ACF1-0001-18-S[d]	18	ND (167)
600007	TA2-2-ACF2-0001-15-S[d]	15	ND (167)
600010	TA2-2-ACF3-0001-12-S[d]	12	ND (167)
600041	TA2-2-ACF4-0001-12-S[d]	12	ND (167)
600047	TA2-2-PTW1-0001-10-S[d]	10	ND (167)
600062	TA2-2-PTW2-0001-12-S[d]	12	ND (167)
600067	TA2-2-PTW3-0001-12-S[d]	12	ND (170)
600072	TA2-2-PTW4-0001-15-S[d]	15	ND (170)
600288	TA2-2-TRE6-SL09-000-S	NA	**270 J (331)**
Quality Assurance/Quality Control Samples (µg/L)			
600059	TA2-2-PTW1-EB[d]	NA	ND (5)
600283	TA2-2-TRE5-001-EB	NA	ND (5)
600459	TA2-2-TRD1-0006-EB	NA	ND (5)
600472	TA2-2-TRD6-0015-EB	NA	ND (5)
600494	TA2-2-TRD8-0025-EB	NA	ND (3.7)
601139	TA2-2-TRC7-0003-000-EB	NA	ND (3.7)

Note: Values in **bold** represent detected SVOCs.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Sample naming scheme is provided in Table 1.
[d]VCM excavation confirmatory soil sample.
ACF = American Car & Foundry.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the MDL but is less than the reporting limit, shown in parentheses.
MDL = Method detection limit.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
NA = Not applicable.
ND = Not detected above the MDL, shown in parentheses.
PTW = Western Pit.
S = Soil sample.
SL = Soil Lot.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
TRC = Trench C.
TRD = Trench D.
TRE = Trench E.

Table A-3
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
Soil Excavated from Pits and Trenches								
600046	TA2-2-ACF1-0001-SL2-S	4-01-98	NA	130 J	0.54 J (0.57)	6	22	11
600066	TA2-2-ACF2-0001-SL4-S	4-13-98	3	190 J	0.43	1.1	10	8.6
600039	TA2-2-ACF3-0001-SLI-SU	3-23-98	NA	99	0.34	1.3	9.4	6.6
600039	TA2-2-ACF4-0001-SLI-SU	3-24-98	NA	180	0.44	12	37	17
600048	TA2-2-ACF4-0001-SL5-S	4-02-98	NA	160 J	0.64	27 J	34	17
600461	TA2-2-ACF5-SL06-000-S	7-07-98	3.3	200 J	0.31	0.49	6.1	5.6
600061	TA2-2-PW12-0001-SL7-S	4-07-98	NA	180 J	0.42	4.1 J	11	15
600061	TA2-2-PW12-0001-SL8-S	4-07-98	NA	120	0.38	4.3 J	12	6.6
600069	TA2-2-PTW3-0001-SL4-S	4-14-98	2.8	190 J	0.33	15 J	11	8.1
600076	TA2-2-PTW4-SL14-000-S	4-24-98	2.7	190 J	0.38	19 J	10	14
600085	TA2-2-TRE1-SL06-000-S	5-06-98	2.4	170 J	0.39	1.2	12	5.2
600085	TA2-2-TRE1-SL13-000-S	5-06-98	2.8 J	150 J	0.42 J	1.5 J	10 J	7.7 J
600087	TA2-2-TRE2-SL07-000-S	5-11-98	3 J	180 J	0.51 J	1.2 J	9.8 J	6.2 J
600279	TA2-2-TRE3-SL07-000-S	5-21-98	2.9	210 J	0.34	2.5	14	6.8
600279	TA2-2-TRE4-SL10-000-S	5-21-98	3.7	220 J	0.37	0.75	9.8	6
600285	TA2-2-TRE5-SL17-000-S	6-01-98	2.7	200 J	0.34	0.81	7.7	5.1
600285	TA2-2-TRE5-SL08-000-S	6-01-98	3	200 J	0.3	0.89	5.9	4.6
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory)	6-08-98	3.58	216	0.384 J (0.467)	0.996	8.02	5.67
600290	TA2-2-TRE6-SL09-000-S	6-08-98	3.1	230 J	0.41	1.3	11	6.5
600290	TA2-2-TRE6-SL22-000-S	6-08-98	2.6	200 J	0.41	0.88	9.6	5.3
600290	TA2-2-TRE6-SL22-000-DUP	6-08-98	3.4	150 J	0.38	0.95	9.8	5.7
600296	TA2-2-TRE7-SL08-000-S	6-17-98	3.1	170 J	0.4	0.82	6	4.7
600296	TA2-2-TRE7-SL13-000-S	6-17-98	4	250 J	0.37	1.9	7	5.7
600296	TA2-2-TRE7-SL25-000-S	6-17-98	3.4	210 J	0.35	0.86	6.8	5.7
600299	TA2-2-TRE7-SL37-000-S	6-23-98	2.9	170	0.35	0.46	7.7	7.3
600299	TA2-2-TRE7-SL49-000-S	6-23-98	2.4 J (2.6)	120	0.26	0.32	4.7	3.9

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600299	TA2-2-TRE7-SL55-000-S	6-23-98	2.9	160	0.36	0.64	5.7	4.8
600301	TA2-2-TRE8-SL01-000-S	6-25-98	3.4	**220**	0.37	0.43	7.5	5.6
600301	TA2-2-TRE8-SL14-000-S	6-25-98	3.2	180	0.31	0.24	6.1	4.7
600303	TA2-2-TRE8-SL07-000-S	6-29-98	3.8	**210**	0.41	0.43	9.5	5.8
600303	TA2-2-TRE8-SL21-000-S	6-29-98	3.5	**220**	0.42	0.38	8.8	5.9
600303	TA2-2-TRE8-SL29-000-S	6-29-98	3	190	0.36	0.38	8.2	4.8
600463	TA2-2-TRD1-SL02-000-S	7-07-98	2.6	160 J	0.35	0.7	6.8	4.4
600463	TA2-2-TRD1-SL06-000-S	7-07-98	2.4 J (2.5)	**230 J**	0.3	**1.6**	7.1	4.6
600463	TA2-2-TRD1-SL09-000-S	7-07-98	3.1	170 J	0.37	0.87	7.4	6.7
600463	TA2-2-TRD1-SL12-000-S	7-07-98	2.6	160 J	0.26	0.59	6.9	4.4
600465	TA2-2-TRD2-SL01-000-S	7-13-98	3.1	200 J	0.36	**1.2**	12	7.5
600465	TA2-2-TRD2-SL05-000-S	7-13-98	3	190 J	0.4	0.85	12	5.6
600467	TA2-2-TRD3-SL03-000-S	7-20-98	3.3	**220 J**	0.4	0.88	**13**	5.4
600467	TA2-2-TRD3-SL06-000-S	7-20-98	2.9	170 J	0.44	**12**	8.1	4.7
600467	TA2-2-TRD3-SL12-000-S	7-20-98	3.2	190 J	0.4	**3.6**	11	5.9
600470	TA2-2-TRD4-SL03-000-S	8-10-98	3.2	190 J	0.37	0.66	7.5	5.7
600470	TA2-2-TRD4-SL03-000-DUP	8-10-98	3.4	**220 J**	0.51	**1.1**	7.4	5.2
600470	TA2-2-TRD4-SL07-000-S	8-10-98	3.3	**230 J**	0.33	0.79	7.3	4.8
600470	TA2-2-TRD4-SL14-000-S	8-10-98	3	200 J	0.33	0.88	7.2	5.4
600470	TA2-2-TRD5-SL05-000-S	8-10-98	2.5	140 J	0.3	0.43	5.1	4.5
600470	TA2-2-TRD5-SL05-000-DUP	8-10-98	3.1	160 J	0.3	0.54	5.9	5.5
600474	TA2-2-TRD6-SL03-000-S	8-17-98	3.5	**240 J**	0.39	**1.9**	8.2	6.4
600474	TA2-2-TRD6-SL08-000-S	8-17-98	2.5 J (2.6)	**210 J**	0.3	**0.98**	7.2	5
600474	TA2-2-TRD6-SL15-000-S	8-17-98	2.6	**210 J**	0.36	0.6	5.9	5
600474	TA2-2-TRD6-SL19-000-S	8-17-98	2.4 J (2.6)	**230 J**	0.37	0.84	8.5	5.4
600474	TA2-2-TRD6-SL23-000-S	8-17-98	2.3 J (2.4)	190 J	0.27	0.69	5.3	4.4
600489	TA2-2-TRD7-SL03-000-S	9-14-98	3.6	**270 J**	0.32	**1.7 J**	7.5	9.3
600489	TA2-2-TRD7-SL03-000-DUP	9-14-98	3.3	**240**	0.34	**2.4**	8.9	7.1

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600489	TA2-2-TRD7-SL11-000-S	9-14-98	3.3	270 J	0.4	2 J	8.5	7.7
600489	TA2-2-TRD7-SL13-000-S	9-14-98	3.8	180 J	0.36	1.3 J	9	7.2
600489	TA2-2-TRD7-SL23-000-S	9-14-98	3.4	240 J	0.33	5.6 J	8.9	9.2
600502	TA2-2-TRD8-SL01-049-S	10-20-98	3.1	210 J	0.37	9.7	9.5 J	15
600502	TA2-2-TRD8-SL01-049-DUP	10-20-98	2.9	210 J	0.39	9.6	15 J	10
600502	TA2-2-TRD8-SL04-000-S	10-20-98	3.3	620 J	0.38	7.1	12 J	11
600502	TA2-2-TRD8-SL16-000-S	10-20-98	2.6	190 J	0.38	12	11 J	7.5
600502	TA2-2-TRD8-SL27-000-S	10-20-98	3	230 J	0.37	11	9.2 J	12
600502	TA2-2-TRD8-SL33-000-S	10-20-98	3.2	260 J	0.38	14	10 J	9
600502	TA2-2-TRD8-SL45-000-S	10-20-98	3.2	270 J	0.38	9.4	11 J	8.3
600505	TA2-2-TRC9-SL01-000-S	11-03-98	2.8	210 J	0.37	6.6	8.7	9.3
600505	TA2-2-TRC9-SL05-000-S	11-03-98	2.6	170 J	0.33	6.2	18	28
600505	TA2-2-TRC9-SL19-000-S	11-03-98	3.2	290 J	0.38	3.2	8.7	7.2
601134	TA2-2-TRC9-SL24-000-S	11-17-98	3.4	210 J	0.38	3.5	13	10
601134	TA2-2-TRC9-SL42-000-S	11-17-98	3.5	230 J	0.37	2	8.9	8.6
601134	TA2-2-TRC9-SL57-000-S	11-17-98	3.2	190 J	0.34	1.9	8.6	7.3
601134	TA2-2-TRC9-SL71-000-S	11-17-98	2.9	190 J	0.28	3.8	7.3	6.1
601143	TA2-2-TRC7-SL01-000-S	1-14-99	2.2 J (2.4)	180 J	0.32 J	4.1	8.2 J	6.5
601143	TA2-2-TRC7-SL21-000-S	1-14-99	3.3 J	200 J	0.39 J	1.8	11 J	7.1
601143	TA2-2-TRC8-SL04-000-S	1-14-99	2.9 J	170 J	0.34 J	7.8	9.6 J	11
601143	TA2-2-TRC8-SL11-000-S	1-14-99	3.4 J	280 J	0.39 J	8.6	12 J	15
601143	TA2-2-TRC8-SL17-000-S	1-14-99	3.7 J	180 J	0.37 J	10	10 J	9.9
601143	TA2-2-TRC9-SL83-000-S	1-14-99	1.7 J (2.5)	1,500 J	0.34 J	6.4	140 J	39
601145	TA2-2-TRC6-SL07-000-S	1-21-99	4 J	240 J	0.46 J	2.3	15 J	8.2
601154	TA2-2-TRC5-SL07-000-S	2-01-99	4	210	0.4	2.1	12	7.7
601596	TA2-2-TRC3-SL04-000-S	3-11-99	2.8	250	0.39	1.4	6	5.5
601596	TA2-2-TRC4-SL08-000-S	3-10-99	2.2 J (2.3)	180	0.29	0.59	5.9	21
601601	TA2-2-TRC3-SL12-000-S	3-29-99	3.5	220 J	0.49	3.1	10	8.9 J

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
601603	TA2-2-TRC2-SL02-000-S	4-07-99	3.1	200 J	0.5	2 J	9.1 J	7.1 J
601605	TA2-2-TRC1-SL06-000-S	4-08-99	3.4	220 J	0.42	1.7 J	8.2 J	6.6 J
601607	TA2-2-TRB1-SL03-000-S	4-13-99	3.8	240 J	0.47	1.6 J	11 J	8 J
601728	TA2-2-TRB2-SL01-000-S	4-21-99	4.4	230 J	0.65	2.3	14	6 J
601731	TA2-2-TRB3-SL01-000-S	4-27-99	3.7	270 J	0.5	2.1	16	5.8 J
601743	TA2-2-TRB3-SL16-000-S	6-07-99	8.3	280 J	0.54	16 J	14	9.1
602082	TA2-2-TRA3-SL02-000-S	6-17-99	2.1 J (2.2)	150 J	0.39	3.9	12	5.6 J
602088	TA2-2-TRA3-SL07-000-S	6-28-99	2.6	220 J	0.47	11	16	7.6 J
602093	TA2-2-TRA2-SL06-000-S	7-07-99	2.6	210 J	ND (0.027 J)	5.9	9.9	7.1 J
602099	TA2-2-TRA1-SL01-000-S	7-28-99	1.4 J (2.5)	98 J	0.31	2.4	5	100
602597	TA2-2-TR3-P10-SL1-S	8-18-99	ND (0.32 J)	120 J	0.55	2	10 J	6
602606	TA2-2-TR2-P12-SL6-S	8-23-99	2.5	180 J	0.5	5.9	14	8.6
602606	TA2-2-TR2-P12-SL6-DU	8-23-99	2.9	190 J	0.5	5.3	13	7.3
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	2.95	177	0.352 J (0.463)	5.14 J	11.5	8.5 J
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	3.05	192	0.347 J (0.476)	4.87 J	9.06	10.3 J
602617	TA2-2-TR1-P6-SL10-S	9-07-99	2.9	200 J	0.58	5.6	11	6.6
602784	TA2-2-TR1-P4-SL1-S	10-04-99	3	180 J	0.4	5.6	7.8	6.1
602784	TA2-2-TR1-P4-SL2-S	10-04-99	2.7	170 J	0.4	5.5	7.8	6.2
602791	TA2-2-TR1-P3-SL2-S	10-18-99	3.1	210 J	0.49	19	20	12
602792	TA2-2-TR1-P2-SL3-S	10-20-99	3.3	310 J	0.57	7.5	16	9.5
602796	TA2-2-TRB3-SL16-002-S	10-20-99	2.9	250 J	0.45	4	11	6.8
602796	TA2-2-TRB3-SL16-003-S	10-20-99	2.8	120 J	0.45	0.9	13	6.5
602796	TA2-2-TRB3-SL16-003-D	10-20-99	2.4	120 J	0.38	0.59	6.3	6.9
602796	TA2-2-TRB3-SL16-004-S	10-20-99	2.9	230 J	0.48	3.8	12	7.2
602796	TA2-2-TRB3-SL16-005-S	10-20-99	3.1	210 J	0.46	2.9	8.3	8.1
602796	TA2-2-TRC9-SL83-002-S	10-20-99	3.1	200 J	0.44	4	12	8.7

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
602796	TA2-2-TRC9-SL83-003-S	10-20-99	3.2	360 J	0.45	2.1	12	6.9
602796	TA2-2-TRC9-SL83-004-S	10-20-99	3.3	190 J	0.48	4.3	14	7.8
602796	TA2-2-TRC9-SL83-004-D	10-20-99	3.5	230 J	0.48	2.9	14	7.8
602796	TA2-2-TRC9-SL83-005-S	10-20-99	3.1	350 J	0.61	3	13	10
602804	TA2-2-TR1-P1-SL1-S	11-9-99	2.4	800 J	0.39	4.6	9.6	9
602800	TA2-2-TR1-P2-SL7-S	10-27-99	2.1 J (2.3)	150 J	0.43	7.4	12	8.3
602940	TA2-2-TR2-P8-SL1-S	12-01-99	3.3	130 J	0.47	0.59	70	170
602921	TA2-2-TR2-P10-SL1-S	11-19-99	2.2 J (2.4)	140 J	ND (0.28 U)	9.9	5.2	7.2
602967	TA2-2-TR2-P9-SL1-S	1-03-00	3.2	190 J	0.42	17 J	23 J	14
602967	TA2-2-TR2-P9-SL1-DU	1-03-00	3	190 J	0.34	6.4 J	14 J	7.6
602968	TA2-2-TR2-P7-SL1-S	1-03-00	2.6	380 J	0.36	2.5 J	10	9.6
602968	TA2-2-TR2-P8-SL1-S	1-03-00	3.6	190 J	0.48	3.8 J	21	14
602968	TA2-2-TR2-P8-SL1-DU	1-03-00	3.9	170 J	0.48	10 J	19	9.7
602968	TA2-2-TR2-P9-SL2-S	1-03-00	3.1	160 J	0.37	14 J	16	8.3
602970	TA2-2-TR2-P6-SL4-S	1-10-00	2.8	210	0.38	7.6 J	34 J	11
602974	TA2-2-TR2-P543-SL1-S	1-24-00	2.9	360 J	0.39	26	35	340 J
602974	TA2-2-TR2-P543-SL1-DU	1-24-00	3.5	250 J	0.38	15	18	240 J
602978	TA2-2-TR2-P543-SL4-S	2-08-00	3.6	320 J	0.48	7.4	27	83 J
602978	TA2-2-TR2-P543-SL5-S	2-08-00	3	640 J	0.37	8.6	21	61 J
603057	TA2-2-TR2-P2/1-SL1-S	2-28-00	3.1	170 J	0.37	7.1	14	26
603057	TA2-2-TR2-P2/1-SL1-DU	2-28-00	3.5	170 J	0.49	7.6	20	32
603057	TA2-2-TR2-P2/1-SL4-S	2-28-00	3.9	270 J	0.45	5.2	26	42
603057	TA2-2-TR3-P2/3-SL2-S	2-28-00	3.1	200 J	0.36	3.1	9.5	9.3
603057	TA2-2-TR3-P2/3-SL3-S	2-28-00	3.9	190 J	0.33	3.3	15	20
603068	TA2-2-TR3-P456-SL1-S	3-02-00	3.9	190 J	0.44	5.3	22	8.3
603068	TA2-2-TR3-P456-SL4-S	3-02-00	3	180 J	0.33	3.3	8.8	6.5
603068	TA2-2-TR3-P456-SL5-S	3-02-00	4	240 J	0.43	2.8	12	11
603068	TA2-2-TR3-P456-SL5-DU	3-02-00	3.6	210 J	0.42	6	13	7.3

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603070	TA2-2-TR3-P456-SL1-S (off-site laboratory)	3-07-00	3.07	**322**	0.368 J (0.51)	**4.65**	10.1	6.26 J
603070	TA2-2-TR3-P456-SL1-DU (off-site laboratory)	3-07-00	2.99	**240**	0.379 J (0.502)	**10.6**	9.22	6.37 J
603070	TA2-2-TR3-P456-SL4-S (off-site laboratory)	3-07-00	2.78	**227**	0.36 J (0.517)	**4.22**	10.1	**11.6 J**
603070	TA2-2-TR3-P456-SL4-DU (off-site laboratory)	3-07-00	3.35	**219**	0.353 J (0.497)	**16.1**	9.94	6.14 J
603070	TA2-2-TR3-P789-SL2-S (off-site laboratory)	3-07-00	3.02	**262**	0.377 J (0.494)	**68.6**	**13**	**77.5 J**
603070	TA2-2-TR3-P789-SL2-DU (off-site laboratory)	3-07-00	2.8	**207**	0.375 J (0.511)	**7.84**	**14.1**	**14.1 J**
603070	TA2-2-TR3-P789-SL3-S (off-site laboratory)	3-07-00	2.89	184	0.345 J (0.506)	**138**	**33.5**	10.3 J
603070	TA2-2-TR3-P789-SL3-DU (off-site laboratory)	3-07-00	2.52	175	0.331 J (0.476)	**6.87**	11.1	10.1 J
603072	TA2-2-TR3-P789-SL2-S	3-14-00	2.5	170 J	0.38	**7**	12	9 J
603072	TA2-2-TR3-P789-SL3-S	3-14-00	3	**220 J**	0.43	**11**	**16**	**15 J**
Overburden Soils								
600071	TA2-2-OVER-0001-SL2-S	4-16-98	2.9	110 J	0.41	0.44	9.7	6.6
600081	TA2-2-OVW4-0001-SL5-S	4-29-98	2.8	190 J	0.4	**2.2**	11	8.3
600083	TA2-2-OVW4-0001-SL8-S	5-04-98	3.4	160 J	0.45	0.56	11	6.6
600083	TA2-2-SLPE-0001-SL3-S	5-04-98	2.6	200 J	0.36	0.15 J (0.16)	7.5	5
600083	TA2-2-SLPE-0001-SL9-S	5-04-98	2.8	140 J	0.38	0.13 J (0.17)	8.6	6.2
600083	TA2-2-SLPE-SL14-000-S	5-04-98	2.7	140 J	0.35	0.68	8.4	5.4
600277	TA2-2-SLPE-SL16-000-S	5-18-98	2 J (2.5)	77 J	0.31	0.12 J (0.17)	5.5	3.4
600277	TA2-2-SLPE-SL19-000-S	5-18-98	2.8	160 J	0.39	0.14 J (0.15)	10	7
600277	TA2-2-SLPE-SL22-000-S	5-18-98	2.7	120 J	0.35	0.12 J (0.16)	9.2	4.8

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600277	TA2-2-SLPE-SL23-000-S	5-18-98	2.6	160 J	0.28	0.1 J (0.15)	7.8	4
600277	TA2-2-SLPE-SL32-000-S	5-18-98	1.7 J (2.4)	86 J	0.31	0.087 J (0.16)	5.5	3.8
600277	TA2-2-SLPE-SL34-000-S	5-18-98	2.1 J (2.5)	88 J	0.26	0.095 J (0.17)	8.5	4.1
600281	TA2-2-OVTE-SL03-000-S	5-26-98	1.8 J (2.5)	120 J	0.29	0.086 J (0.17)	5.9	3.8
600281	TA2-2-OVTE-SL08-000-S	5-26-98	2.5	120 J	0.42	0.64	6.7	5
600285	TA2-2-OVTE-SL11-000-S	6-01-98	3.8	140 J	0.39	0.14 J (0.17)	7.6	5.4
600285	TA2-2-OVTE-SL11-000-DUP	6-01-98	2.6	140 J	0.32	0.11 J (0.16)	5.3	4.3
600292	TA2-2-OVA5-SL05-000-S	6-10-98	2.6	160 J	0.41	0.14 J (0.15)	9.1	4.8
600292	TA2-2-OVA5-SL11-000-S	6-10-98	3.2	160 J	0.38	0.12 J (0.16)	8.8	4.8
600292	TA2-2-OVA5-SL13-000-S	6-10-98	2.7	170 J	0.33	0.094 J (0.16)	9.2	4.4
600461	TA2-2-OVD1-SL01-000-S	7-07-98	1.5 J (2.4)	110 J	0.25	0.074 J (0.16)	4.6	3.6
600461	TA2-2-OVD1-SL02-000-S	7-07-98	2.5	100 J	0.34	2	7.1	5.9
600465	TA2-2-OVD3-SL01-000-S	7-13-98	2 J (2.4)	110 J	0.39	0.13 J (0.16)	11	5.2
600474	TA2-2-OVD4-SL03-000-S	8-17-98	2.5	160 J	0.38	0.16 J (0.17)	10	6.2
600489	TA2-2-OVD7-SL02-000-S	9-14-98	3.2	190 J	0.35	0.28 J	8.1	7
600489	TA2-2-OVD8-SL02-000-S	9-14-98	3	220 J	0.29	0.14 J (0.15)	6.6	4.8
600493	TA2-2-SLPE-SL39-000-S	9-21-98	3.4	170 J	0.35	0.16 J	7.6	5.3
600493	TA2-2-SLPE-SL41-000-S	9-21-98	3.1	180 J	0.31	0.18 J	7	4.9
600505	TA2-2-SLPE-SL44-000-S	11-03-98	3.4	180 J	0.38	0.43	7.8	5.8
601726	TA2-2-OVB1-SL01-000-S	4-14-99	3	140 J	0.48	0.27	12	7.1 J
602093	TA2-2-OVA2-SL01-000-S	7-07-99	2.6	190	ND (0.38 U)	0.59	6.8	4.8 J
602093	TA2-2-OVA3-SL01-000-S	7-07-99	2.8	160 J	ND (0.4 U)	0.34	7.2	4.8 J
602099	TA2-2-FILL-DIRT-1/2-S	7-28-99	2.4	160 J	0.43	1.5	7.7	5.9
602099	TA2-2-FILL-DIRT-2/2-S	7-28-99	3.1	160 J	0.44	2	8.6	6.5
602591	TA2-2-OVA1-SL06-000-S	8-03-99	ND (2.2 U)	180 J	0.43	0.39	7.8 J	8.3
602591	TA2-2-OVT2-P12-SL1-S	8-03-99	ND (2.5 U)	190 J	0.49	0.56	7.5 J	3.7
602591	TA2-2-OVT3-P10-SL1-S	8-03-99	ND (2.2 U)	130 J	0.51	0.46	16 J	5.1
602617	TA2-2-OVT1-P6-SL1-S	9-07-99	3.2	150 J	0.44	0.26	8.4	5.8

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
602784	TA2-2-OVT1-P4-SL1-S	10-04-99	2.4	110	0.3	0.28	4.7	4.3
602791	TA2-2-OVT1-P2-SL1-S	10-18-99	3.4	140 J	0.43	0.25	12	6.7
602791	TA2-2-OVT1-P3-SL1-S	10-18-99	3.3	180 J	0.5	0.57	13	5.6
602800	TA2-2-OVT1-P1-SL1-S	10-27-99	2.0 J (2.3)	290 J	0.42	0.59	6.8	3.7
602921	TA2-2-OVT2-P10-SL1-S	11-19-99	2.6	160 J	0.6	0.52	7.2	4.6
602922	TA2-2-OVT2-P9-SL1-S	11-15-99	2.3 J (2.4)	110 J	0.52	0.19	8.8	4.6
602940	TA2-2-OVT2-P8-SL1-S	12-01-99	2.7	240 J	0.58	0.94	11	5.8
602967	TA2-2-OVT2-P6-SL1-S	1-03-00	3.6	170 J	0.48	0.22 J	12 J	6.4
602967	TA2-2-OVT2-P7-SL1-S	1-03-00	2.4	180 J	0.3	0.43 J	7.8 J	4.2
602968	TA2-2-OVT2-P5/1-SL1-S	1-03-00	3.6	170 J	0.43	0.5 J	10	6.7
603057	TA2-2-OVT3-P2/3-SL1-S	2-28-00	3.3	130 J	0.48	0.51	11	5.9
603057	TA2-2-OVT3-P2/3-SL1-DU	2-28-00	4.1	220 J	0.54	1	9.3	6.6
603057	TA2-2-OVT3-P456-SL1-S	2-28-00	3.5	230 J	0.52	0.48	9.5	6.7
603068	TA2-2-OVT3-P789-SL1-S	3-02-00	3.7	200 J	0.55	1	14	7.3
603068	TA2-2-OVT3-P789-SL2-S	3-02-00	3.2	160 J	0.41	0.39	8.4	5.7
603068	TA2-2-OVT3-P789-SL2-DU	3-02-00	3.5	310 J	0.46	7.1	15	12
602606	TA2-2-EAST-FNCE-001-S	8-23-99	3	290 J	0.56	1.8	13	6.4
602606	TA2-2-EAST-FNCE-001-DU	8-23-99	3.2	210 J	0.51	2.1	12	7.3
602607	TA2-2-TR2-EAST-FNCE-002-S	8-23-99	3.89	242	0.528	1.38 J	8.21	9.54 J
602607	TA2-2-TR2-EAST-FNCE-002-DU	8-23-99	3.45	226	0.389 J (0.459)	1.85 J	6.71	8.02 J
Soil Removed Directly from Artifacts (Bin Soils)								
601594	TA2-2-TRC7-C6-BIN-S	3-10-99	2.6	430	0.7	280	110	230
601594	TA2-2-TRC8-C/F-BIN-S	3-10-99	2.7	300	4.2	710	99	280
601594	TA2-2-TRC9-C/F-BIN-S	3-10-99	3	2,500	0.75	740	89	380
601594	TA2-2-TRD8-C/F-BIN-S	3-10-99	3.9	590	0.9	510	68	360
602974	TA2-2-P225-2C/F-BIN-S	1-24-00	3.4	1,100 J	0.47	320	58	620 J
602974	TA2-2-P225-3C/F-BIN-S	1-24-00	2.8	270 J	0.58	250	57	450 J
602796	TA2-2-COBL-GRIZ-002-S	10-20-99	2.1 J (2.7)	190 J	0.42	5.9	8	7.4

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
602796	TA2-2-COBL-GRIZ-003-S	10-20-99	2.4 J (2.5)	170 J	0.39	4.4	9.2	14
602796	TA2-2-COBL-GRIZ-004-S	10-20-99	2.5	2,700 J	0.39	6.8	9.5	24
602796	TA2-2-COBL-GRIZ-004-D	10-20-99	2.4 J (2.5)	890 J	0.37	5.4	9.1	9.8
602796	TA2-2-COBL-GRIZ-005-S	10-20-99	2.8	200 J	0.43	9.8	8.8	8.5
602600	TA2-2-COBL-GRIZ-TRA-S	8-18-99	ND (0.62 J)	190 J	0.54	5.7	10 J	5.9
602600	TA2-2-COBL-GRIZ-TRA-DUP	8-18-99	ND (0.62 J)	110 J	0.38	4.1	6.7 J	6.2
603073	TA2-2-1LAY-DOWN-BIN-S	3-09-00	2.2 J (2.5)	140 J	0.41	4	13	8.6
603073	TA2-2-2LAY-DOWN-BIN-S	3-09-00	4.6	220 J	0.66	15	19	19
603073	TA2-2-3LAY-DOWN-BIN-S	3-09-00	3.4	240 J	0.6	9.8	17	16
603073	TA2-2-4LAY-DOWN-BIN-S	3-09-00	3.1	250	0.45	8.8	12	10
603073	TA2-2-4LAY-DOWN-BIN-DU	3-09-00	3.2	190 J	0.47	8.7	21	19
603073	TA2-2-5LAY-DOWN-BIN-S	3-09-00	3.3	160 J	0.64	13	13	15
603073	TA2-2-6LAY-DOWN-BIN-S	3-09-00	3.5	270 J	0.59	4.3	17	34
603073	TA2-2-7LAY-DOWN-BIN-S	3-09-00	3.3	150 J	0.6	11	16	27
603073	TA2-2-7LAY-DOWN-BIN-DU	3-09-00	3.4	260 J	0.62	10	15	19
603073	TA2-2-8LAY-DOWN-BIN-S	3-09-00	2.8	180 J	1	11	36	14
603073	TA2-2-9LAY-DOWN-BIN-S	3-09-00	3.2	180 J	0.6	21	19	39
603077	TA2-2-2LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	2.86	187	0.38 J (0.5)	8.92 J	11.3 J	14.6 J
603077	TA2-2-6LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	2.9	176	0.372 J (0.5)	5.34 J	10.5 J	27.1 J
603186	TA2-2-1LAY-DOWN-BIN-E	6-14-00	3.2	160 J	0.45	8.9 J	12 J	16
603186	TA2-2-1LAY-DOWN-BIN-N	6-14-00	ND (3.1 U)	160 J	0.46	12 J	14 J	29
603186	TA2-2-1LAY-DOWN-BIN-S	6-14-00	3.3	170 J	0.47	7.8 J	12 J	25
603186	TA2-2-1LAY-DOWN-BIN-W	6-14-00	3.2	170 J	0.44	13 J	17 J	12
603186	TA2-2-1LAY-DOWN-BIN-WDU		ND (2.8 U)	170 J	0.4	8 J	15 J	16
603186	TA2-2-2LAY-DOWN-BIN-E	6-14-00	3.9	300 J	0.73	13 J	18 J	17
603186	TA2-2-2LAY-DOWN-BIN-N	6-14-00	3.3	160 J	0.51	22 J	31 J	22

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603186	TA2-2-2LAY-DOWN-BIN-NDU	6-14-00	3.5	**210 J**	0.66	**13 J**	**23 J**	**19**
603186	TA2-2-2LAY-DOWN-BIN-S	6-14-00	3.6	**210 J**	0.68	**11 J**	**27 J**	**380**
603186	TA2-2-2LAY-DOWN-BIN-W	6-14-00	ND (3.1 U)	180 J	0.64	**13 J**	**19 J**	**19**
603186	TA2-2-3LAY-DOWN-BIN-E	6-14-00	3.8	200 J	0.62	**19 J**	**22 J**	**61**
603186	TA2-2-3LAY-DOWN-BIN-EDU	6-14-00	ND (3.1 U)	170 J	0.46	**9.8 J**	**14 J**	**28**
603186	TA2-2-3LAY-DOWN-BIN-N	6-14-00	**4.6**	**230 J**	0.65	**15 J**	**22 J**	**30**
603186	TA2-2-3LAY-DOWN-BIN-S	6-14-00	ND (3.7 U)	**210 J**	**0.9**	**22 J**	**15**	**16**
603186	TA2-2-3LAY-DOWN-BIN-W	6-14-00	ND (4.1 U)	**230 J**	**0.93**	**15 J**	**34**	**22**
603186	TA2-2-4LAY-DOWN-BIN-E	6-14-00	ND (3.5 U)	200 J	0.44	**6.6 J**	**14**	9
603186	TA2-2-4LAY-DOWN-BIN-N	6-14-00	2.7	140	0.42	**8.4**	**13**	**12**
603186	TA2-2-4LAY-DOWN-BIN-S	6-14-00	ND (2.9 U)	140 J	0.43	**5.4 J**	11	**12**
603186	TA2-2-4LAY-DOWN-BIN-SDU	6-14-00	ND (3.1 U)	**8,100 J**	0.44	**66 J**	**460**	**22**
603186	TA2-2-4LAY-DOWN-BIN-W	6-14-00	ND (2.6 U)	160 J	0.34	**6.2 J**	11	7.9
603186	TA2-2-5LAY-DOWN-BIN-E	6-14-00	ND (3.2 U)	160 J	0.47	**6.1 J**	**13**	**16**
603186	TA2-2-5LAY-DOWN-BIN-N	6-14-00	ND (2.8 U)	150 J	0.48	**16 J**	**15**	**15**
603186	TA2-2-5LAY-DOWN-BIN-NDU	6-14-00	ND (3.5 U)	150 J	0.48	**8.4 J**	**15**	**19**
603186	TA2-2-5LAY-DOWN-BIN-S	6-14-00	ND (2.5 U)	160 J	0.7	**36 J**	**15**	**36**
603186	TA2-2-5LAY-DOWN-BIN-W	6-14-00	ND (3.3 U)	200 J	0.59	**14 J**	**18**	**17**
603186	TA2-2-6LAY-DOWN-BIN-E	6-14-00	3.2	200 J	0.59	**9.1 J**	12 J	**16**
603186	TA2-2-6LAY-DOWN-BIN-EDU	6-14-00	2 J (2.4)	**240 J**	0.57	**7.2 J**	**16 J**	**21**
603186	TA2-2-6LAY-DOWN-BIN-N	6-14-00	ND (3 U)	130 J	0.37	**3.4 J**	11	6.6
603186	TA2-2-6LAY-DOWN-BIN-S	6-14-00	2.6	**210 J**	0.54	**5.7 J**	**16 J**	**27**
603186	TA2-2-6LAY-DOWN-BIN-W	6-14-00	2.8	180 J	0.65	**5 J**	**15 J**	**46**
603186	TA2-2-7LAY-DOWN-BIN-E	6-14-00	3.1	**240 J**	0.69	**13 J**	**21 J**	**27**
603186	TA2-2-7LAY-DOWN-BIN-N	6-14-00	2.2	190 J	0.67	**9.9 J**	**16 J**	**20**
603186	TA2-2-7LAY-DOWN-BIN-S	6-14-00	3.5	**1,700 J**	0.56	**22 J**	**170 J**	**24**
603186	TA2-2-7LAY-DOWN-BIN-SDU	6-14-00	2.9	200 J	0.54	**24 J**	**21 J**	**19**
603186	TA2-2-7LAY-DOWN-BIN-W	6-14-00	2.9	200 J	0.65	**20 J**	**20 J**	**21**

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603186	TA2-2-8LAY-DOWN-BIN-E	6-14-00	2.7	**240 J**	0.76	**23 J**	**18 J**	**22**
603186	TA2-2-8LAY-DOWN-BIN-N	6-14-00	2.4	140 J	0.5	**7.3 J**	**15 J**	**15**
603186	TA2-2-8LAY-DOWN-BIN-S	6-14-00	2 J (2.4)	160 J	0.51	**10 J**	**18 J**	**16**
603186	TA2-2-8LAY-DOWN-BIN-W	6-14-00	3.1	190 J	0.65	**9.4 J**	**16 J**	**27**
603186	TA2-2-8LAY-DOWN-BIN-WDU	6-14-00	3.6	**620 J**	**0.82**	**11**	**62 J**	**32 J**
603186	TA2-2-9LAY-DOWN-BIN-E	6-14-00	3.8	**210 J**	**0.83**	**13**	**19 J**	**27 J**
603186	TA2-2-9LAY-DOWN-BIN-N	6-14-00	3.5	**230 J**	0.51	**23**	**26 J**	**86 J**
603186	TA2-2-9LAY-DOWN-BIN-NDU	6-14-00	2.3 J (2.4)	**220 J**	0.66	**13**	**14 J**	**19 J**
603186	TA2-2-9LAY-DOWN-BIN-S	6-14-00	2.6	180 J	0.5	**10**	**16 J**	**29 J**
603186	TA2-2-9LAY-DOWN-BIN-W	6-14-00	3	**210 J**	0.59	**8.4**	**16 J**	**15 J**
603192	TA2-2-PIT-BURM-MIX-E-S	6-21-00	2.4	**220 J**	0.54	**1.1**	11 J	6.7 J
603193	TA2-2-PIT-BURM-MIX-E-S (off-site laboratory split)	6-21-00	3.38	**254**	0.349 J (0.485)	**1.36 J**	6.74	6.05
603192	TA2-2-PIT-BURM-MIX-N-S	6-21-00	2.7	180 J	0.53	**1.1**	9.5 J	6.8 J
603193	TA2-2-PIT-BURM-MIX-N-S (off-site laboratory split)	6-21-00	3.3	**270**	0.38 J (0.49)	**2.45 J**	6.67	6.95
603193	TA2-2-PIT-BURM-MIX-N-DU (off-site laboratory split)	6-21-00	3.05	**232**	0.326 J (0.5)	**1.79 J**	6.16	5.94
603192	TA2-2-PIT-BURM-MIX-S-S	6-21-00	1.2 J (2.4)	110 J	0.31	0.28	6.1 J	3.9 J
603193	TA2-2-PIT-BURM-MIX-S-S (off-site laboratory split)	6-21-00	3	**223**	0.331 J (0.5)	**1.2 J**	5.95	5.52
603192	TA2-2-PIT-BURM-MIX-W-S	6-21-00	2.5	190 J	0.47	**1.1**	10 J	5.7 J
603192	TA2-2-PIT-BURM-MIX-W-DU	6-21-00	1.8 J (2.4)	140 J	0.36	0.73	6.3 J	6.2 J
603193	TA2-2-PIT-BURM-MIX-W-S (off-site laboratory split)	6-21-00	3.21	**258**	0.345 J (0.49)	**1.41 J**	6.35	6.89
603197	TA2-2-CWLF-COBL-GRZ-1	6-26-00	3.3	170 J	0.46	**9.5**	**21**	9.5
603196	TA2-2-CWLF-COBL-GRZ-1 (off-site laboratory split)	6-26-00	3.73	**215**	0.48 J (0.499)	**13.2 J**	**13.9**	10.4

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603197	TA2-2-CWLF-COBL-GRZ-2	6-26-00	3.2	**210 J**	0.63	**5.7**	**18**	11
603196	TA2-2-CWLF-COBL-GRZ-2 (off-site laboratory split)	6-26-00	3.18	186	0.53	**7.28 J**	9.02	9.89
603197	TA2-2-CWLF-COBL-GRZ-3	6-26-00	2.8	**460 J**	0.52	**17**	**20**	**16**
603196	TA2-2-CWLF-COBL-GRZ-3 (off-site laboratory split)	6-26-00	3.48	**221**	0.4 J (0.498)	**5.09 J**	9.3	**13.2**
603197	TA2-2-CWLF-COBL-GRZ-4	6-26-00	3.2	**250 J**	0.58	**20**	**14**	**12**
603197	TA2-2-CWLF-COBL-GRZ-4DU	6-26-00	2.9	160 J	0.48	**3.3**	**13**	8.8
603196	TA2-2-CWLF-COBL-GRZ-4 (off-site laboratory split)	6-26-00	3.47	189	0.37 J (0.498)	**5.28 J**	8.57	10.7
603196	TA2-2-CWLF-COBL-GRZ-4DU (off-site laboratory split)	6-26-00	3.99	191	0.394 J (0.495)	**3.95 J**	9.68	9.49
603197	TA2-2-CWLF-COBL-GRZ-5	6-26-00	2.8	**220 J**	0.57	**5**	**16 J**	**12**
603196	TA2-2-CWLF-COBL-GRZ-5 (off-site laboratory split)	6-26-00	3.29	197	0.422 J (0.497)	**4.69 J**	10	**12.5**
603197	TA2-2-CWLF-COBL-GRZ-6	6-26-00	2.8	**500 J**	0.52	**4.5**	**17**	**23**
603196	TA2-2-CWLF-COBL-GRZ-6 (off-site laboratory split)	6-26-00	3.24	190	0.379 J (0.498)	**5.29 J**	10.2	**24.4**
603197	TA2-2-CWLF-COBL-GRZ-7	6-26-00	2.7	**240 J**	0.62	**4.7**	**17**	11
603196	TA2-2-CWLF-COBL-GRZ-7 (off-site laboratory split)	6-26-00	3.45	193	0.526	**4.77 J**	10.3	9.42
603197	TA2-2-CWLF-COBL-GRZ-8	6-26-00	2.6	200 J	0.57	**5.1**	**15**	10
603197	TA2-2-CWLF-COBL-GRZ-8DU	6-26-00	3.1	**260 J**	0.59	**7.2**	**18**	**12**
603196	TA2-2-CWLF-COBL-GRZ-8 (off-site laboratory split)	6-26-00	3.5	**240**	0.478 J (0.5)	**36.1 J**	9.88	10.6
603196	TA2-2-CWLF-COBL-GRZ-8DU (off-site laboratory split)	6-26-00	3.7	199	0.46 J (0.499)	**5.75 J**	10.4	**12.4**
603197	TA2-2-CWLF-COBL-GRZ-9	6-26-00	2.8	**220 J**	0.7	**5.8**	**17**	**14**

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603196	TA2-2-CWLF-COBL-GRZ-9 (off-site laboratory split)	6-26-00	3.6	177	0.439 J (0.497)	**4.57 J**	8.81	**11.7**
603197	TA2-2-CYLI-NDER-BRM-S	6-26-00	3	160 J	0.48	**5.2**	12	11
603196	TA2-2-CYLI-NDER-BRM-S (off-site laboratory split)	6-26-00	3.58	**228**	0.371 J (0.5)	**5.85 J**	9.25	**12**
Borrow Area Soils Used to Backfill ACF- and W-Pits								
600003	TA2-2-BORROW-1	3-05-98	**4.6**	**210 J**	0.45	ND (0.16 U)	9.9	8.2
600003	TA2-2-BORROW-2	3-05-98	**4.8**	170 J	0.45	ND (0.28 U)	8.8	**22**
Background Soil Concentrations—North Area[d]			4.4	200	0.8	0.9	12.8	11.2
Quality Assurance/Quality Control Samples (mg/L)								
600059	TA2-2-PTW1-EB (off-site laboratory)	4-06-98	NA	0.000332	0.000223	0.000208	0.000729	0.000678
600283	TA2-2-TRE5-0001-EB (off-site laboratory)	6-01-98	ND (0.00293)	0.00118	ND (0.00022)	0.00041 J	0.00226 J	ND (0.00068)
600459	TA2-2-TRD1-0006-EB (off-site laboratory)	7-06-98	ND (0.00293)	0.00102 J	ND (0.00022)	ND (0.00021)	ND (0.00073)	ND (0.00068)
600472	TA2-2-TRD6-0015-EB (off-site laboratory)	8-11-98	ND (0.00293)	0.00309 J	ND (0.00022)	0.00036 J	0.00151 J	ND (0.00068)
600494	TA2-2-TRD8-0025-EB (off-site laboratory)	9-21-98	ND (0.00451)	0.0009 J	ND (0.00026)	0.00046 J	0.00075 J	ND (0.00159)
601139	TA2-2-TRC7-0003-000-EB (off-site laboratory)	11-30-98	ND (0.00451)	0.00101 J	ND (0.00026)	ND (0.00044)	0.00066 J	ND (0.00159)

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
Soil Excavated from Pits and Trenches							
600046	TA2-2-ACF1-0001-SL2-S	4-01-98	**0.25 J (0.83)**	16 J	NA	NA	NA
600066	TA2-2-ACF2-0001-SL4-S	4-13-98	**0.21**	13	NA	ND (0.041 J)	NA
600039	TA2-2-ACF3-0001-SLI-SU	3-23-98	ND (0.04)	9	NA	NA	NA
600039	TA2-2-ACF4-0001-SLI-SU	3-24-98	**0.18**	15	NA	NA	NA
600048	TA2-2-ACF4-0001-SL5-S	4-02-98	**0.29**	**33 J**	NA	NA	NA
600461	TA2-2-ACF5-SL06-000-S	7-07-98	ND (0.042)	6.9	0.51 J (1.3)	ND (0.042)	0.89
600061	TA2-2-PW12-0001-SL7-S	4-07-98	**0.64 J**	11	NA	NA	NA
600061	TA2-2-PW12-0001-SL8-S	4-07-98	**0.88 J**	12	NA	NA	NA
600069	TA2-2-PTW3-0001-SL4-S	4-14-98	**5.9 J**	14	0.39 J (1.2)	**3 J**	NA
600076	TA2-2-PTW4-SL14-000-S	4-24-98	**1.1**	**28**	0.42 J (1.2)	0.88 J	NA
600085	TA2-2-TRE1-SL06-000-S	5-06-98	0.047 J (0.16)	8	0.44 J (1.2)	0.54	NA
600085	TA2-2-TRE1-SL13-000-S	5-06-98	0.056 J (0.15)	8.1 J	0.43 J (1.2)	0.069 J (0.15)	NA
600087	TA2-2-TRE2-SL07-000-S	5-11-98	0.041 J (0.16)	7.9 J	0.54 J (1.2)	0.07 J (0.16)	NA
600279	TA2-2-TRE3-SL07-000-S	5-21-98	ND (0.041 J)	10	0.42 J (1.2)	ND (0.041 J)	NA
600279	TA2-2-TRE4-SL10-000-S	5-21-98	ND (0.04)	7.4	0.63 J (1.2)	ND (0.04 J)	NA
600285	TA2-2-TRE5-SL17-000-S	6-01-98	0.039 J (0.15)	7.4	0.65 J (1.2)	ND (0.038)	NA
600285	TA2-2-TRE5-SL08-000-S	6-01-98	0.056 J (0.17)	6.6	0.72 J (1.2)	ND (0.042)	NA
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory)	6-08-98	ND (0.0173 J)	8.44	ND (0.07)	ND (0.467 J)	NA
600290	TA2-2-TRE6-SL09-000-S	6-08-98	ND (0.041)	8.3	0.75 J (1.2)	ND (0.041)	NA
600290	TA2-2-TRE6-SL22-000-S	6-08-98	ND (0.04)	7.6	0.91 J (1.2)	0.057 J (0.16)	NA
600290	TA2-2-TRE6-SL22-000-DUP	6-08-98	0.073 J (0.17)	7.4	0.77 J (1.3)	ND (0.044)	NA
600296	TA2-2-TRE7-SL08-000-S	6-17-98	ND (0.039 J)	6.7	0.64 J (1.2)	ND (0.039)	NA
600296	TA2-2-TRE7-SL13-000-S	6-17-98	ND (0.042 J)	7.8	0.82 J (1.3)	0.045 J (0.17)	NA
600296	TA2-2-TRE7-SL25-000-S	6-17-98	ND (0.042 J)	7.7	0.63 J (1.3)	ND (0.042)	NA
600299	TA2-2-TRE7-SL37-000-S	6-23-98	ND (0.043)	6.9	0.55 J (1.3)	0.38	0.94
600299	TA2-2-TRE7-SL49-000-S	6-23-98	ND (0.042)	5.4	0.44 J (1.3)	ND (0.042)	0.77

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Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
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Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
600299	TA2-2-TRE7-SL55-000-S	6-23-98	ND (0.042)	6.1	0.48 J (1.3)	0.06 J (0.17)	0.71
600301	TA2-2-TRE8-SL01-000-S	6-25-98	ND (0.044)	7.8	0.54 J (1.3)	ND (0.044)	0.92
600301	TA2-2-TRE8-SL14-000-S	6-25-98	ND (0.041)	6.5	0.46 J (1.2)	0.05 J (0.16)	0.79
600303	TA2-2-TRE8-SL07-000-S	6-29-98	0.048 J (0.17)	7.9	0.55 J (1.2)	ND (0.042)	1.62
600303	TA2-2-TRE8-SL21-000-S	6-29-98	0.046 J (0.17)	7.9	0.51 J (1.3)	ND (0.043)	1.05
600303	TA2-2-TRE8-SL29-000-S	6-29-98	0.062 J (0.15)	6.8	0.5 J (1.1)	ND (0.038)	0.94
600463	TA2-2-TRD1-SL02-000-S	7-07-98	0.048 J (0.17)	6.2	0.5 J (1.3)	ND (0.043)	0.76
600463	TA2-2-TRD1-SL06-000-S	7-07-98	ND (0.042)	6.7	0.48 J (1.3)	ND (0.042)	1.13
600463	TA2-2-TRD1-SL09-000-S	7-07-98	0.079 J (0.15)	7	0.49 J (1.2)	ND (0.039)	0.77
600463	TA2-2-TRD1-SL12-000-S	7-07-98	0.05 J (0.17)	6.6	0.54 J (1.3)	ND (0.042)	0.68
600465	TA2-2-TRD2-SL01-000-S	7-13-98	0.048 J (0.16)	8.6	0.57 J (1.2)	ND (0.04)	0.89
600465	TA2-2-TRD2-SL05-000-S	7-13-98	0.048 J (0.17)	7.5	0.5 J (1.3)	ND (0.043)	0.87
600467	TA2-2-TRD3-SL03-000-S	7-20-98	0.076 J (0.17)	8.5	0.61 J (1.2)	ND (0.042)	**2.4**
600467	TA2-2-TRD3-SL06-000-S	7-20-98	0.054 J (0.16)	8.5	0.53 J (1.2)	ND (0.041)	0.87
600467	TA2-2-TRD3-SL12-000-S	7-20-98	0.076 J (0.17)	9.4	0.43 J (1.3)	**2.2**	0.94
600470	TA2-2-TRD4-SL03-000-S	8-10-98	0.061 J (0.16)	7.4	0.6 J (1.2)	0.13 J (0.16)	0.94
600470	TA2-2-TRD4-SL03-000-DUP	8-10-98	0.056 J (0.17)	7.4	0.58 J (1.2)	ND (0.042)	0.84
600470	TA2-2-TRD4-SL07-000-S	8-10-98	**0.15 J (0.17)**	7.7	0.51 J (1.3)	0.044 J (0.17)	0.8
600470	TA2-2-TRD4-SL14-000-S	8-10-98	0.046 J (0.16)	7.7	0.47 J (1.2)	0.054 J (0.16)	0.99
600470	TA2-2-TRD5-SL05-000-S	8-10-98	**0.14 J (0.16)**	6.7	0.4 J (1.2)	ND (0.041)	0.61
600470	TA2-2-TRD5-SL05-000-DUP	8-10-98	ND (0.045)	9.2	0.38 J (1.3)	ND (0.045)	0.86
600474	TA2-2-TRD6-SL03-000-S	8-17-98	**0.21**	7.7	0.59 J (1.3)	0.089 J (0.17)	0.95
600474	TA2-2-TRD6-SL08-000-S	8-17-98	**0.12 J (0.18)**	6.5	0.42 J (1.3)	0.15 J (0.18)	0.81
600474	TA2-2-TRD6-SL15-000-S	8-17-98	**0.14 J (0.17)**	6.5	0.52 J (1.3)	0.14 J (0.17)	0.65
600474	TA2-2-TRD6-SL19-000-S	8-17-98	**0.11 J (0.17)**	8.1	0.64 J (1.3)	0.076 J (0.17)	0.8
600474	TA2-2-TRD6-SL23-000-S	8-17-98	**0.11 J (0.16)**	6.5	0.41 J (1.2)	0.11 J (0.16)	0.63
600489	TA2-2-TRD7-SL03-000-S	9-14-98	ND (0.04 J)	8.4	0.58 J (1.2)	0.049 J (0.16)	0.77
600489	TA2-2-TRD7-SL03-000-DUP	9-14-98	**0.14 J (0.19)**	9.3	0.7 J (1.4)	0.063 J (0.19)	0.89

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Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
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Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
600489	TA2-2-TRD7-SL11-000-S	9-14-98	ND (0.046 J)	8.7	0.64 J	0.11 J (0.18)	0.84
600489	TA2-2-TRD7-SL13-000-S	9-14-98	ND (0.038 J)	8.4	0.65 J	0.1 J (0.15)	1.1
600489	TA2-2-TRD7-SL23-000-S	9-14-98	ND (0.042 J)	8.7	0.57 J (1.3)	0.058 J (0.17)	0.87
600502	TA2-2-TRD8-SL01-049-S	10-20-98	0.6	12	0.43 J (1.2)	0.13 J (0.16)	0.84
600502	TA2-2-TRD8-SL01-049-DUP	10-20-98	0.76	13	0.71 J (1.3)	0.32	1.6
600502	TA2-2-TRD8-SL04-000-S	10-20-98	0.85	10	0.56 J (1.3)	0.17 J (0.17)	0.86
600502	TA2-2-TRD8-SL16-000-S	10-20-98	0.48	14	0.57 J (1.3)	0.13 J (0.17)	0.9
600502	TA2-2-TRD8-SL27-000-S	10-20-98	0.69	12	0.64 J (1.3)	0.18	0.8
600502	TA2-2-TRD8-SL33-000-S	10-20-98	0.7	12	0.54 J (1.2)	0.12 J (0.16)	0.87
600502	TA2-2-TRD8-SL45-000-S	10-20-98	0.81	14	0.58 J (1.3)	0.15 J (0.18)	1.1
600505	TA2-2-TRC9-SL01-000-S	11-03-98	0.42	21	0.69 J (1.1)	0.98	0.96
600505	TA2-2-TRC9-SL05-000-S	11-03-98	0.5	28	0.67 J (1.3)	0.95	0.67
600505	TA2-2-TRC9-SL19-000-S	11-03-98	0.56	11	0.71 J (1.3)	0.31	0.88
601134	TA2-2-TRC9-SL24-000-S	11-17-98	0.46	13	0.6 J (1.2)	0.38	1.5
601134	TA2-2-TRC9-SL42-000-S	11-17-98	0.33	9.8	0.61 J (1.2)	0.11 J (0.16)	1.1
601134	TA2-2-TRC9-SL57-000-S	11-17-98	0.37	8.8	0.64 J (1.3)	0.18	0.85
60	TA2-2-TRC9-SL71-000-S	11-17-98	0.3	8.6	0.56 J (1.3)	0.38	0.72
601143	TA2-2-TRC7-SL01-000-S	1-14-99	0.65	11	0.71 J (1.2)	0.88	0.74
601143	TA2-2-TRC7-SL21-000-S	1-14-99	0.27	15	0.86 J (1.1)	0.31	0.99
601143	TA2-2-TRC8-SL04-000-S	1-14-99	0.81	19	0.91 J (1.3)	2.3	0.76
601143	TA2-2-TRC8-SL11-000-S	1-14-99	0.92	24	1.1 J (1.3)	3.3	0.94
601143	TA2-2-TRC8-SL17-000-S	1-14-99	1.8	23	0.84 J (1.2)	2.4	0.94
601143	TA2-2-TRC9-SL83-000-S	1-14-99	0.23	8.2	0.76 J (1.2)	1	1.2
601145	TA2-2-TRC6-SL07-000-S	1-21-99	0.2	12	0.88 J (1.2)	0.97	1.8
601154	TA2-2-TRC5-SL07-000-S	2-01-99	0.4 J	10	0.9 J (1.2)	0.39	1.5
601596	TA2-2-TRC3-SL04-000-S	3-11-99	2.7	7	0.62 J (1.2)	0.055 J (0.16)	0.55
601596	TA2-2-TRC4-SL08-000-S	3-10-99	0.21	6.1	0.46 J (1.2)	0.049 J (0.16)	0.62
601601	TA2-2-TRC3-SL12-000-S	3-29-99	0.4 J	12	0.68 J (1.1)	0.39	0.94

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
601603	TA2-2-TRC2-SL02-000-S	4-07-99	ND (0.042 J)	8.1	0.62 J (1.3)	0.096 J (0.17)	1.2
601605	TA2-2-TRC1-SL06-000-S	4-08-99	ND (0.043 J)	8	0.56 J (1.3)	0.2	1
601607	TA2-2-TRB1-SL03-000-S	4-13-99	**23 J**	9.3	0.64 J (1.3)	0.12 J (0.17)	1.2
601728	TA2-2-TRB2-SL01-000-S	4-21-99	**0.19 J**	7.7	**38**	0.1 J (0.17)	0.99
601731	TA2-2-TRB3-SL01-000-S	4-27-99	**0.11 J (0.16)**	12	0.74 J (1.2)	0.043 J (0.16)	0.92
601743	TA2-2-TRB3-SL16-000-S	6-07-99	**0.72 J**	13 J	**250 J**	0.15 J (0.16)	1
602082	TA2-2-TRA3-SL02-000-S	6-17-99	**0.32 J**	9.1	ND (0.28 J)	0.05 J (0.15)	1.1
602088	TA2-2-TRA3-SL07-000-S	6-28-99	**0.64 J**	12	ND (0.3 J)	0.14 J (0.16)	1.2
602093	TA2-2-TRA2-SL06-000-S	7-07-99	**1.1**	10	**1.2**	ND (0.038 J)	0.92
602099	TA2-2-TRA1-SL01-000-S	7-28-99	**0.9 J**	7.6	**1.1 J (1.2)**	ND (0.042)	**4.5**
602597	TA2-2-TR3-P10-SL1-S	8-18-99	**0.45**	11	ND (0.32 J)	0.15 J (0.17)	0.94
602606	TA2-2-TR2-P12-SL6-S	8-23-99	**1.1 J**	15	**1.1**	0.22	1.3
602606	TA2-2-TR2-P12-SL6-DU	8-23-99	**1 J**	14	**1.2**	**1.4**	1.8
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	**1.12**	10.4 J	ND (0.25)	**64 J**	2.17
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	**1.32**	11.1 J	ND (0.257)	0.435 J (0.476)	1.66
602617	TA2-2-TR1-P6-SL10-S	9-07-99	**0.26**	8.4	0.98 J (1.2)	0.083 J (0.16)	1.1
602784	TA2-2-TR1-P4-SL1-S	10-04-99	**0.8**	**230**	0.64 J (1.2)	0.11 J (0.16)	0.78
602784	TA2-2-TR1-P4-SL2-S	10-04-99	**1.2**	**130**	0.6 J (1.2)	**6.3**	0.77
602791	TA2-2-TR1-P3-SL2-S	10-18-99	**2.1**	**43**	0.5 J (1.1)	0.24	1.1
602792	TA2-2-TR1-P2-SL3-S	10-20-99	**1.0**	17	0.8 J (1.3)	0.38	1.2
602795	TA2-2-TRB3-SL16-002-S	10-20-99	**0.32**	16	0.82 J (1.2)	0.1 J (0.16)	1
602796	TA2-2-TRB3-SL16-003-S	10-20-99	**0.29**	8.9	0.72 J (1.2)	0.36	1.5
602796	TA2-2-TRB3-SL16-003-D	10-20-99	**0.32**	7.6	0.4 J (1.1)	0.087 J (0.15)	0.81
602796	TA2-2-TRB3-SL16-004-S	10-20-99	**0.94**	10	**1 J (1.2)**	0.31	1.4
602796	TA2-2-TRB3-SL16-005-S	10-20-99	**0.27**	8.9	0.79 J (1.1)	0.073 J (0.15)	1.3
602796	TA2-2-TRC9-SL83-002-S	10-20-99	**0.25**	12	0.65 J (1.3)	0.38	1.2

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
602796	TA2-2-TRC9-SL83-003-S	10-20-99	0.2	11	0.58 J (1.1)	0.33	1.1
602796	TA2-2-TRC9-SL83-004-S	10-20-99	0.24	14	0.58 J (1.2)	0.24	0.91
602796	TA2-2-TRC9-SL83-004-D	10-20-99	0.26	12	0.5 J (1.1)	0.24	0.96
602796	TA2-2-TRC9-SL83-005-S	10-20-99	0.27	12	0.56 J (1.3)	0.6	0.98
602804	TA2-2-TR1-P1-SL1-S	11-9-99	0.17	10	0.91 J (1.2)	0.23	0.8
602800	TA2-2-TR1-P2-SL7-S	10-27-99	0.52	13	ND (0.29 J)	0.59	0.85
602940	TA2-2-TR2-P8-SL1-S	12-01-99	1.4	7.2	ND (0.3 J)	0.2	0.57
602921	TA2-2-TR2-P10-SL1-S	11-19-99	0.064 J (0.16)	9.1	ND (0.3 J)	0.041 J (0.16)	1.3
602967	TA2-2-TR2-P9-SL1-S	1-03-00	0.25	16 J	0.88 J (1.1)	1.8	1.4
602967	TA2-2-TR2-P9-SL1-DU	1-03-00	0.21	9.7 J	1.3	0.14 J (0.15)	0.85
602968	TA2-2-TR2-P7-SL1-S	1-03-00	0.3 J	9.4	0.74 J (1.1)	0.11 J (0.15)	0.89
602968	TA2-2-TR2-P8-SL1-S	1-03-00	0.79 J	12	0.78 J (1.2)	0.26	1.0
602968	TA2-2-TR2-P8-SL1-DU	1-03-00	0.58 J	17	0.92 J (1.2)	0.35	1.0
602968	TA2-2-TR2-P9-SL2-S	1-03-00	2 J	23	0.65 J (1.2)	0.36	0.78
602970	TA2-2-TR2-P6-SL4-S	1-10-00	6.6	14 J	1.2	0.18	0.98
602974	TA2-2-TR2-P543-SL1-S	1-24-00	6.8 J	30	0.71 J (1.2)	0.57	1.1
602974	TA2-2-TR2-P543-SL1-DU	1-24-00	6.7 J	10	0.72 J (1.2)	0.53	1.2
602978	TA2-2-TR2-P543-SL4-S	2-08-00	4.8 J	12	0.8 J (1.2)	0.65	1.2
602978	TA2-2-TR2-P543-SL5-S	2-08-00	1.3 J	9.9	0.71 J (1.2)	0.68	0.94
603057	TA2-2-TR2-P2/1-SL1-S	2-28-00	0.71	10	0.42 J (1.2)	0.18	0.84
603057	TA2-2-TR2-P2/1-SL1-DU	2-28-00	0.68	16	0.73 J (1.1)	0.18	1.5
603057	TA2-2-TR2-P2/1-SL4-S	2-28-00	1.2	12	0.76 J (1.2)	0.26	1.4
603057	TA2-2-TR3-P2/3-SL2-S	2-28-00	1.9	10	0.52 J (1.2)	0.43	0.87
603057	TA2-2-TR3-P2/3-SL3-S	2-28-00	0.81	9.9	0.44 J (1.2)	0.28	1
603068	TA2-2-TR3-P456-SL1-S	3-02-00	2.2	17	0.46 J (1.2)	1.1	1.2
603068	TA2-2-TR3-P456-SL4-S	3-02-00	0.57	8.6	0.37 J (1.2)	1.1	1.2
603068	TA2-2-TR3-P456-SL5-S	3-02-00	0.76	9.7	0.6 J (1.2)	1.1	1.3
603068	TA2-2-TR3-P456-SL5-DU	3-02-00	1.4	9.5	0.56 J (1.2)	1.2	1.2

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603070	TA2-2-TR3-P456-SL1-S (off-site laboratory)	3-07-00	**0.811 J**	8.69	0.569 J	**7.14 J**	1.13
603070	TA2-2-TR3-P456-SL1-DU (off-site laboratory)	3-07-00	**1.01 J**	7.89	0.508 J	**1.62 J**	1.14
603070	TA2-2-TR3-P456-SL4-S (off-site laboratory)	3-07-00	**0.732 J**	7.52	0.585 J	**1.16 J**	1.08
603070	TA2-2-TR3-P456-SL4-DU (off-site laboratory)	3-07-00	**1.05 J**	8.36	0.773 J	**1.5 J**	2.03
603070	TA2-2-TR3-P789-SL2-S (off-site laboratory)	3-07-00	**2.05 J**	11.2	0.664 J	0.931 J	1.33
603070	TA2-2-TR3-P789-SL2-DU (off-site laboratory)	3-07-00	**1.86 J**	12.7	0.76 J	**1.36 J**	1.05
603070	TA2-2-TR3-P789-SL3-S (off-site laboratory)	3-07-00	**6.31 J**	16.7	0.694 J	0.783 J	1.25
603070	TA2-2-TR3-P789-SL3-DU (off-site laboratory)	3-07-00	**25.3 J**	10.5	0.71 J	0.714 J	1.09
603072	TA2-2-TR3-P789-SL2-S	3-14-00	**2.3 J**	11	0.49 J (1.2)	0.77	0.85
603072	TA2-2-TR3-P789-SL3-S	3-14-00	**12 J**	15	0.5 J (1.2)	0.89	1.1
Overburden Soils							
600071	TA2-2-OVER-0001-SL2-S	4-16-98	**0.35**	8.4	0.4 J (1.2)	0.081 J (0.16)	NA
600081	TA2-2-OVW4-0001-SL5-S	4-29-98	**0.34**	11	0.33 J (1.2)	0.35 J	NA
600083	TA2-2-OVW4-0001-SL8-S	5-04-98	**0.15 J (0.17)**	9.6	0.62 J (1.3)	0.19	NA
600083	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (0.041)	7.3	0.54 J (1.2)	0.045 J (0.16)	NA
600083	TA2-2-SLPE-0001-SL9-S	5-04-98	ND (0.042)	7.7	0.48 J (1.3)	ND (0.042)	NA
600083	TA2-2-SLPE-SL14-000-S	5-04-98	ND (0.043)	7.3	0.56 J (1.3)	0.21	NA
600277	TA2-2-SLPE-SL16-000-S	5-18-98	ND (0.042)	5.4	0.46 J (1.3)	ND (0.042 J)	NA
600277	TA2-2-SLPE-SL19-000-S	5-18-98	ND (0.038)	7.5	0.58 J (1.1)	ND (0.038 J)	NA
600277	TA2-2-SLPE-SL22-000-S	5-18-98	ND (0.039)	7.6	0.38 J (1.2)	ND (0.039 J)	NA

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	[illegible]	Selenium	Silver	Uranium
600277	TA2-2-SLPE-SL23-000-S	5-18-98	ND (0.038)	5.9	0.58 J (1.1)	ND (0.038 J)	NA
600277	TA2-2-SLPE-SL32-000-S	5-18-98	ND (0.041)	4.8	0.37 J (1.2)	ND (0.041 J)	NA
600277	TA2-2-SLPE-SL34-000-S	5-18-98	ND (0.042)	6.3	0.44 J (1.2)	ND (0.042 J)	NA
600281	TA2-2-OVTE-SL03-000-S	5-26-98	ND (0.042)	5	0.4 J (1.2)	ND (0.042 J)	NA
600281	TA2-2-OVTE-SL08-000-S	5-26-98	ND (0.04)	6.8	0.46 J (1.2)	ND (0.04 J)	NA
600285	TA2-2-OVTE-SL11-000-S	6-01-98	ND (0.043)	7.6	0.85 J (1.3)	ND (0.043)	NA
600285	TA2-2-OVTE-SL11-000-DUP	6-01-98	ND (0.041)	7	**1 J (1.2)**	ND (0.041)	NA
600292	TA2-2-OVA5-SL05-000-S	6-10-98	ND (0.037)	7.2	0.82 J (1.1)	ND (0.037)	NA
600292	TA2-2-OVA5-SL11-000-S	6-10-98	ND (0.039)	7	0.77 J (1.2)	ND (0.039)	NA
600292	TA2-2-OVA5-SL13-000-S	6-10-98	ND (0.041)	6.8	0.61 J (1.2)	ND (0.041)	NA
600461	TA2-2-OVD1-SL01-000-S	7-07-98	ND (0.041)	5	0.39 J (1.2)	ND (0.041)	0.63
600461	TA2-2-OVD1-SL02-000-S	7-07-98	ND (0.038)	7.5	0.45 J (1.1)	ND (0.038)	0.79
600465	TA2-2-OVD3-SL01-000-S	7-13-98	ND (0.041)	8.7	0.43 J (1.2)	ND (0.041)	0.75
600474	TA2-2-OVD4-SL03-000-S	8-17-98	ND (0.042)	8.8	0.52 J (1.3)	ND (0.042)	0.69
600489	TA2-2-OVD7-SL02-000-S	9-14-98	ND (0.039)	8.1	0.78 J (1.2)	ND (0.039)	0.74
600489	TA2-2-OVD8-SL02-000-S	9-14-98	ND (0.038)	7.2	0.54 J (1.1)	ND (0.038)	0.71
600493	TA2-2-SLPE-SL39-000-S	9-21-98	ND (0.041)	8.5	0.71 J (1.2)	ND (0.041)	0.89
600493	TA2-2-SLPE-SL41-000-S	9-21-98	ND (0.039)	7.8	0.67 J (1.2)	ND (0.039)	1.3
600505	TA2-2-SLPE-SL44-000-S	11-03-98	0.055 J (0.15)	8.2	0.88 J (1.2)	ND (0.038)	1.2
601726	TA2-2-OVB1-SL01-000-S	4-14-99	ND (0.042 J)	8	0.65 J (1.3)	ND (0.042)	1.3
602093	TA2-2-OVA2-SL01-000-S	7-07-99	**0.21**	12	0.99 J (1.2)	ND (0.04)	0.93
602093	TA2-2-OVA2-SL01-000-S	7-07-99	**0.13 J (0.16)**	8.3	0.72 J (1.2)	ND (0.039)	0.76
602099	TA2-2-FILL-DIRT-1/2-S	7-28-99	**0.36 J**	11	0.93 J (1.2)	0.05 J (0.16)	0.73
602099	TA2-2-FILL-DIRT-2/2-S	7-28-99	**4.7 J**	12	0.93 J (1.2)	0.35	1.1
602591	TA2-2-OVA1-SL06-000-S	8-03-99	0.093 J (0.15)	11	ND (0.29 J)	ND (0.038)	1.3
602591	TA2-2-OVT2-P12-SL1-S	8-03-99	0.06 J (0.17)	9.8	ND (0.31 J)	0.052 J (0.17)	0.7
602591	TA2-2-OVT3-P10-SL1-S	8-03-99	0.048 J (0.17)	11	ND (0.32 J)	0.055 J (0.17)	1.2
602617	TA2-2-OVT1-P6-SL1-S	9-07-99	ND (0.039)	6.6	0.83 J (1.2)	0.044 J (0.16)	0.75

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
602784	TA2-2-OVT1-P4-SL1-S	10-04-99	**0.1 J (0.16)**	8.7	0.53 J (1.2)	ND (0.04)	0.58
602791	TA2-2-OVT1-P2-SL1-S	10-18-99	0.043 J (0.16)	9.2	0.99 J (1.2)	ND (0.041)	1.6
602791	TA2-2-OVT1-P3-SL1-S	10-18-99	0.066 J (0.16)	9.7	0.74 J (1.2)	0.039 J (0.16)	1.2
602800	TA2-2-OVT1-P1-SL1-S	10-27-99	ND (0.038)	6.5	ND (0.29 J)	ND (0.038)	1.1
602921	TA2-2-OVT2-P10-SL1-S	11-19-99	**0.1 J (0.15)**	10	ND (0.28 J)	ND (0.038)	0.51
602922	TA2-2-OVT2-P9-SL1-S	11-15-99	ND (0.04)	7.0	ND (0.3 J)	ND (0.04)	0.79
602940	TA2-2-OVT2-P8-SL1-S	12-01-99	0.092 J (0.15)	8.7	ND (0.29 J)	ND (0.038)	1.1
602967	TA2-2-OVT2-P6-SL1-S	1-03-00	**0.1 J (0.16)**	9.7 J	0.9 J (1.2)	ND (0.041)	0.89
602967	TA2-2-OVT2-P7-SL1-S	1-03-00	ND (0.04)	6.7 J	0.95 J (1.2)	ND (0.04)	0.77
602968	TA2-2-OVT2-P5/1-SL1-S	1-03-00	**0.14 J (0.17)**	10	0.64 J (1.2)	ND (0.042)	1.0
603057	TA2-2-OVT3-P2/3-SL1-S	2-28-00	**0.15 J (0.16)**	8.6	0.6 J (1.2)	ND (0.039)	0.84
603057	TA2-2-OVT3-P2/3-SL1-DU	2-28-00	**0.22**	12	0.77 J (1.2)	0.063 J (0.16)	1.3
603057	TA2-2-OVT3-P456-SL1-S	2-28-00	**0.12 J (0.16)**	8.8	0.61 J (1.2)	ND (0.041)	1.1
603068	TA2-2-OVT3-P789-SL1-S	3-02-00	**0.21**	11	0.5 J (1.2)	0.057 J (0.16)	1.1
603068	TA2-2-OVT3-P789-SL2-S	3-02-00	**0.13 J (0.16)**	9.3	0.43 J (1.2)	0.044 J (0.16)	1.2
603068	TA2-2-OVT3-P789-SL2-DU	3-02-00	**2.2**	12	0.46 J (1.1)	0.6	1.2
602606	TA2-2-EAST-FNCE-001-S	8-23-99	**1.2 J**	11	**1 J (1.1)**	0.4	1
602606	TA2-2-EAST-FNCE-001-DU	8-23-99	**1.1 J**	11	**1.3**	0.29	0.87
602607	TA2-2-TR2-EAST-FNCE-002-S	8-23-99	**1.29**	9 J	ND (0.252)	0.178 J (0.467)	0.802
602607	TA2-2-TR2-EAST-FNCE-002-DU	8-23-99	**1.15**	12.5 J	ND (0.248)	**1.3 J**	0.918
Soil Removed Directly from Artifacts (Bin Soils)							
601594	TA2-2-TRC7-C6-BIN-S	3-10-99	**11**	**400**	0.75 J (1.2)	**110**	0.7
601594	TA2-2-TRC8-C/F-BIN-S	3-10-99	**7.7 J**	**360**	0.84 J (1.3)	**63**	0.76
601594	TA2-2-TRC9-C/F-BIN-S	3-10-99	**5.4**	**120**	**1.1**	**8.2**	1.1
601594	TA2-2-TRD8-C/F-BIN-S	3-10-99	**4.7**	**290**	**1.1 J (1.2)**	**48**	0.9
602974	TA2-2-P225-2C/F-BIN-S	1-24-00	**14 J**	**150**	**1.1**	**6.9**	1
602974	TA2-2-P225-3C/F-BIN-S	1-24-00	**180 J**	**64**	0.87 J (1.2)	**1.8**	1
602796	TA2-2-COBL-GRIZ-002-S	10-20-99	**0.86**	12	0.56 J (1.3)	0.31	1.2

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
602796	TA2-2-COBL-GRIZ-003-S	10-20-99	**1.4**	13	0.51 J (1.2)	**2.8**	0.62
602796	TA2-2-COBL-GRIZ-004-S	10-20-99	**1.5**	12	0.59 J (1.2)	**1.3**	0.91
602796	TA2-2-COBL-GRIZ-004-D	10-20-99	**1.5**	9.4	0.54 J (1.2)	**4.3**	0.88
602796	TA2-2-COBL-GRIZ-005-S	10-20-99	**1**	14	0.75 J (1.2)	0.65	1.1
602600	TA2-2-COBL-GRIZ-TRA-S	8-18-99	**23**	17	ND (0.31 J)	0.28	0.95
602600	TA2-2-COBL-GRIZ-TRA-DUP	8-18-99	**7.1**	15	ND (0.3 J)	**1.2**	1.1
603073	TA2-2-1LAY-DOWN-BIN-S	3-09-00	**0.8**	13	0.96 J (1.2)	0.31	1.4
603073	TA2-2-2LAY-DOWN-BIN-S	3-09-00	**5.8**	14	0.6 J (1.2)	**1.9**	1.3
603073	TA2-2-3LAY-DOWN-BIN-S	3-09-00	**3.4**	15	**3.7**	0.72	1.2
603073	TA2-2-4LAY-DOWN-BIN-S	3-09-00	**1.6**	11	0.5 J (1.2)	0.97	1
603073	TA2-2-4LAY-DOWN-BIN-DU	3-09-00	**1.5**	13	0.33 J (1.2)	0.75	0.97
603073	TA2-2-5LAY-DOWN-BIN-S	3-09-00	**11**	14	0.59 J (1.2)	0.75	1.2
603073	TA2-2-6LAY-DOWN-BIN-S	3-09-00	**8.7**	12	0.36 J (1.2)	0.56	1.5
603073	TA2-2-7LAY-DOWN-BIN-S	3-09-00	**9.2**	18	**1.3**	**1**	1.3
603073	TA2-2-7LAY-DOWN-BIN-DU	3-09-00	**1.8**	16	0.5 J (1.2)	0.79	1.4
603073	TA2-2-8LAY-DOWN-BIN-S	3-09-00	**1.9**	20	0.45 J (1.3)	0.91	1.3
603073	TA2-2-9LAY-DOWN-BIN-S	3-09-00	**8.9**	18	0.44 J (1.2)	**1.4**	1.7
603077	TA2-2-2LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	**1.53**	**194 J**	0.295 J (0.5)	**1.29 J**	1.08
603077	TA2-2-6LAY-DOWN-BIN-S (off-site laboratory)	3-14-00	**2.54**	10 J	ND (0.146)	**1.07 J**	1.24
603186	TA2-2-1LAY-DOWN-BIN-E	6-14-00	**1.9 J**	12	0.94 J (1.2)	0.51	1.1
603186	TA2-2-1LAY-DOWN-BIN-N	6-14-00	**3.2 J**	12	0.98 J (1.2)	0.43	1.9
603186	TA2-2-1LAY-DOWN-BIN-S	6-14-00	**2.8 J**	12	**1 J (1.2)**	0.59	1.9
603186	TA2-2-1LAY-DOWN-BIN-W	6-14-00	**3 J**	12	**2.2**	0.68	1.5
603186	TA2-2-1LAY-DOWN-BIN-WDU		**2.8 J**	10	**1.6**	0.5	0.89
603186	TA2-2-2LAY-DOWN-BIN-E	6-14-00	**3.2 J**	18	0.95 J (1.2)	0.76	1.3
603186	TA2-2-2LAY-DOWN-BIN-N	6-14-00	**1.5 J**	13	0.82 J (1.2)	0.52	1.2

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603186	TA2-2-2LAY-DOWN-BIN-NDU	6-14-00	2.6 J	21	1.4	6.6	1.6
603186	TA2-2-2LAY-DOWN-BIN-S	6-14-00	3.9 J	16	1.2	0.98	1.1
603186	TA2-2-2LAY-DOWN-BIN-W	6-14-00	3.5 J	24	1 J (1.2)	2	1.5
603186	TA2-2-3LAY-DOWN-BIN-E	6-14-00	2.4 J	15	0.89 J (1.2)	1.2	4.4
603186	TA2-2-3LAY-DOWN-BIN-EDU	6-14-00	1.7 J	10	0.71 J (1.2)	0.8	0.91
603186	TA2-2-3LAY-DOWN-BIN-N	6-14-00	3.5 J	17	1.2	1.1	1.9
603186	TA2-2-3LAY-DOWN-BIN-S	6-14-00	2.6 J	15	1 J (1.2)	0.67	1.2
603186	TA2-2-3LAY-DOWN-BIN-W	6-14-00	2.6 J	16	1.2	1	2.4
603186	TA2-2-4LAY-DOWN-BIN-E	6-14-00	2.7 J	10	0.89 J (1.2)	0.68	1
603186	TA2-2-4LAY-DOWN-BIN-N	6-14-00	9.4	9.5	0.79 J (1.2)	0.56	1.1
603186	TA2-2-4LAY-DOWN-BIN-S	6-14-00	2.4 J	10	0.67 J (1.2)	0.68	0.71
603186	TA2-2-4LAY-DOWN-BIN-SDU	6-14-00	3 J	16	0.89 J (1.2)	3.5	1.3
603186	TA2-2-4LAY-DOWN-BIN-W	6-14-00	3 J	8.3	0.71 J (1.2)	0.72	1.3
603186	TA2-2-5LAY-DOWN-BIN-E	6-14-00	3.7 J	11	1.8	0.53	1
603186	TA2-2-5LAY-DOWN-BIN-N	6-14-00	2.1 J	11	0.84 J (1.2)	0.73	1.3
603186	TA2-2-5LAY-DOWN-BIN-NDU	6-14-00	2.4 J	15	0.68 J (1.2)	0.83	1.2
603186	TA2-2-5LAY-DOWN-BIN-S	6-14-00	2 J	14	0.96 J (1.2)	0.44	1.3
603186	TA2-2-5LAY-DOWN-BIN-W	6-14-00	2.3 J	12	0.63 J (1.2)	0.57	1.1
603186	TA2-2-6LAY-DOWN-BIN-E	6-14-00	2.4	11	ND (0.3 J)	0.7	1.4
603186	TA2-2-6LAY-DOWN-BIN-EDU	6-14-00	1.8	11	ND (0.3 J)	0.38	1.1
603186	TA2-2-6LAY-DOWN-BIN-N	6-14-00	1.5 J	11	0.96 J (1.2)	0.29	1.2
603186	TA2-2-6LAY-DOWN-BIN-S	6-14-00	3	14	ND (1.4 U)	0.85	2.2
603186	TA2-2-6LAY-DOWN-BIN-W	6-14-00	2.7	12	ND (0.3 J)	0.91	1.2
603186	TA2-2-7LAY-DOWN-BIN-E	6-14-00	3.3	20	ND (0.3 J)	1.1	1.5
603186	TA2-2-7LAY-DOWN-BIN-N	6-14-00	1.6	18	ND (0.3 J)	0.76	1.1
603186	TA2-2-7LAY-DOWN-BIN-S	6-14-00	2.4	15	ND (0.33 J)	1.7	1.2
603186	TA2-2-7LAY-DOWN-BIN-SDU	6-14-00	2.7	18	3	0.7	1.2
603186	TA2-2-7LAY-DOWN-BIN-W	6-14-00	2.2	17	9.6	1.8	1.9

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603186	TA2-2-8LAY-DOWN-BIN-E	6-14-00	**2.3**	18	ND (0.3 J)	0.68	1.2
603186	TA2-2-8LAY-DOWN-BIN-N	6-14-00	**2.6**	11	ND (0.3 J)	0.7	1.2
603186	TA2-2-8LAY-DOWN-BIN-S	6-14-00	**2.1**	16	ND (0.3 J)	0.9	1.6
603186	TA2-2-8LAY-DOWN-BIN-W	6-14-00	**2.6**	14	ND (0.3 J)	0.62	**2.6**
603186	TA2-2-8LAY-DOWN-BIN-WDU	6-14-00	**5.8 J**	15	ND (1.2 U)	**1.1**	1.3
603186	TA2-2-9LAY-DOWN-BIN-E	6-14-00	**3.4 J**	15	ND (1.6 U)	0.77	**2.7**
603186	TA2-2-9LAY-DOWN-BIN-N	6-14-00	**3.5 J**	17	ND (0.3 J)	**1**	1.2
603186	TA2-2-9LAY-DOWN-BIN-NDU	6-14-00	**2.9 J**	13	ND (0.3 J)	**1.4**	1.2
603186	TA2-2-9LAY-DOWN-BIN-S	6-14-00	**9.2 J**	20	ND (1.3 U)	0.84	1.2
603186	TA2-2-9LAY-DOWN-BIN-W	6-14-00	**3 J**	16	ND (0.3 J)	0.68	1.6
603192	TA2-2-PIT-BURM-MIX-E-S	6-21-00	**0.3 J**	9.9	ND (0.3 J)	ND (0.18 U)	1.3
603193	TA2-2-PIT-BURM-MIX-E-S (off-site laboratory split)	6-21-00	**0.235 J**	7.1	ND (0.146)	ND (0.101)	1.18
603192	TA2-2-PIT-BURM-MIX-N-S	6-21-00	**0.47 J**	8.6	ND (0.3 J)	ND (0.04 J)	1.1
603193	TA2-2-PIT-BURM-MIX-N-S (off-site laboratory split)	6-21-00	**1.32 J**	8.91	ND (0.146)	ND (0.101)	0.932
603193	TA2-2-PIT-BURM-MIX-N-DU (off-site laboratory split)	6-21-00	**0.739 J**	6.73	ND (0.146)	ND (0.101)	0.942
603192	TA2-2-PIT-BURM-MIX-S-S	6-21-00	**0.15 J (0.16)**	5.8	ND (0.3 J)	ND (0.04)	0.61
603193	TA2-2-PIT-BURM-MIX-S-S (off-site laboratory split)	6-21-00	**0.267 J**	6.41	ND (0.146)	ND (0.101)	1.18
603192	TA2-2-PIT-BURM-MIX-W-S	6-21-00	**0.31 J**	9.2	ND (0.3 J)	ND (0.04 J)	1.1
603192	TA2-2-PIT-BURM-MIX-W-DU	6-21-00	**0.22 J**	6	ND (0.3 J)	ND (0.04 J)	1.3
603193	TA2-2-PIT-BURM-MIX-W-S (off-site laboratory split)	6-21-00	**0.321 J**	8.69	ND (0.146)	ND (0.101)	1.21
603197	TA2-2-CWLF-COBL-GRZ-1	6-26-00	**3.2**	22 J	ND (0.03 J)	**2.6**	1.1
603196	TA2-2-CWLF-COBL-GRZ-1 (off-site laboratory split)	6-26-00	**3.2**	21	0.313 J (0.499)	**3.31**	0.914

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603197	TA2-2-CWLF-COBL-GRZ-2	6-26-00	2.2	23 J	ND (0.03 J)	4	1.2
603196	TA2-2-CWLF-COBL-GRZ-2 (off-site laboratory split)	6-26-00	1.98	20.6	0.757	4.33	1.11
603197	TA2-2-CWLF-COBL-GRZ-3	6-26-00	2.9	15 J	ND (0.3 J)	7.9	1
603196	TA2-2-CWLF-COBL-GRZ-3 (off-site laboratory split)	6-26-00	1.88	17.6	ND (0.146)	24	0.979
603197	TA2-2-CWLF-COBL-GRZ-4	[illegible]	4.1	17 J	ND (0.3 J)	6.3	1.4
603197	TA2-2-CWLF-COBL-GRZ-4DU	6-26-00	2.8	14 J	ND (0.3 J)	1.4	1.2
603196	TA2-2-CWLF-COBL-GRZ-4 (off-site laboratory split)	6-26-00	1.46	13.7	0.338 J (0.498)	2.93	1.15
603196	TA2-2-CWLF-COBL-GRZ-4DU (off-site laboratory split)	6-26-00	1.28	13.5	0.631	3.24	0.946
603197	TA2-2-CWLF-COBL-GRZ-5	6-26-00	2.5	16	ND (0.3 J)	1.8	1.2
603196	TA2-2-CWLF-COBL-GRZ-5 (off-site laboratory split)	6-26-00	2.42	14.6	0.374 J (0.497)	1.43	1.02
603197	TA2-2-CWLF-COBL-GRZ-6	6-26-00	2.1	16 J	ND (0.3 J)	1.6	1.2
603196	TA2-2-CWLF-COBL-GRZ-6 (off-site laboratory split)	6-26-00	2.75	12.6	0.296 J (0.498)	1.63	0.906
603197	TA2-2-CWLF-COBL-GRZ-7	6-26-00	4.1	19 J	ND (0.3 J)	1.9	1.2
603196	TA2-2-CWLF-COBL-GRZ-7 (off-site laboratory split)	6-26-00	4.18	18.6	0.466 J (0.498)	4.05	1.02
603197	TA2-2-CWLF-COBL-GRZ-8	6-26-00	2.8	16 J	ND (0.3 J)	2.5	1.2
603197	TA2-2-CWLF-COBL-GRZ-8DU	6-26-00	3.4	20 J	ND (0.3 J)	2.6	1.2
603196	TA2-2-CWLF-COBL-GRZ-8 (off-site laboratory split)	6-26-00	3.29	86.7	0.465 J (0.5)	4.05	0.976
603196	TA2-2-CWLF-COBL-GRZ-8DU (off-site laboratory split)	6-26-00	3.18	25	0.538	2.45	0.946
603197	TA2-2-CWLF-COBL-GRZ-9	6-26-00	2.3	20 J	ND (0.3 J)	2.3	1.3

Refer to footnotes at end of table.

Table A-3 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling RCRA Metals plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–June 2000
(On-site Laboratory, except where noted)

Sample Attributes			Metals (EPA Method 6010A/ 6010B/ 6020/ 7471/ 7471A/6020/SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
603196	TA2-2-CWLF-COBL-GRZ-9 (off-site laboratory split)	6-26-00	**2.46**	16.8	0.641	**2.86**	0.954
603197	TA2-2-CYLI-NDER-BRM-S	6-26-00	**0.94**	12 J	ND (0.3 J)	0.36	0.99
603196	TA2-2-CYLI-NDER-BRM-S (off-site laboratory split)	6-26-00	**0.986**	10.7	0.399 J (0.5)	0.415 J (0.5)	0.922
Borrow Area Soils Used to Backfill ACF- and W-Pits							
600003	TA2-2-BORROW-1	3-05-98	ND (0.041)	9.1 J	0.54 J (1.2)	ND (0.041)	NA
600003	TA2-2-BORROW-2	3-05-98	ND (0.041)	7.5 J	0.55 J (1.2)	0.08 J (0.16)	NA
Background Soil Concentrations—North Area[d]			<0.1	25.4	<1	<1	2.3
Quality Assurance/Quality Control Samples (mg/L)							
600059	TA2-2-PTW1-EB (off-site laboratory)	4-06-98	0.000104	0.00227	NA	NA	NA
600283	TA2-2-TRE5-0001-EB (off-site laboratory)	6-01-98	ND (0.0001)	ND (0.00227)	0.00226	0.00274 J	NA
600459	TA2-2-TRD1-0006-EB (off-site laboratory)	7-06-98	ND (0.0001)	ND (0.00227)	ND (0.0014)	ND (0.00062)	0.00004 J
600472	TA2-2-TRD6-0015-EB (off-site laboratory)	8-11-98	ND (0.0001)	ND (0.00227)	ND (0.0014)	ND (0.00062)	NA
600494	TA2-2-TRD8-0025-EB (off-site laboratory)	9-21-98	ND (0.00004)	ND (0.00129)	ND (0.00271)	ND (0.00073)	0.00013 J
601139	TA2-2-TRC7-0003-000-EB (off-site laboratory)	11-30-98	0.00021 J	ND (0.00129)	ND (0.00271)	0.00982 J	ND (0.00003)

Note: Values in **bold** exceed background soil concentrations.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Sample naming scheme is provided in Table 1.

[d]From Dinwiddie September 1997. Subsurface values are used for comparison, because these samples were collected 15 to 18 feet below the surface.

D, DU, DUP = Duplicate Sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ID = Identification.
J = Estimated value. See Data Validation report.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantification limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligrams(s) per liter.
NA = Not analyzed.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
ND (U) = Not detected at laboratory reported value, shown in parentheses.
RCRA = Resource Conservation and Recovery Act.
S, SU = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-4
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
Soil Excavated from Pits and Trenches										
600045	TA2-2-ACF1-0001-SL2-S	4-01-98	0.0503	0.0282	0.878	0.477	ND (0.197)	--	0.991	0.69
600065	TA2-2-ACF2-0001-SL4-S	4-13-98	0.0489	0.0422	0.852	0.446	ND (0.196)	--	ND (1.3)	--
600040	TA2-2-ACF3-0001-SL1-S	3-23-98	0.0289	0.0196	0.834	0.429	ND (0.27)	--	ND (1.92)	--
600040	TA2-2-ACF4-0001-SL1-S	3-24-98	0.058	0.0403	0.794	0.404	ND (0.236)	--	ND (1.72)	--
600044	TA2-2-ACF4-0001-SL5-S	3-26-98	0.0526	0.0169	0.676	0.325	ND (0.159)	--	ND (1.38)	--
600460	TA2-2-ACF5-SL06-000-S	7-07-98	ND (0.0299)	--	0.673	0.362	ND (0.173)	--	1.25	0.886
600060	TA2-2-PW12-0001-SL7-S	4-07-98	0.0363	0.0314	0.764	0.427	ND (0.221)	--	ND (3.06)	--
600060	TA2-2-PW12-0001-SL8-S	4-07-98	ND (0.0347)	--	0.694	0.344	ND (0.183)	--	0.507	0.485
600063	TA2-2-PTW2-0001-12-S	4-09-98	ND (0.0272)	--	0.581	0.334	ND (0.179)	--	ND (1.53)	--
600068	TA2-2-PTW3-0001-SL4-S	4-14-98	0.00842	0.00857	0.76	0.379	ND (0.22)	--	ND (2.96)	--
600073	TA2-2-PTW4-0001-15-S	4-20-98	ND (0.0319)	--	0.696	0.426	ND (0.186)	--	0.821	0.626
600075	TA2-2-PTW4-SL10-000-S	4-23-98	0.0205	0.0205	0.772	0.369	ND (0.229)	--	ND (3.15)	--
600075	TA2-2-PTW4-SL14-000-S	4-23-98	0.0215	0.0196	0.755	0.358	ND (0.225)	--	ND (3.01)	--
600075	TA2-2-PTW4-SL15-000-S	4-23-98	ND (0.0312)	--	0.686	0.449	ND (0.222)	--	ND (3.06)	--
600079	TA2-2-TRE1-0001-000-S	4-28-98	ND (0.0677)	--	0.851	0.45	3.28	0.945	208	45.9
600084	TA2-2-TRE1-SL06-000-S	5-06-98	0.0325	0.0199	0.637	0.318	ND (0.172)	--	2.72	1.13
600084	TA2-2-TRE1-SL13-000-S	5-06-98	0.00978	0.0109	0.646	0.316	ND (0.122)	--	2.52	0.971
600086	TA2-2-TRE2-SL07-000-S	5-11-98	0.00967	0.00427	0.619	0.296	ND (0.214)	--	3.16	3.66
600278	TA2-2-TRE3-SL07-000-S	5-21-98	ND (0.0248)	--	0.671	0.353	0.0844	0.0787	1.74	1.7
600275	TA2-2-TRE4-0001-000-S	5-12-98	ND (0.0406)	--	0.707	0.357	ND (0.285)	--	ND (3.95)	--
600278	TA2-2-TRE4-SL10-000-S	5-21-98	ND (0.0308)	--	0.656	0.319	ND (0.172)	--	0.738	0.588
600284	TA2-2-TRE5-SL08-000-S	6-01-98	ND (0.0308)	--	0.672	0.338	ND (0.216)	--	ND (3.06)	--
600284	TA2-2-TRE5-SL17-000-S	6-01-98	ND (0.028)	--	0.625	0.314	ND (0.206)	--	ND (2.86)	--
600289	TA2-2-TRE6-SL09-000-S	6-08-98	ND (0.0286)	--	0.727	0.381	ND (0.181)	--	ND (1.58)	--
600289	TA2-2-TRE6-SL22-000-S	6-08-98	ND (0.026)	--	0.707	0.351	ND (0.179)	--	ND (1.54)	--
600289	TA2-2-TRE6-SL22-000-DUP	6-08-98	ND (0.0268)	--	0.742	0.355	ND (0.176)	--	ND (1.55)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600295	TA2-2-TRE7-SL08-000-S	6-17-98	ND (0.0314)	--	0.718	0.389	ND (0.226)	--	ND (3.3)	--
600295	TA2-2-TRE7-SL13-000-S	6-17-98	ND (0.0302)	--	0.677	0.369	ND (0.218)	--	ND (3.09)	--
600295	TA2-2-TRE7-SL25-000-S	6-17-98	ND (0.0309)	--	0.675	0.339	ND (0.216)	--	ND (3)	--
600298	TA2-2-TRE7-SL37-000-S	6-23-98	ND (0.0284)	--	0.651	0.32	ND (0.181)	--	ND (1.59)	--
600298	TA2-2-TRE7-SL49-000-S	6-23-98	0.0103	0.00948	0.668	0.327	ND (0.158)	--	ND (1.42)	--
600298	TA2-2-TRE7-SL55-000-S	6-23-98	ND (0.0259)	--	0.651	0.313	ND (0.167)	--	ND (1.46)	--
600300	TA2-2-TRE8-SL01-000-S	6-25-98	ND (0.0316)	--	0.696	0.357	ND (0.172)	--	ND (1.14)	--
600300	TA2-2-TRE8-SL14-000-S	6-25-98	ND (0.0282)	--	0.737	0.353	ND (0.203)	--	ND (2.82)	--
600302	TA2-2-TRE8-SL07-000-S	6-29-98	[illegible]	--	0.616	0.326	ND (0.178)	--	0.966	0.649
600302	TA2-2-TRE8-SL21-000-S	6-29-98	ND (0.0256)	--	0.595	0.292	ND (0.173)	--	ND (1.53)	--
600302	TA2-2-TRE8-SL29-000-S	6-29-98	ND (0.0341)	--	0.717	0.356	ND (0.177)	--	0.511	0.515
600462	TA2-2-TRD1-SL02-000-S	7-07-98	ND (0.0296)	--	0.679	0.342	ND (0.185)	--	ND (1.7)	--
600462	TA2-2-TRD1-SL06-000-S	7-07-98	ND (0.0389)	--	0.899	0.454	ND (0.235)	--	1.07	1.05
600462	TA2-2-TRD1-SL09-000-S	7-07-98	ND (0.0332)	--	0.792	0.39	ND (0.2)	--	ND (1.84)	--
600462	TA2-2-TRD1-SL12-000-S	7-07-98	0.0118	0.0137	0.755	0.379	ND (0.189)	--	ND (1.74)	--
600464	TA2-2-TRD2-SL01-000-S	7-13-98	ND (0.0311)	--	0.717	0.377	ND (0.227)	--	ND (3.19)	--
600464	TA2-2-TRD2-SL05-000-S	7-13-98	ND (0.0314)	--	0.741	0.431	ND (0.232)	--	ND (3.22)	--
600466	TA2-2-TRD3-SL03-000-S	7-20-98	ND (0.0358)	--	0.682	0.389	ND (0.177)	--	1.34	0.693
600466	TA2-2-TRD3-SL06-000-S	7-20-98	ND (0.0339)	--	0.591	0.318	ND (0.187)	--	1.33	0.748
600466	TA2-2-TRD3-SL12-000-S	7-20-98	ND (0.0315)	--	0.63	0.333	ND (0.17)	--	0.923	0.653
600469	TA2-2-TRD4-SL03-000-S	8-10-98	ND (0.0328)	--	0.785	0.378	ND (0.236)	--	ND (0.786)	--
600469	TA2-2-TRD4-SL03-000-DUP	8-10-98	ND (0.0314)	--	0.613	0.317	ND (0.221)	--	0.982	0.639
600469	TA2-2-TRD4-SL05-000-S	8-10-98	ND (0.0281)	--	0.69	0.335	ND (0.215)	--	ND (0.709)	--
600469	TA2-2-TRD4-SL05-000-DUP	8-10-98	ND (0.0308)	--	0.761	1.31	ND (0.23)	--	0.535	0.377
600469	TA2-2-TRD4-SL07-000-S	8-10-98	ND (0.0286)	--	0.589	0.302	ND (0.202)	--	0.753	0.547
600469	TA2-2-TRD4-SL14-000-S	8-10-98	ND (0.0317)	--	0.691	0.333	ND (0.221)	--	0.658	0.426

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
			Cesium-137		Thorium-232		Uranium-235		Uranium-238	
Record Number[a]	ER Sample ID[b]	Sample Date	Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600473	TA2-2-TRD6-SL03-000-S	8-17-98	ND (0.0281)	--	0.645	0.314	ND (0.203)	--	ND (0.535)	--
600473	TA2-2-TRD6-SL08-000-S	8-17-98	ND (0.0279)	--	0.646	0.339	ND (0.205)	--	0.834	0.422
600473	TA2-2-TRD6-SL15-000-S	8-17-98	ND (0.0273)	--	0.648	0.581	ND (0.196)	--	ND (0.676)	--
600473	TA2-2-TRD6-SL19-000-S	8-17-98	ND (0.0277)	--	0.628	0.301	ND (0.202)	--	0.437	0.402
600473	TA2-2-TRD6-SL23-000-S	8-17-98	ND (0.0271)	--	0.677	0.323	0.1	0.172	0.663	0.502
600488	TA2-2-TRD7-SL03-000-S	9-14-98	ND (0.0308)	--	0.612	0.301	ND (0.217)	--	0.605	0.367
600488	TA2-2-TRD7-SL11-000-S	9-14-98	ND (0.0318)	--	0.601	0.343	0.136	0.189	0.921	0.425
600488	TA2-2-TRD7-SL13-000-S	9-14-98	0.0224	0.0213	0.735	0.349	ND (0.196)	--	0.749	0.468
600488	TA2-2-TRD7-SL23-000-S	9-14-98	ND (0.0294)	--	0.704	0.335	0.123	0.178	0.387	0.436
600501	TA2-2-TRD8-SL01-049-S	10-20-98	0.0127	0.0105	0.725	0.365	ND (0.194)	--	0.779	0.455
600501	TA2-2-TRD8-SL04-000-S	10-20-98	0.0194	0.0223	0.705	0.335	ND (0.207)	--	ND (0.712)	--
600501	TA2-2-TRD8-SL16-000-S	10-20-98	ND (0.0327)	--	0.778	0.372	ND (0.226)	--	0.732	0.616
600501	TA2-2-TRD8-SL27-000-S	10-20-98	ND (0.0322)	--	0.649	0.348	ND (0.218)	--	ND (0.537)	--
600501	TA2-2-TRD8-SL33-000-S	10-20-98	ND (0.0316)	--	0.689	0.34	0.106	0.188	0.543	0.409
600501	TA2-2-TRD8-SL45-000-S	10-20-98	ND (0.0302)	--	0.684	0.332	ND (0.218)	--	0.552	0.353
600504	TA2-2-TRC9-SL01-000-S	11-03-98	ND (0.0345)	--	0.825	0.452	0.107	0.205	1.08	0.54
600504	TA2-2-TRC9-SL05-000-S	11-03-98	ND (0.0369)	--	0.784	0.381	**0.206**	0.22	ND (0.878)	--
600504	TA2-2-TRC9-SL19-000-S	11-03-98	ND (0.0377)	--	0.813	0.469	ND (0.208)	--	ND (0.572)	--
601133	TA2-2-TRC9-SL24-000-S	11-17-98	ND (0.0327)	--	0.788	0.42	0.108	0.194	0.833	0.614
601133	TA2-2-TRC9-SL42-000-S	11-17-98	ND (0.039)	--	0.835	0.42	0.12	0.227	0.315	0.362
601133	TA2-2-TRC9-SL57-000-S	11-17-98	ND (0.0325)	--	0.783	0.393	0.114	0.2	0.875	0.501
601133	TA2-2-TRC9-SL71-000-S	11-17-98	ND (0.0371)	--	0.86	0.417	**0.365**	0.231	0.952	0.501
602735	TA2-2-TRC9-SL83-001-S	10-20-99	ND (0.0353)	--	0.716	1.06	ND (0.19)	--	ND (0.527)	--
601140	TA2-2-TRC9-SL83-000-S	1-13-99	ND (0.0327)	--	0.853	0.46	ND (0.234)	--	ND (0.799)	--
601140	TA2-2-TRC8-SL04-000-S	1-13-99	0.0142	0.0257	0.841	0.436	0.162	0.165	ND (0.727)	--
601140	TA2-2-TRC8-SL11-000-S	1-13-99	ND (0.0294)	--	0.711	0.406	0.172	0.175	ND (0.737)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601140	TA2-2-TRC8-SL17-000-S	1-13-99	**0.114**	0.0415	0.755	0.406	ND (0.219)	--	ND (0.734)	--
601140	TA2-2-TRC7-SL01-000-S	1-13-99	0.024	0.0127	0.822	0.43	0.171	0.172	ND (0.774)	--
601140	TA2-2-TRC7-SL21-000-S	1-13-99	0.0205	0.019	0.778	0.476	ND (0.224)	--	ND (0.746)	--
601141	TA2-2-TRC6-SL01-000-S	1-13-99	ND (0.048)	--	1.04	0.998	**0.222**	0.199	0.731	0.543
601141	TA2-2-TRC6-SL02-000-S	1-13-99	0.0436	0.044	0.896	0.525	ND (0.265)	--	1.15	0.887
601141	TA2-2-TRC6-SL03-000-S	1-13-99	ND (0.0278)	--	0.913	0.513	0.128	0.208	ND (0.51)	--
601141	TA2-2-TRC6-SL04-000-S	1-13-99	0.021	0.0216	0.998	0.515	ND (0.245)	--	1.01	1.02
601142	TA2-2-TRC6-SL05-000-S	1-14-99	0.0366	0.049	1.03	0.601	**0.201**	0.277	ND (0.907)	--
601142	TA2-2-TRC6-SL06-000-S	1-14-99	ND (0.0522)	--	0.945	0.569	**0.195**	0.235	ND (0.748)	--
601142	TA2-2-TRC6-SL07-000-S	1-14-99	ND (0.0553)	--	1.11	0.665	ND (0.29)	--	ND (0.81)	--
601146	TA2-2-TRC7-C6-BIN-S	1-25-99	**0.136**	0.0604	0.815	0.489	**0.248**	0.199	0.476	0.437
601146	TA2-2-TRC8-C/F-BIN-S	1-25-99	0.0508	0.04	0.746	0.459	ND (0.224)	--	ND (0.619)	--
601146	TA2-2-TRC9-C/F-BIN-S	1-25-99	0.0308	0.0328	0.708	0.379	0.138	0.172	**1.61**	1.29
601146	TA2-2-TRD8-C/F-BIN-S	1-25-99	0.0626	0.0338	0.591	0.366	ND (0.194)	--	ND (0.533)	--
601152	TA2-2-TRC5-SL01-000-S	1-28-99	ND (0.0434)	--	0.963	0.54	ND (0.235)	--	ND (0.663)	--
601152	TA2-2-TRC5-SL02-000-S	1-28-99	0.0331	0.0414	0.94	0.537	ND (0.24)	--	ND (0.674)	--
601152	TA2-2-TRC5-SL03-000-S	1-28-99	ND (0.0297)	--	1.03	0.579	ND (0.278)	--	ND (0.776)	--
601152	TA2-2-TRC5-SL07-000-S	1-28-99	ND (0.0246)	--	1.04	0.618	ND (0.264)	--	ND (0.753)	--
601153	TA2-2-TRC5-SL05-000-S	2-01-99	ND (0.0381)	--	0.962	0.507	0.153	0.208	ND (0.901)	--
601153	TA2-2-TRC5-SL06-000-S	2-01-99	ND (0.0366)	--	0.954	0.524	ND (0.248)	--	ND (0.851)	--
601153	TA2-2-TRC5-SL07-000-S	2-01-99	0.0314	0.0262	0.927	0.486	ND (0.213)	--	ND (0.746)	--
601155	TA2-2-TRC5-SL08-000-S	2-02-99	ND (0.0555)	--	0.989	0.577	ND (0.278)	--	ND (0.773)	--
601155	TA2-2-TRC5-SL09-000-S	2-02-99	ND (0.0449)	--	0.737	0.423	ND (0.234)	--	0.445	0.417
601155	TA2-2-TRC5-SL10-000-S	2-02-99	ND (0.0549)	--	0.93	0.508	ND (0.274)	--	ND (0.685)	--
601156	TA2-2-TRC5-SL11-000-S	2-03-99	0.0358	0.0303	0.861	0.485	ND (0.225)	--	ND (0.632)	--
601156	TA2-2-TRC5-SL12-000-S	2-03-99	0.0173	0.0223	0.911	0.497	ND (0.235)	--	ND (0.669)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601156	TA2-2-TRC5-SL13-000-S	2-03-99	ND (0.0412)	--	0.843	0.482	ND (0.221)	--	ND (0.607)	--
601593	TA2-2-TRC4-SL01-000-S	3-09-99	ND (0.0269)	--	0.687	0.371	ND (0.175)	--	ND (0.567)	--
601593	TA2-2-TRC4-SL02-000-S	3-09-99	ND (0.0361)	--	0.753	0.431	ND (0.196)	--	ND (0.555)	--
601593	TA2-2-TRC4-SL03-000-S	3-09-99	ND (0.0317)	--	0.797	0.427	0.189	0.166	0.92	0.5
601593	TA2-2-TRC4-SL04-000-S	3-09-99	ND (0.0341)	--	ND (0.15)	--	ND (0.197)	--	ND (0.574)	--
601593	TA2-2-TRC4-SL05-000-S	3-09-99	ND (0.0285)	--	0.735	0.418	0.137	0.153	0.573	0.691
601593	TA2-2-TRC4-SL06-000-S	3-09-99	ND (0.0288)	--	0.861	0.439	ND (0.19[illegible]	--	0.77	0.799
601593	TA2-2-TRC4-SL07-000-S	3-09-99	ND (0.032)	--	0.797	0.428	0.193	0.172	ND (0.638)	--
601593	TA2-2-TRC4-SL08-000-S	3-09-99	ND (0.0272)	--	0.642	0.417	ND (0.17)	--	ND (0.558)	--
601597	TA2-2-TRC3-SL01-000-S	3-10-99	ND (0.0362)	--	0.792	0.454	ND (0.203)	--	ND (0.539)	--
601597	TA2-2-TRC3-SL02-000-S	3-10-99	0.0319	0.0329	0.807	0.47	ND (0.221)	--	0.874	0.426
601597	TA2-2-TRC3-SL03-000-S	3-11-99	ND (0.0385)	--	0.807	0.449	ND (0.211)	--	ND (0.565)	--
601597	TA2-2-TRC3-SL04-000-S	3-11-99	0.051	0.028	0.788	0.454	ND (0.21)	--	ND (0.562)	--
601597	TA2-2-TRC3-SL05-000-S	3-11-99	ND (0.0391)	--	0.905	0.501	0.138	0.182	ND (0.588)	--
601597	TA2-2-TRC3-SL06-000-S	3-11-99	ND (0.0344)	--	0.802	0.421	ND (0.2)	--	ND (0.526)	--
601598	TA2-2-TRC3-SL07-000-S	3-15-99	ND (0.0303)	--	0.817	0.453	ND (0.226)	--	ND (0.775)	--
601598	TA2-2-TRC3-SL08-000-S	3-15-99	ND (0.0304)	--	0.831	0.407	ND (0.224)	--	ND (0.763)	--
601598	TA2-2-TRC3-SL09-000-S	3-15-99	ND (0.033)	--	0.712	0.419	ND (0.221)	--	ND (0.781)	--
601599	TA2-2-TRC3-SL10-000-S	3-22-99	ND (0.0428)	--	0.825	0.477	ND (0.237)	--	ND (0.671)	--
601599	TA2-2-TRC3-SL11-000-S	3-22-99	ND (0.0437)	--	0.772	0.449	ND (0.226)	--	0.916	1.15
601599	TA2-2-TRC3-SL12-000-S	3-22-99	ND (0.0429)	--	0.755	0.455	ND (0.229)	--	ND (0.632)	--
601599	TA2-2-TRC3-SL13-000-S	3-22-99	ND (0.0365)	--	0.779	0.397	ND (0.196)	--	ND (0.492)	--
601599	TA2-2-TRC3-SL14-000-S	3-22-99	ND (0.035)	--	0.85	0.446	ND (0.203)	--	ND (0.564)	--
601599	TA2-2-TRC3-SL15-000-S	3-22-99	ND (0.0364)	--	0.81	0.481	ND (0.216)	--	ND (0.591)	--
601599	TA2-2-TRC3-SL16-000-S	3-22-99	ND (0.0353)	--	0.813	1.2	ND (0.203)	--	ND (0.548)	--
601602	TA2-2-TRC2-SL01-000-S	4-07-99	ND (0.0379)	--	0.763	0.507	ND (0.226)	--	ND (0.621)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601602	TA2-2-TRC2-SL02-000-S	4-07-99	ND (0.0211)	--	0.877	0.498	ND (0.22)	--	ND (0.595)	--
601602	TA2-2-TRC2-SL03-000-S	4-07-99	ND (0.041)	--	0.794	0.358	ND (0.222)	--	ND (0.607)	--
601602	TA2-2-TRC2-SL04-000-S	4-07-99	ND (0.039)	--	0.825	0.479	0.169	0.185	ND (0.582)	--
601602	TA2-2-TRC2-SL05-000-S	4-07-99	ND (0.0323)	--	0.79	0.851	ND (0.226)	--	ND (0.777)	--
601602	TA2-2-TRC2-SL06-000-S	4-07-99	ND (0.0305)	--	0.656	0.36	0.106	0.173	ND (0.735)	--
601602	TA2-2-TRC2-SL07-000-S	4-07-99	ND (0.0321)	--	0.716	0.416	ND (0.219)	--	ND (0.771)	--
601602	TA2-2-TRC2-SL08-000-S	4-07-99	ND (0.0301)	--	0.704	0.428	ND (0.218)	--	ND (0.772)	--
601604	TA2-2-TRC1-SL01-000-S	4-08-99	ND (0.032)	--	0.755	0.448	ND (0.214)	--	ND (0.732)	--
601604	TA2-2-TRC1-SL02-000-S	4-08-99	ND (0.0327)	--	0.791	0.467	0.163	0.192	ND (0.829)	--
601604	TA2-2-TRC1-SL03-000-S	4-08-99	ND (0.0357)	--	0.771	0.448	ND (0.26)	--	ND (0.864)	--
601604	TA2-2-TRC1-SL04-000-S	4-08-99	ND (0.0336)	--	0.743	0.426	0.122	0.179	ND (0.794)	--
601604	TA2-2-TRC1-SL05-000-S	4-08-99	ND (0.0371)	--	0.922	0.501	ND (0.258)	--	ND (0.851)	--
601604	TA2-2-TRC1-SL06-000-S	4-08-99	ND (0.031)	--	0.761	0.428	ND (0.237)	--	ND (0.81)	--
601604	TA2-2-TRC1-SL07-000-S	4-08-99	ND (0.0333)	--	0.75	0.424	ND (0.23)	--	ND (0.767)	--
601604	TA2-2-TRC1-SL08-000-S	4-08-99	ND (0.0336)	--	0.811	0.43	ND (0.228)	--	ND (0.782)	--
601606	TA2-2-TRB1-SL01-000-S	4-13-99	ND (0.0182)	--	ND (0.134)	--	0.178	0.17	ND (0.711)	--
601606	TA2-2-TRB1-SL02-000-S	4-13-99	ND (0.0313)	--	0.693	0.401	ND (0.218)	--	ND (0.752)	--
601606	TA2-2-TRB1-SL03-000-S	4-13-99	ND (0.0322)	--	0.718	0.407	ND (0.224)	--	ND (0.767)	--
601606	TA2-2-TRB1-SL04-000-S	4-13-99	ND (0.0292)	--	0.828	0.416	ND (0.214)	--	ND (0.732)	--
601606	TA2-2-TRB1-SL05-000-S	4-13-99	ND (0.0309)	--	0.852	0.473	ND (0.21)	--	ND (0.725)	--
601608	TA2-2-TRB1-SL06-000-S	4-14-99	ND (0.0453)	--	0.738	0.466	0.228	0.212	ND (0.668)	--
601608	TA2-2-TRB1-SL07-000-S	4-14-99	ND (0.0467)	--	0.857	0.505	ND (0.128)	--	ND (0.668)	--
601608	TA2-2-TRB1-SL08-000-S	4-14-99	ND (0.0406)	--	0.797	0.812	0.122	0.203	ND (0.649)	--
601608	TA2-2-TRB1-SL09-000-S	4-14-99	ND (0.0376)	--	0.668	0.341	ND (0.0957)	--	ND (0.55)	--
601608	TA2-2-TRB1-SL10-000-S	4-14-99	ND (0.0343)	--	0.683	0.393	ND (0.192)	--	0.656	0.375
601727	TA2-2-TRB1-SL11-000-S	4-19-99	0.0307	0.00447	0.896	0.473	ND (0.222)	--	ND (0.755)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
601727	TA2-2-TRB1-SL12-000-S	4-19-99	ND (0.0158)	--	0.799	0.454	ND (0.223)	--	ND (0.765)	--
601727	TA2-2-TRB2-SL01-000-S	4-19-99	ND (0.0142)	--	0.746	0.387	ND (0.201)	--	ND (0.672)	--
601727	TA2-2-TRB2-SL02-000-S	4-19-99	ND (0.0288)	--	0.781	0.421	ND (0.215)	--	ND (0.732)	--
601730	TA2-2-TRB3-SL01-000-S	4-27-99	ND (0.0286)	--	0.811	0.42	ND (0.205)	--	ND (0.7)	--
601730	TA2-2-TRB3-SL02-000-S	4-27-99	ND (0.0277)	--	0.702	0.484	ND (0.21)	--	ND (0.694)	--
601730	TA2-2-TRB3-SL03-000-S	4-27-99	ND (0.0291)	--	0.728	0.416	0.087	0.163	0.614	0.545
601730	TA2-2-TRB3-SL04-000-S	4-27-99	ND (0.0279)	--	0.717	[illegible]	[illegible]	--	ND (0.708)	--
601732	TA2-2-TRB3-SL05-000-S	4-28-99	ND (0.0278)	--	0.767	0.404	ND (0.2)	--	ND (0.647)	--
601732	TA2-2-TRB3-SL06-000-S	4-28-99	ND (0.0281)	--	0.819	0.428	ND (0.204)	--	ND (0.716)	--
601732	TA2-2-TRB3-SL07-000-S	4-28-99	ND (0.0118)	--	0.642	0.347	ND (0.185)	--	ND (0.653)	--
601732	TA2-2-TRB3-SL08-000-S	4-28-99	ND (0.0159)	--	0.786	0.364	ND (0.208)	--	ND (0.705)	--
601733	TA2-2-TRB3-SL09-000-S	5-12-99	ND (0.0401)	--	ND (0.179)	--	ND (0.215)	--	0.76	0.577
601733	TA2-2-TRB3-SL10-000-S	5-12-99	ND (0.036)	--	0.848	0.447	ND (0.204)	--	ND (0.589)	--
601733	TA2-2-TRB3-SL11-000-S	5-12-99	ND (0.0359)	--	0.735	0.45	0.154	0.189	ND (0.568)	--
601733	TA2-2-TRB3-SL12-000-S	5-12-99	ND (0.0347)	--	0.951	0.424	ND (0.246)	--	ND (0.838)	--
601733	TA2-2-TRB3-SL13-000-S	5-12-99	ND (0.0313)	--	0.78	1.41	ND (0.226)	--	ND (0.787)	--
601733	TA2-2-TRB3-SL14-000-S	5-12-99	ND (0.0304)	--	0.873	0.458	ND (0.224)	--	ND (0.769)	--
601742	TA2-2-TRB3-SL15-000-S	6-02-99	ND (0.0305)	--	0.849	0.45	0.12	0.171	ND (0.721)	--
601742	TA2-2-TRB3-SL16-000-S	6-02-99	ND (0.0259)	--	0.744	0.382	0.169	0.16	2.88	1.5
602795	TA2-2-TRB3-SL16-001-S	10-20-99	ND (0.0371)	--	0.805	0.429	ND (0.192)	--	ND (0.522)	--
601742	TA2-2-TRB3-SL17-000-S	6-02-99	ND (0.0295)	--	ND (0.12)	--	ND (0.205)	--	ND (0.686)	--
601744	TA2-2-TRA3-SL01-000-S	6-09-99	ND (0.0318)	--	0.814	0.476	0.143	0.183	ND (0.766)	--
601744	TA2-2-TRA3-SL02-000-S	6-09-99	ND (0.0322)	--	0.76	0.409	ND (0.221)	--	ND (0.75)	--
601744	TA2-2-TRA3-SL03-000-S	6-09-99	ND (0.0336)	--	0.828	0.389	0.175	0.194	ND (0.848)	--
601744	TA2-2-TRA3-SL04-000-S	6-09-99	ND (0.0351)	--	ND (0.184)	--	0.113	0.195	ND (0.875)	--
601744	TA2-2-TRA3-SL05-000-S	6-09-99	ND (0.0367)	--	0.879	0.495	ND (0.241)	--	ND (0.85)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602084	TA2-2-TRA3-SL06-000-S	6-17-99	0.0127	0.00747	0.747	0.413	ND (0.211)	--	ND (0.741)	--
602084	TA2-2-TRA3-SL07-000-S	6-17-99	ND (0.0321)	--	0.85	0.454	ND (0.226)	--	ND (0.792)	--
602084	TA2-2-TRA3-SL08-000-S	6-17-99	ND (0.0372)	--	0.785	1.55	ND (0.252)	--	ND (0.856)	--
602084	TA2-2-TRA3-SL09-000-S	6-17-99	0.0114	0.012	0.7	0.451	ND (0.238)	--	ND (0.796)	--
602084	TA2-2-TRA3-SL10-000-S	6-17-99	ND (0.0304)	--	0.743	0.337	ND (0.219)	--	ND (0.759)	--
602084	TA2-2-TRA3-SL11-000-S	6-17-99	ND (0.0375)	--	0.969	0.489	ND (0.252)	--	ND (0.837)	--
602084	TA2-2-TRA3-SL12-000-S	6-17-99	ND (0.0325)	--	0.822	0.432	ND (0.226)	--	ND (0.761)	--
602084	TA2-2-TRA3-SL13-000-S	6-17-99	ND (0.0321)	--	0.898	0.481	ND (0.237)	--	ND (0.804)	--
602085	TA2-2-TRA3-SL14-000-S	6-21-99	ND (0.0313)	--	ND (0.141)	--	0.1	0.178	ND (0.775)	--
602085	TA2-2-TRA3-SL15-000-S	6-21-99	ND (0.0324)	--	ND (0.146)	--	ND (0.228)	--	ND (0.803)	--
602085	TA2-2-TRA3-SL16-000-S	6-21-99	ND (0.028)	--	0.858	0.447	ND (0.214)	--	ND (0.726)	--
602089	TA2-2-TRA2-SL01-000-S	6-30-99	ND (0.033)	--	0.89	0.429	ND (0.219)	--	ND (0.762)	--
602089	TA2-2-TRA2-SL02-000-S	6-30-99	ND (0.0463)	--	3.58	2.33	ND (0.332)	--	ND (1.16)	--
602089	TA2-2-TRA2-SL03-000-S	6-30-99	ND (0.0363)	--	0.784	0.37	ND (0.242)	--	ND (0.842)	--
602089	TA2-2-TRA2-SL04-000-S	6-30-99	ND (0.036)	--	0.767	0.438	ND (0.247)	--	ND (0.864)	--
602089	TA2-2-TRA2-SL05-000-S	6-30-99	ND (0.0334)	--	0.851	0.48	0.113	0.184	ND (0.778)	--
602091	TA2-2-TRA2-SL06-000-S	7-07-99	ND (0.032)	--	0.727	0.428	ND (0.218)	--	ND (0.744)	--
602091	TA2-2-TRA2-SL07-000-S	7-07-99	ND (0.033)	--	0.812	0.486	0.161	0.189	ND (0.846)	--
602094	TA2-2-TRA2-SL02-2ND-S	7-12-99	ND (0.03)	--	0.785	0.415	ND (0.217)	--	ND (0.748)	--
602094	TA2-2-TRA2-SL02-RE-S	7-12-99	ND (0.0333)	--	0.902	0.48	0.18	0.186	ND (0.805)	--
602096	TA2-2-TRA1-SL01-000-S	7-20-99	ND (0.0332)	--	0.93	0.517	ND (0.24)	--	ND (0.831)	--
602096	TA2-2-TRA1-SL02-000-S	7-20-99	ND (0.0295)	--	0.844	0.457	ND (0.21)	--	ND (0.733)	--
602096	TA2-2-TRA1-SL03-000-S	7-20-99	0.0166	0.0169	0.785	0.415	ND (0.21)	--	ND (0.746)	--
602096	TA2-2-TRA1-SL04-000-S	7-20-99	ND (0.0276)	--	ND (0.117)	--	ND (0.211)	--	ND (0.699)	--
602100	TA2-2-TRA1-SL05-000-S	7-28-99	ND (0.0303)	--	0.942	0.5	ND (0.219)	--	ND (0.735)	--
602100	TA2-2-TRA1-SL06-000-S	7-28-99	ND (0.0261)	--	0.816	0.426	ND (0.196)	--	ND (0.68)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602599	TA2-2-P331-3C/F-BIN-S	8-18-99	0.029	0.0355	0.869	[illegible]	[illegible]	--	ND (0.571)	--
602599	TA2-2-P331-4C/F-BIN-S	8-18-99	ND (0.0417)	--	0.93	0.444	0.113	0.181	ND (0.575)	--
602920	TA2-2-TR2-P10-SL1-S	11-11-99	ND (0.0244)	--	ND (0.11)	--	0.102	0.143	ND (0.614)	--
602920	TA2-2-TR2-P10-SL2-S	11-11-99	ND (0.0269)	--	ND (0.107)	--	0.105	0.143	ND (0.628)	--
602931	TA2-2-TR2-P8-SL1-S	11-23-99	ND (0.0275)	--	0.824	0.437	ND (0.199)	--	ND (0.661)	--
602931	TA2-2-TR2-P8-SL2-S	11-23-99	ND (0.0275)	--	ND (0.125)	--	0.0793	0.148	ND (0.659)	--
602931	TA2-2-TR2-P8-SL3-S	11-23-99	ND (0.0275)	--	0.75	0.681	0.14	0.161	ND (0.697)	--
602599	TA2-2-TR2-P12-SL1-S	8-18-99	ND (0.038)	--	0.871	0.624	ND (0.2)	--	ND (0.549)	--
602599	TA2-2-TR2-P12-SL2-S	8-18-99	ND (0.0357)	--	0.731	0.405	0.112	0.178	0.998	1.15
602599	TA2-2-TR2-P12-SL3-S	8-18-99	ND (0.0388)	--	0.797	0.432	0.151	0.187	ND (0.523)	--
602599	TA2-2-TR2-P12-SL4-S	8-18-99	ND (0.0345)	--	ND (0.137)	--	0.102	0.172	0.915	0.508
602599	TA2-2-TR2-P12-SL5-S	8-18-99	ND (0.0369)	--	ND (0.164)	--	ND (0.209)	--	ND (0.595)	--
602605	TA2-2-TR2-P12-SL6-S	8-23-99	ND (0.0382)	--	1.1	1.61	ND (0.266)	--	ND (0.934)	--
602612	TA2-2-TR2-P12-SL7-S	8-31-99	ND (0.0345)	--	0.872	0.462	ND (0.231)	--	ND (0.818)	--
602612	TA2-2-TR2-P12-SL8-S	8-31-99	[illegible]	--	0.704	0.407	ND (0.215)	--	1.16	1.29
601740	TA2-2-P298-0C/F-BIN-S	5-27-99	ND (0.0316)	--	0.803	0.386	ND (0.198)	--	1.2	0.612
601740	TA2-2-P298-1C/F-BIN-S	5-27-99	**0.247**	0.0457	0.78	0.444	ND (0.206)	--	ND (0.669)	--
601740	TA2-2-P298-2C/F-BIN-S	5-27-99	0.0425	0.0347	0.934	0.517	ND (0.226)	--	ND (0.723)	--
602092	TA2-2-P298-3C/F-BIN-S	7-07-99	ND (0.0193)	--	0.776	0.422	0.107	0.197	ND (0.848)	--
602612	TA2-2-P333-6C/F-BIN-S	8-31-99	0.0271	0.0211	0.828	0.429	0.101	0.165	ND (0.722)	--
602618	TA2-2-TR1-P6-SL1-S	9-02-99	ND (0.0284)	--	0.885	0.395	ND (0.216)	--	ND (0.738)	--
602618	TA2-2-TR1-P6-SL2-S	9-02-99	ND (0.0302)	--	ND (0.136)	--	ND (0.216)	--	ND (0.755)	--
602618	TA2-2-TR1-P6-SL3-S	9-02-99	ND (0.0275)	--	0.905	0.447	ND (0.199)	--	ND (0.695)	--
602618	TA2-2-TR1-P6-SL4-S	9-02-99	ND (0.0293)	--	0.92	0.487	0.145	0.173	ND (0.753)	--
602618	TA2-2-TR1-P6-SL5-S	9-02-99	ND (0.03)	--	0.713	0.372	ND (0.211)	--	ND (0.693)	--
602618	TA2-2-TR1-P6-SL6-S	9-02-99	ND (0.0273)	--	ND (0.125)	--	**0.237**	0.159	ND (0.675)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
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Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602618	TA2-2-TR1-P6-SL7-S	9-02-99	ND (0.0282)	--	0.785	0.413	ND (0.202)	--	ND (0.683)	--
602618	TA2-2-TR1-P6-SL8-S	9-02-99	ND (0.0278)	--	0.759	0.389	0.0958	0.155	ND (0.683)	--
602618	TA2-2-TR1-P6-SL9-S	9-02-99	ND (0.03)	--	ND (0.132)	--	ND (0.22)	--	ND (0.748)	--
602618	TA2-2-TR1-P6-SL10-S	9-02-99	ND (0.0274)	--	0.78	0.403	ND (0.196)	--	ND (0.685)	--
602618	TA2-2-TR1-P6-SL11-S	9-02-99	ND (0.0314)	--	0.704	0.439	ND (0.207)	--	ND (0.745)	--
602782	TA2-2-TR1-P4-SL1-S	9-22-99	ND (0.0393)	--	0.583	0.174	ND (0.207)	--	ND (0.574)	--
602782	TA2-2-TR1-P4-SL2-S	9-22-99	ND (0.0343)	--	0.74	0.392	ND (0.178)	--	ND (0.439)	--
602782	TA2-2-TR1-P4-SL3-S	9-22-99	ND (0.0349)	--	ND (0.153)	--	0.15	0.163	ND (0.52)	--
602787	TA2-2-TR1-P3-SL1-S	10-13-99	ND (0.0274)	--	0.606	0.284	ND (0.186)	--	ND (0.682)	--
602787	TA2-2-TR1-P3-SL2-S	10-13-99	ND (0.0303)	--	0.844	0.391	ND (0.208)	--	ND (0.749)	--
602789	TA2-2-TR1-P2-SL1-S	10-18-99	0.0369	0.0598	0.593	0.349	ND (0.205)	--	ND (0.71)	--
602789	TA2-2-TR1-P2-SL2-S	10-18-99	ND (0.0315)	--	0.829	0.399	0.0981	0.165	ND (0.745)	--
602789	TA2-2-TR1-P2-SL3-S	10-18-99	0.0088	0.0142	0.812	0.451	ND (0.245)	--	ND (0.877)	--
602789	TA2-2-TR1-P2-SL4-S	10-18-99	ND (0.0313)	--	0.898	0.49	ND (0.211)	--	ND (0.757)	--
602789	TA2-2-TR1-P2-SL5-S	10-18-99	ND (0.0191)	--	0.779	0.423	0.178	0.174	ND (0.79)	--
602789	TA2-2-TR1-P2-SL6-S	10-18-99	ND (0.0309)	--	0.65	0.393	ND (0.213)	--	ND (0.727)	--
602794	TA2-2-TR1-P2-SL7-S	10-19-99	ND (0.0355)	--	0.725	0.37	ND (0.187)	--	ND (0.562)	--
602794	TA2-2-TR1-P2-SL8-S	10-19-99	ND (0.0358)	--	ND (0.156)	--	0.0766	0.147	ND (0.534)	--
602801	TA2-2-TR1-P1-SL1-S	10-28-99	ND (0.0277)	--	ND (0.116)	--	ND (0.196)	--	ND (0.681)	--
602801	TA2-2-TR1-P1-SL2-S	10-28-99	ND (0.0249)	--	ND (0.103)	--	ND (0.178)	--	ND (0.605)	--
602801	TA2-2-TR1-P1-SL3-S	10-28-99	ND (0.0257)	--	0.708	0.367	ND (0.184)	--	ND (0.628)	--
602801	TA2-2-TR1-P1-SL4-S	10-28-99	ND (0.026)	--	0.6	0.326	0.116	0.145	ND (0.617)	--
602801	TA2-2-TR1-P1-SL5-S	10-28-99	ND (0.0266)	--	0.571	0.292	ND (0.187)	--	ND (0.647)	--
602608	TA2-2-P191-5C/F-BIN-S	8-23-99	0.0457	0.022	0.785	0.974	ND (0.0819)	--	1.69	0.907
602783	TA2-2-P339-7C/F-BIN-S	9-30-99	0.0183	0.0223	0.692	0.391	0.088	0.17	0.648	0.627
602801	TA2-2-P350-3C/F-BIN-S	10-28-99	0.00863	0.0106	0.78	0.359	ND (0.214)	--	ND (0.731)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602801	TA2-2-P350-4C/F-BIN-S	10-28-99	ND (0.027)	--	0.9	0.448	0.122	0.155	ND (0.703)	--
602810	TA2-2-P360-5C/F-BINS-S	11-15-99	ND (0.0425)	--	0.584	0.333	ND (0.318)	--	ND (0.935)	--
602965	TA2-2-TR2-P9-SL1-S	1-03-00	ND (0.034[illegible])	--	0.757	0.394	ND (0.178)	--	ND (0.478)	--
602965	TA2-2-TR2-P9-SL2-S	1-03-00	ND (0.0[illegible]9)	--	0.789	0.412	ND (0.114)	--	0.607	0.423
602965	TA2-2-TR2-P9-SL3-S	1-03-00	ND (0.0363)	--	0.756	0.444	ND (0.171)	--	0.707	0.86
602966	TA2-2-TR2-P7-SL1-S	1-03-00	ND (0.[illegible])	--	0.749	0.392	ND (0.181)	--	ND (0.635)	--
602966	TA2-2-TR2-P7-SL2-S	1-03-00	ND (0.0278)	--	0.772	0.395	ND (0.197)	--	ND (0.69)	--
602966	TA2-2-TR2-P8-SL1-S	1-03-00	ND (0.028)	--	0.812	0.519	ND (0.2)	--	ND (0.662)	--
602966	TA2-2-TR2-P8-SL2-S	1-03-00	ND (0.0256)	--	0.855	0.434	ND (0.186)	--	ND (0.643)	--
602969	TA2-2-TR2-P6-SL1-S	1-10-00	ND (0.0261)	--	0.785	0.574	0.0814	0.149	ND (0.664)	--
602969	TA2-2-TR2-P6-SL2-S	1-10-00	ND (0.0246)	--	0.667	0.325	ND (0.176)	--	ND (0.608)	--
602969	TA2-2-TR2-P6-SL3-S	1-10-00	ND (0.0264)	--	0.706	0.383	ND (0.189)	--	ND (0.647)	--
602969	TA2-2-TR2-P6-SL4-S	1-10-00	ND (0.024)	--	0.637	0.335	ND (0.174)	--	ND (0.582)	--
602973	TA2-2-TR2-P543-SL1-S	1-24-00	ND (0.0264)	--	0.788	0.4	ND (0.192)	--	ND (0.655)	--
602973	TA2-2-TR2-P543-SL2-S	1-24-00	ND (0.0287)	--	0.891	0.454	ND (0.202)	--	ND (0.722)	--
602973	TA2-2-TR2-P543-SL3-S	1-24-00	ND (0.0268)	--	0.677	0.379	ND (0.192)	--	ND (0.654)	--
602973	TA2-2-TR2-P543-SL4-S	1-24-00	ND (0.0252)	--	0.597	0.351	0.125	0.0202	ND (0.67)	--
602973	TA2-2-TR2-P543-SL5-S	1-24-00	ND (0.0266)	--	0.627	0.327	ND (0.193)	--	ND (0.644)	--
602979	TA2-2-TR2-P2/1-SL1-S	2-09-00	ND (0.0309)	--	0.689	0.379	ND (0.173)	--	ND (0.467)	--
602979	TA2-2-TR2-P2/1-SL2-S	2-09-00	ND (0.0333)	--	0.874	0.486	ND (0.184)	--	ND (0.494)	--
602979	TA2-2-TR2-P2/1-SL3-S	2-09-00	ND (0.033)	--	0.739	0.422	ND (0.179)	--	ND (0.456)	--
602979	TA2-2-TR2-P2/1-SL4-S	2-09-00	ND (0.0329)	--	ND (0.141)	--	ND (0.182)	--	ND (0.51)	--
602979	TA2-2-TR3-P2/3-SL1-S	2-09-00	ND (0.0342)	--	0.749	0.417	ND (0.182)	--	ND (0.524)	--
602979	TA2-2-TR3-P2/3-SL2-S	2-09-00	ND (0.0347)	--	0.718	0.393	ND (0.185)	--	ND (0.508)	--
602979	TA2-2-TR3-P2/3-SL3-S	2-09-99	ND (0.0321)	--	0.789	0.432	ND (0.185)	--	ND (0.497)	--
602979	TA2-2-TR3-P2/3-SL4-S	2-09-00	ND (0.0332)	--	0.753	0.428	0.162	0.158	ND (0.491)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603059	TA2-2-TR3-P456-SL1-S	2-28-00	ND (0.0294)	--	0.774	0.436	0.099	0.149	ND (0.484)	--
603059	TA2-2-TR3-P456-SL2-S	2-28-00	ND (0.034)	--	ND (0.14)	--	ND (0.186)	--	ND (0.521)	--
603059	TA2-2-TR3-P456-SL3-S	2-28-00	ND (0.036)	--	0.594	0.356	ND (0.183)	--	ND (0.517)	--
603059	TA2-2-TR3-P456-SL4-S	2-28-00	ND (0.0358)	--	0.616	0.319	0.13	0.236	ND (0.527)	--
603059	TA2-2-TR3-P456-SL5-S	2-28-00	ND (0.0323)	--	0.731	0.391	ND (0.187)	--	0.831	0.46
603059	TA2-2-TR3-P456-SL6-S	2-28-00	ND (0.0317)	--	0.647	1.16	ND (0.188)	--	ND (0.493)	--
603069	TA2-2-TR3-P789-SL1-S	3-02-00	ND (0.029)	--	0.741	0.381	ND (0.199)	--	ND (0.62)	--
603069	TA2-2-TR3-P789-SL2-S	3-02-00	ND (0.0259)	--	0.711	0.388	0.135	0.156	[illegible]	--
603069	TA2-2-TR3-P789-SL3-S	3-02-00	ND (0.0287)	--	0.652	0.349	ND (0.198)	--	ND (0.683)	--
603069	TA2-2-TR3-P789-SL4-S	3-02-00	ND (0.0308)	--	0.83	0.431	ND (0.202)	--	ND (0.705)	--
603069	TA2-2-TR3-P789-SL5-S	3-02-00	ND (0.0163)	--	ND (0.117)	--	ND (0.203)	--	ND (0.7)	--
602595	TA2-2-TR3-P10-SL1-S	8-12-99	ND (0.0419)		0.948	0.451	ND (0.203)		ND (0.588)	
602595	TA2-2-TR3-P10-SL2-S	8-12-99	ND (0.0426)		0.960	0.463	ND (0.204)		0.866	1.54
Overburden Soils										
600070	TA2-2-OVER-0001-SL2-S	4-16-98	0.0229	0.0271	0.772	0.614	ND (0.23)	--	ND (3.24)	--
600080	TA2-2-OVW4-0001-SL5-S	4-29-98	0.0284	0.0136	0.693	0.347	ND (0.194)	--	ND (1.7)	--
600082	TA2-2-OVW4-0001-SL8-S	5-04-98	ND (0.0305)	--	0.645	0.312	ND (0.225)	--	ND (3.14)	--
600082	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (0.029)	--	0.688	0.387	ND (0.219)	--	ND (2.87)	--
600082	TA2-2-SLPE-0001-SL9-S	5-04-98	ND (0.0272)	--	0.664	0.347	ND (0.176)	--	ND (1.26)	--
600082	TA2-2-SLPE-SL14-000-S	5-04-98	ND (0.0321)	--	0.618	0.3	ND (0.228)	--	ND (3)	--
600276	TA2-2-SLPE-SL16-000-S	5-18-98	ND (0.0285)	--	0.672	0.323	ND (0.034)	--	ND (2.9)	--
600276	TA2-2-SLPE-SL19-000-S	5-18-98	0.0107	0.00238	0.73	0.349	ND (0.0371)	--	ND (3.2)	--
600276	TA2-2-SLPE-SL22-000-S	5-18-98	ND (0.0288)	--	0.715	0.338	ND (0.0325)	--	ND (2.85)	--
600276	TA2-2-SLPE-SL23-000-S	5-18-98	ND (0.0272)	--	0.671	0.321	ND (0.0326)	--	ND (2.91)	--
600276	TA2-2-SLPE-SL32-000-S	5-18-98	ND (0.0274)	--	0.736	0.35	ND (0.031)	--	ND (2.73)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600276	TA2-2-SLPE-SL34-000-S	5-18-98	ND (0.0288)	--	0.738	1.31	ND (0.0337)	--	ND (2.96)	--
600492	TA2-2-SLPE-SL39-000-S	9-21-98	ND (0.03)	--	0.69	0.356	0.0812	0.139	0.81	0.486
600492	TA2-2-SLPE-SL41-000-S	9-21-98	ND (0.0335)	--	0.646	0.36	0.095	0.145	ND (0.518)	--
602100	TA2-2-SLPE-SL45-000-S	7-28-99	ND (0.0364)	--	0.871	0.466	ND (0.24)	--	ND (0.818)	--
602100	TA2-2-SLPE-SL46-000-S	7-28-99	ND (0.0335)	--	0.891	0.488	0.0993	0.194	ND (0.813)	--
600280	TA2-2-OVTE-[illegible]03-000-S	5-26-98	ND (0.0273)	--	0.747	0.365	ND (0.203)	--	ND (2.88)	--
600280	TA2-2-OVTE-SL08-000-S	5-26-98	ND (0.0309)	--	0.713	0.373	ND (0.219)	--	ND (3.03)	--
600284	TA2-2-OVTE-SL11-000-S	6-01-98	ND (0.0447)	--	0.564	0.348	ND (0.28)	--	ND (2.4)	--
600284	TA2-2-[illegible]-SL[illegible]-DUP	6-01-98	ND (0.041)	--	0.394	0.278	ND (0.248)	--	ND (2.13)	--
600291	TA2-2-OVA5-SL05-000-S	6-10-98	ND (0.0289)	--	0.659	0.325	ND (0.207)	--	ND (2.96)	--
600291	TA2-2-OVA5-SL11-000-S	6-10-98	ND (0.0309)	--	0.687	0.345	ND (0.226)	--	ND (3.14)	--
600291	TA2-2-OVA5-SL13-000-S	6-10-98	ND (0.027)	--	0.66	0.439	ND (0.207)	--	ND (2.97)	--
600460	TA2-2-OVD1-SL01-000-S	7-07-98	ND (0.0332)	--	0.784	0.451	ND (0.181)	--	ND (1.22)	--
600460	TA2-2-OVD2-SL02-000-S	7-07-98	ND (0.0384)	--	0.762	0.383	ND (0.2)	--	1.08	0.699
600464	TA2-2-OVD3-SL01-000-S	7-13-98	ND (0.0438)	--	0.86	0.456	ND (0.291)	--	ND (4.18)	--
600473	TA2-2-OVD4-SL03-000-S	8-17-98	0.0461	0.0287	0.674	0.327	ND (0.223)	--	0.659	0.477
600488	TA2-2-OVD7-SL02-000-S	9-14-98	0.0155	0.0281	0.706	0.611	ND (0.213)	--	0.76	0.414
600488	TA2-2-OVD8-SL02-000-S	9-14-98	ND (0.0269)	--	0.661	0.316	ND (0.194)	--	ND (0.66)	--
600497	TA2-2-I600-SORT-SEG-S	9-23-98	0.0384	0.0235	0.763	0.394	0.0265	0.148	0.911	0.654
600497	TA2-2-I607-SORT-SEG-S	9-23-98	0.0382	0.0248	0.682	0.387	ND (0.172)	--	ND (0.54)	--
600504	TA2-2-SLPE-SL44-000-S	11-03-98	ND (0.0325)	--	0.785	0.447	ND (0.203)	--	ND (0.542)	--
601608	TA2-2-OVB1-SL01-000-S	4-14-99	ND (0.0475)	--	0.844	0.424	0.159	0.206	ND (0.652)	--
601608	TA2-2-OVB1-SL02-000-S	4-14-99	ND (0.0516)	--	0.854	0.511	ND (0.26)	--	ND (0.637)	--
601729	TA2-2-OVB2-B301-000-S	4-22-99	ND (0.0301)	--	0.748	0.415	ND (0.22)	--	ND (0.738)	--
602091	TA2-2-OVA2-SL01-000-S	7-07-99	ND (0.0346)	--	0.942	0.507	ND (0.247)	--	ND (0.843)	--
602091	TA2-2-OVA3-SL01-000-S	7-07-99	ND (0.036)	--	0.831	0.496	ND (0.246)	--	ND (0.842)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602095	TA2-2-FILL-DIRT-1/2-S	7-19-99	ND (0.0292)	--	0.673	0.346	ND (0.205)	--	ND (0.712)	--
602095	TA2-2-FILL-DIRT-2/2-S	7-19-99	ND (0.0296)	--	ND (0.148)	--	ND (0.216)	--	ND (0.736)	--
602100	TA2-2-OVA1-SL01-000-S	7-28-99	ND (0.0267)	--	0.681	0.331	0.116	0.157	ND (0.655)	--
602100	TA2-2-OVA1-SL02-000-S	7-28-99	ND (0.0269)	--	0.826	0.424	ND (0.21)	--	ND (0.729)	--
602100	TA2-2-OVA1-SL03-000-S	7-28-99	ND (0.031)	--	0.91	0.432	ND (0.22)	--	ND (0.746)	--
602100	TA2-2-OVA1-SL04-000-S	7-28-99	ND (0.0337)	--	0.936	0.573	0.136	0.2	ND (0.876)	--
602100	TA2-2-OVA1-SL05-000-S	7-28-99	ND (0.0309)	--	ND (0.148)	--	0.114	0.173	ND (0.747)	--
602100	TA2-2-OVA1-SL06-000-S	7-28-99	ND (0.028)	--	0.774	1.06	ND (0.208)	--	ND (0.732)	--
602799	TA2-2-OVT1-P1-SL1-S	10-21-99	ND (0.0355)	--	0.759	0.416	ND (0.184)	--	ND (0.458)	--
602799	TA2-2-OVT1-P1-SL2-S	10-21-99	ND (0.0334)	--	ND (0.129)	--	ND (0.179)	--	ND (0.489)	--
602788	TA2-2-OVT1-P2-SL1-S	10-14-99	ND (0.0273)	--	0.705	0.363	ND (0.181)	--	ND (0.625)	--
602788	TA2-2-OVT1-P2-SL2-S	10-14-99	0.0180	0.0242	0.800	0.409	ND (0.194)	--	ND (0.664)	--
602788	TA2-2-OVT1-P3-SL1-S	10-14-99	ND (0.0253)	--	0.796	0.409	ND (0.192)	--	ND (0.661)	--
602788	TA2-2-OVT1-P3-SL2-S	10-14-99	ND (0.0251)	--	0.743	0.400	ND (0.109)	--	ND (0.650)	--
602782	TA2-2-OVT1-P4-SL1-S	9-22-99	ND (0.0366)	--	ND (0.157)	--	0.153	0.173	ND (0.54)	--
602101	TA2-2-OVT2-P12-SL1-S	8-03-99	ND (0.0358)	--	0.834	0.448	ND (0.23)	--	ND (0.816)	--
602101	TA2-2-OVT2-P12-SL2-S	8-03-99	ND (0.0274)	--	0.714	0.377	ND (0.199)	--	ND (0.67)	--
602920	TA2-2-OVT2-P10-SL1-S	11-11-99	ND (0.024)	--	0.722	0.375	0.0869	0.141	ND (0.606)	--
602810	TA2-2-OVT2-P9-SL1-S	11-15-99	ND (0.0318)	--	0.808	0.436	ND (0.215)	--	ND (0.753)	--
602931	TA2-2-OVT2-P8-SL1-S	11-23-99	ND (0.0266)	--	0.787	0.42	0.123	0.154	ND (0.674)	--
602965	TA2-2-OVT2-P8-SL1-S	1-03-00	ND (0.0382)	--	ND (0.151)	--	ND (0.2)	--	ND (0.546)	--
602965	TA2-2-OVT2-P7-SL1-S	1-03-00	ND (0.0307)	--	0.715	0.369	0.109	0.147	0.707	0.793
602966	TA2-2-OVT2-P5/1-SL1-S	1-03-00	0.0307	0.0282	0.738	0.568	ND (0.194)	--	ND (0.665)	--
602966	TA2-2-OVT2-P5/1-SL2-S	1-03-00	ND (0.0157)	--	0.774	0.891	ND (0.202)	--	ND (0.701)	--
602101	TA2-2-OVT3-P10-SL1-S	8-03-99	ND (0.0245)	--	0.709	0.38	ND (0.185)	--	ND (0.62)	--
602101	TA2-2-OVT3-P10-SL2-S	8-03-99	ND (0.0278)	--	0.906	0.439	ND (0.208)	--	ND (0.704)	--

Refer to footnotes at end of table.

Table A-4 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
602101	TA2-2-OVT3-P10-SL3-S	8-03-99	ND (0.026)	--	0.691	0.345	ND (0.194)	--	ND (0.648)	--
603059	TA2-2-OVT3-P789-SL1-S	2-28-00	ND (0.0333)	--	0.647	0.388	ND (0.183)	--	0.404	0.399
603059	TA2-2-OVT3-P789-SL2-S	2-28-00	ND (0.0312)	--	ND (0.137)	--	0.163	0.151	0.812	0.74
602979	TA2-2-OVT3-P456-SL1-S	2-09-00	ND (0.0361)	--	0.731	0.379	ND (0.19)	--	ND (0.521)	--
602979	TA2-2-OVT3-P2/3-SL1-S	2-09-00	ND (0.0374)	--	0.861	0.449	ND (0.197)	--	0.328	0.405
602616	TA2-2-OV1-P6-SL1-S	9-07-99	ND (0.0372)	--	ND (0.158)	--	0.102	0.148	ND (0.446)	--
602605	TA2-2-EAST-FNCE-001-S	8-23-99	ND (0.0378)	--	0.961	0.511	**0.187**	0.2	ND (0.875)	--
Soils Removed Directly from Artifacts (Bin Soils)										
602973	TA2-2-P225-2C/F-BIN-S	1-24-00	0.0296	0.0247	0.709	0.858	0.131	0.16	ND (0.716)	--
602973	TA2-2-P225-3C/F-BIN-S	1-24-00	0.0764	0.0212	0.807	0.38	ND (0.198)	--	ND (0.71)	--
602795	TA2-2-COBL-GRIZ-001-S	10-20-99	ND (0.0405)	--	0.689	0.37	ND (0.213)	--	ND (0.579)	--
602599	TA2-2-COBL-GRIZ-TRA-S	8-18-99	ND (0.0343)	--	0.684	0.38	ND (0.199)	--	ND (0.526)	--
603071	TA2-2-1LAY-DOWN-BIN-S	3-07-00	ND (0.0172)	--	0.599	0.708	**0.274**	0.17	ND (0.727)	--
603071	TA2-2-2LAY-DOWN-BIN-S	3-07-00	ND (0.0305)	--	0.589	0.346	ND (0.211)	--	ND (0.72)	--
603071	TA2-2-3LAY-DOWN-BIN-S	3-07-00	ND (0.0306)	--	0.692	0.39	0.104	0.165	ND (0.741)	--
603071	TA2-2-4LAY-DOWN-BIN-S	3-07-00	ND (0.0289)	--	0.717	0.773	ND (0.203)	--	ND (0.718)	--
603071	TA2-2-5LAY-DOWN-BIN-S	3-07-00	0.012	0.0146	0.827	0.44	0.128	0.175	ND (0.773)	--
603071	TA2-2-6LAY-DOWN-BIN-S	3-07-00	ND (0.0335)	--	0.742	0.379	ND (0.212)	--	ND (0.736)	--
603071	TA2-2-7LAY-DOWN-BIN-S	3-07-00	ND (0.0391)	--	ND (0.166)	--	0.0903	0.172	ND (0.56)	--
603071	TA2-2-8LAY-DOWN-BIN-S	3-07-00	ND (0.036)	--	0.759	0.426	ND (0.193)	--	0.869	0.481
603071	TA2-2-9LAY-DOWN-BIN-S	3-07-00	ND (0.0388)	--	0.802	0.453	ND (0.21)	--	ND (0.584)	--
603187	TA2-2-PIT-BURM-MIX-E-S	6-15-00	ND (0.0276)	--	0.748	0.692	ND (0.195)	--	ND (0.699)	--
603187	TA2-2-PIT-BURM-MIX-N-S	6-15-00	ND (0.0262)	--	0.68	0.363	0.0863	0.152	ND (0.667)	--
603187	TA2-2-PIT-BURM-MIX-S-S	6-15-00	ND (0.0273)	--	0.696	0.384	ND (0.194)	--	ND (0.667)	--
603187	TA2-2-PIT-BURM-MIX-W-S	6-15-00	ND (0.0264)	--	0.706	1.21	ND (0.196)	--	ND (0.667)	--
603195	TA2-2-CWLF-COBL-GRIZ-1	6-22-00	0.0345	0.0336	0.782	0.404	0.0826	0.154	ND (0.542)	--

Refer to footnotes at end of table.

Table A-4 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–July 2000
(On-site Laboratory)

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603195	TA2-2-CWLF-COBL-GRIZ-2	6-22-00	ND (0.0169)	--	ND (0.114)	--	0.0971	0.149	ND (0.665)	--
603195	TA2-2-CWLF-COBL-GRIZ-3	6-22-00	0.0256	0.0227	0.746	0.395	ND (0.187)	--	ND (0.515)	--
603195	TA2-2-CWLF-COBL-GRIZ-5	6-22-00	0.0329	0.024	0.752	0.4	ND (0.188)	--	ND (0.673)	--
603195	TA2-2-CWLF-COBL-GRIZ-6	6-22-00	0.023	0.0257	ND (0.124)	--	ND (0.192)	--	ND (0.7)	--
603195	TA2-2-CWLF-COBL-GRIZ-7	6-22-00	0.0386	0.0147	0.973	0.737	ND (0.211)	--	ND (0.757)	--
603195	TA2-2-CWLF-COBL-GRIZ-8	6-22-00	ND (0.0217)	--	0.806	0.436	0.119	0.144	ND (0.512)	--
603195	TA2-2-CWLF-COBL-GRIZ-9	6-22-00	0.0332	0.022	0.838	0.436	ND (0.182)	--	ND (0.501)	--
603195	TA2-2-CYLI-NDER-BRM-S	6-22-00	ND (0.0326)	--	0.827	0.415	ND (0.172)	--	ND (0.463)	--
Background Soil Activities—North Area[d]			0.084[e]	NA	1.54	NA	0.18	NA	1.3	NA
Quality Assurance/Quality Control Samples (pCi/mL)										
600282	TA2-2-TR5-0001-EB	6-01-98	ND (0.0443)	--	ND (0.300)	--	ND (0.276)	--	ND (0.688)	--
600458	TA2-2-TRD1-0006-EB	7-06-98	ND (0.0467)	--	ND (0.360)	--	ND (0.313)	--	ND (0.641)	--
600471	TA2-2-TRD6-0015-EB	8-11-98	ND (0.0173)	--	ND (0.111)	--	ND (0.1)	--	ND (0.251)	--
601138	TA2-2-TRC7-0003-000[illegible]	11-30-98	ND (0.0204)	--	ND (0.138)	--	ND (0.0952)	--	ND (0.225)	--

Note: Values in **bold** exceed background soil activities.

[a]Analysis request/chain-of-custody record.

[b]Sample naming scheme is provided in Table 1.

[c]Two standard deviations about the mean detected activity.

[d]From Dinwiddie September 1997.

[e]The more conservative, lower subsurface background activity is used as a benchmark for consistency with current risk screening assessment methodology.

DUP = Duplicate sample.
EB = Equipment blank.
ER = Environmental Restoration.
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected at or above the reported value, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/mL = Picocurie(s) per milliliter.
S = Soil sample.
SWMU = Soil Waste Management Unit.
-- = Error not provided for nondetect results.

Table A-5
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
600009	TA2-2-ACF2-0001-15-S	3-12-98	**208,000**	103,600
600011	TA2-2-ACF3-0001-12-S	3-20-98	ND (110,400)	--
600040	TA2-2-ACF3-0001-SL1-S	3-23-98	**160,600**	163,400
600040	TA2-2-ACF4-0001-SL1-S	3-24-98	**164,800**	244,000
600042	TA2-2-ACF4-0001-12-S	3-25-98	**165,800**	168,200
600044	TA2-2-ACF4-0001-SL5-S	3-26-98	**51,400**	137,800
600045	TA2-2-ACF1-0001-SL2-S	4-01-98	**32,800**	131,600
600045	TA2-2-PTW1-0001-10-S	4-01-98	**510,000**	182,000
600060	TA2-2-PW12-0001-SL7-S	4-07-98	**113,400**	158,800
600063	TA2-2-PTW2-0001-12-S	4-09-98	**366,000**	184,200
600065	TA2-2-ACF2-0001-SL4-S	4-13-98	ND (170,200)	--
600065	TA2-2-PTW2-0001-12-S	4-13-98	**45,200**	134,800
600068	TA2-2-PW3-0001-SL4-S	4-14-98	ND (159,200)	--
600070	TA2-2-OVER-0001-SL2-S	4-16-98	**190,600**	185,600
600073	TA2-2-PTW4-15-S	4-20-98	**132,400**	144,800
600075	TA2-2-PTW4-SL10-000-S	4-23-98	**67,000**	165,400
600075	TA2-2-PTW4-SL14-000-S	4-23-98	**210,000**	222,000
600075	TA2-2-PTW4-SL15-000-S	4-23-98	**162,800**	200,000
600080	TA2-2-OVW4-0001-SL5-S	4-29-98	**15,840**	184,600
600082	TA2-2-OVW4-0001-SL8-S	5-04-98	**18,480**	130,000
600082	TA2-2-SLPE-SL14-000-S	5-04-98	ND (175,200)	--
600082	TA2-2-SLPE-0001-SL3-S	5-04-98	ND (175,200)	--
600082	TA2-2-SLPE-0001-SL9-S	5-04-98	ND (175,200)	--
600084	TA2-2-TRE1-SL06-000-S	5-06-98	**342,000**	304,000
600084	TA2-2-TRE1-SL13-000-S	5-06-98	**514,000**	292,000
600086	TA2-2-TRE2-SL07-000-S	5-11-98	**1,574,000**	452,000
600275	TA2-2-TRE4-0001-000-S	5-12-98	ND (31,400)	--
600276	TA2-2-SLPE-SL16-000-S	5-18-98	**52,400**	130,400
600276	TA2-2-SLPE-SL22-000-S	5-18-98	**79,400**	126,400
600276	TA2-2-SLPE-SL23-000-S	5-18-98	**41,800**	126,600
600276	TA2-2-SLPE-SL19-000-S	5-18-98	**94,600**	145,400
600276	TA2-2-SLPE-SL32-000-S	5-18-98	**74,000**	122,800
600276	TA2-2-SLPE-SL34-000-S	5-18-98	**62,000**	137,000
600278	TA2-2-TRE3-SL07-000-S	5-21-98	**1,220,000**	394,000
600278	TA2-2-TRE4-SL10-000-S	5-21-98	**1,182,000**	406,000
600280	TA2-2-OVTE-SL03-000-S	5-26-98	**250,000**	185,800
600280	TA2-2-OVTE-SL08-000-S	5-26-98	**76,200**	159,800
600284	TA2-2-TRE5-SL17-000-S	6-01-98	**610,000**	312,000
600284	TA2-2-TRE5-SL08-000-S	6-01-98	**550,000**	320,000
600284	TA2-2-OVTE-SL11-000-S	6-01-98	**119,000**	202,000
600284	TA2-2-OVTE-SL11-000-DUP	6-01-98	**204,000**	252,000

Refer to footnotes at end of table.

Table A-5 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
600288	TA2-2-TRE6-SL09-000-S (off-site laboratory)	6-08-98	**79,300**	**1,580**
600289	TA2-2-TRE6-SL22-000-S	6-08-98	**152,000**	200,000
600289	TA2-2-TRE6-SL22-000-DUP	6-08-98	**167,000**	202,000
600289	TA2-2-TRE6-SL09-000-S	6-08-98	**156,600**	190,200
600291	TA2-2-OVA5-SL10-000-S	6-10-98	**115,600**	164,600
600291	TA2-2-OVA5-SL11-000-S	6-10-98	ND (40,800)	--
600291	TA2-2-OVA5-SL13-000-S	6-10-98	**121,000**	204,000
600295	TA2-2-TRE7-SL25-000-S	6-17-98	**30,400**	228,000
600295	TA2-2-TRE7-SL13-000-S	6-17-98	**186,800**	226,000
600295	TA2-2-TRE7-SL08-000-S	6-17-98	**206,000**	220,000
600298	TA2-2-TRE7-SL55-000-S	6-23-98	**147,000**	188,000
600298	TA2-2-TRE7-SL37-000-S	6-23-98	**134,600**	193,000
600298	TA2-2-TRE7-SL49-000-S	6-23-98	**145,800**	187,800
600300	TA2-2-TRE8-SL01-000-S	6-25-98	**128,600**	178,000
600300	TA2-2-TRE8-SL14-000-S	6-25-98	**167,600**	160,200
600302	TA2-2-TRE8-SL07-000-S	6-29-98	**188,000**	157,200
600302	TA2-2-TRE8-SL21-000-S	6-29-98	**119,200**	135,600
600302	TA2-2-TRE8-SL29-000-S	6-29-98	**204,000**	154,600
600460	TA2-2-OVD1-SL01-000-S	7-07-98	**23,800**	110,800
600460	TA2-2-OVD2-SL02-000-S	7-07-98	ND (150,200)	--
600460	TA2-2-ACF5-SL06-000-S	7-07-98	**[illegible],060**	139,200
600462	TA2-2-TRD1-SL02-000-S	7-07-98	**31[illegible],000**	218,000
600462	TA2-2-TRD1-SL06-000-S	7-07-98	**27[illegible],000**	173,000
600462	TA2-2-TRD1-SL09-000-S	7-07-98	**21[illegible],000**	130,000
600462	TA2-2-TRD1-SL12-000-S	7-07-98	**28[illegible],000**	175,600
600464	TA2-2-TRD2-SL01-000-S	7-13-98	**1,466,000**	414,000
600464	TA2-2-TRD2-SL05-000-S	7-13-98	**1,718,000**	430,000
600464	TA2-2-OVD3-SL01-000-S	7-13-98	**28,600**	173,600
600466	TA2-2-TRD3-SL03-000-S	7-2[illegible]-98	**1,238,000**	356,000
600466	TA2-2-TRD3-SL06-000-S	7-2[illegible]-98	**962,000**	332,000
600466	TA2-2-TRD3-SL12-000-S	7-20-98	**[illegible]62,000**	344,000
600469	TA2-2-TRD4-SL03-000-S	8-10-98	**[illegible]80,000**	224,000
600469	TA2-2-TRD4-SL03-000-DUP	8-10-98	**620,000**	240,000
600469	TA2-2-TRD4-SL07-000-S	8-10-98	**516,000**	254,000
600469	TA2-2-TRD4-SL14-000-S	8-10-98	**544,000**	238,000
600469	TA2-2-TRD4-SL05-000-S	8-10-98	**129,600**	152,000
600469	TA2-2-TRD5-SL05-000-DUP	8-10-98	**138,800**	178,600
600473	TA2-2-TRD6-SL19-000-S	8-17-98	ND (30,600)	--
600473	TA2-2-TRD6-SL23-000-S	8-17-98	**68,800**	220,000
600473	TA2-2-TRD6-SL15-000-S	8-17-98	**162,400**	222,000
600473	TA2-2-TRD6-SL03-000-S	8-17-98	ND (30,600)	--

Refer to footnotes at end of table.

Table A-5 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
600473	TA2-2-OVD4-SL03-000-S	8-17-98	55,400	220,000
600473	TA2-2-TRD6-SL08-000-S	8-17-98	314,000	274,000
600488	TA2-2-OVD8-SL02-000-S	9-14-98	196,800	282,000
600488	TA2-2-TRD7-SL03-000-S	9-14-98	1,040,000	344,000
600488	TA2-2-TRD7-SL11-000-S	9-14-98	1,148,000	404,000
600488	TA2-2-TRD7-SL13-000-S	9-14-98	1,536,000	446,000
600488	TA2-2-TRD7-SL23-000-S	9-14-98	896,000	354,000
600488	TA2-2-OVD7-SL02-000-S	9-14-98	284,000	292,000
600492	TA2-2-SLPE-SL39-000-S	9-14-98	87,000	165,400
600492	TA2-2-SLPE-SL41-000-S	9-14-98	ND (22,000)	--
600501	TA2-2-TRD8-SL04-000-S	10-20-98	264,000	226,000
600501	TA2-2-TRD8-SL01-049-S	10-20-98	162,000	228,000
600501	TA2-2-TRD8-SL45-000-S	10-20-98	46,000	266,000
600501	TA2-2-TRD8-SL33-000-S	10-20-98	612,000	284,000
600501	TA2-2-TRD8-SL16-000-S	10-20-98	566,000	286,000
600501	TA2-2-TRD8-SL27-000-S	10-20-98	414,000	274,000
600504	TA2-2-TRC9-SL19-000-S	11-03-98	624,000	734,000
600504	TA2-2-SLPE-SL44-000-S	11-03-98	240,000	756,000
600504	TA2-2-TRC9-SL01-000-S	11-03-98	31,800	688,000
600504	TA2-2-TRC9-SL05-000-S	11-03-98	ND (68,000)	--
601133	TA2-2-TRC9-SL24-000-S	11-17-98	350,000	184,200
601133	TA2-2-TRC9-SL42-000-S	11-17-98	462,000	226,000
601133	TA2-2-TRC9-SL57-000-S	11-17-98	314,000	186,600
601133	TA2-2-TRC9-SL71-000-S	11-17-98	254,000	206,000
601140	TA2-2-TRC8-SL11-000-S	1-13-99	918,000	368,000
601140	TA2-2-TRC7-SL21-000-S	1-13-99	148,000	214,000
601140	TA2-2-TRC7-SL01-000-S	1-13-99	354,000	270,000
601140	TA2-2-TRC8-SL17-000-S	1-13-99	410,000	296,000
601140	TA2-2-TRC9-SL83-000-S	1-13-99	230,000	284,000
601140	TA2-2-TRC8-SL04-000-S	1-13-99	848,000	380,000
601141	TA2-2-TRC6-SL01-000-S	1-13-99	336,000	214,000
601141	TA2-2-TRC6-SL02-000-S	1-13-99	268,000	202,000
601141	TA2-2-TRC6-SL03-000-S	1-13-99	212,000	185,600
601141	TA2-2-TRC6-SL04-000-S	1-13-99	264,000	185,200
601142	TA2-2-TRC6-SL05-000-S	1-14-99	128,400	182,600
601142	TA2-2-TRC6-SL06-000-S	1-14-99	376,000	202,000
601142	TA2-2-TRC6-SL07-000-S	1-14-99	298,000	222,000
601152	TA2-2-TRC5-SL01-000-S	1-28-99	226,000	200,000
601152	TA2-2-TRC5-SL02-000-S	1-28-99	136,200	180,000
601152	TA2-2-TRC5-SL03-000-S	1-28-99	184,200	202,000
601152	TA2-2-TRC5-SL04-000-S	1-28-99	188,200	192,000
601153	TA2-2-TRC5-SL05-000-S	2-01-99	260,000	312,000

Refer to footnotes at end of table.

Table A-5 (Continued)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
601153	TA2-2-TRC5-SL06-000-S	2-01-99	**142,200**	314,000
601153	TA2-2-TRC5-SL07-000-S	2-01-99	**268,000**	364,000
601155	TA2-2-TRC5-SL08-000-S	2-02-99	**290,000**	310,000
601155	TA2-2-TRC5-SL09-000-S	2-02-99	**400,000**	358,000
601155	TA2-2-TRC5-SL10-000-S	2-02-99	**135,000**	324,000
601156	TA2-2-TRC5-SL11-000-S	2-03-99	**348,000**	0,000
601156	TA2-2-TRC5-SL12-000-S	2-03-99	**328,000**	298,000
601156	TA2-2-TRC5-SL13-000-S	2-03-99	**154,000**	264,000
601593	TA2-2-TRC4-SL01-000-S	3-09-99	**69,400**	181,200
601593	TA2-2-TRC4-SL02-000-S	3-09-99	**85,800**	146,600
601593	TA2-2-TRC4-SL03-000-S	3-09-99	**80,200**	188,800
601593	TA2-2-TRC4-SL04-000-S	3-09-99	ND (31,000)	--
601593	TA2-2-TRC4-SL05-000-S	3-09-99	ND (31,000)	--
601593	TA2-2-TRC4-SL06-000-S	3-09-99	**44,800**	156,600
601593	TA2-2-TRC4-SL07-000-S	3-09-99	**11,820**	181,200
601593	TA2-2-TRC4-SL08-000-S	3-09-99	ND (31,000)	--
601597	TA2-2-TRC3-SL01-000-S	3-10-99	**63,200**	183,400
601597	TA2-2-TRC3-SL02-000-S	3-11-99	**91,200**	176,200
601597	TA2-2-TRC3-SL03-000-S	3-11-99	**136,400**	175,400
601597	TA2-2-TRC3-SL04-000-S	3-11-99	**135,200**	183,600
601597	TA2-2-TRC3-SL05-000-S	3-11-99	**135,400**	192,000
601597	TA2-2-TRC3-SL06-000-S	3-11-99	**195,600**	198,000
601599	TA2-2-TRC3-SL10-000-S	3-22-99	**232,000**	172,600
601599	TA2-2-TRC3-SL11-000-S	3-22-99	**216,000**	210,000
601599	TA2-2-TRC3-SL12-000-S	3-22-99	**184,400**	195,000
601599	TA2-2-TRC3-SL13-000-S	3-22-99	**242,000**	224,000
601599	TA2-2-TRC3-SL14-000-S	3-22-99	**244,000**	204,000
601599	TA2-2-TRC3-SL15-000-S	3-22-99	**290,000**	216,000
601599	TA2-2-TRC3-SL16-000-S	3-22-99	**256,000**	222,000
602607	TA2-2-TR2-EAST-FNCE-002-S (off-site laboratory)	8-23-99	**75,500**	1,500
602607	TA2-2-TR2-EAST-FNCE-002-DU (off-site laboratory)	8-23-99	**72,000**	1,430
602607	TA2-2-TR2-P12A-SL6-S (off-site laboratory)	8-23-99	**65,700 J**	1,310
602607	TA2-2-TR2-P12A-SL6-DU (off-site laboratory)	8-23-99	**71,000 J**	1,410
602797	TA2-2-COBL-GRIZ-006-S (off-site laboratory)	10-20-99	**17,2000**	2,100

Refer to footnotes at end of table.

Table A-5 (Concluded)
Summary of SWMU 2 Excavated Soil Sampling Tritium Analytical Results
April 1998–October 1999
(On-site Laboratory, except where noted)

Sample Attributes			Activity (pCi/L)[a]	
Record Number[b]	ER Sample ID[c]	Sample Date	Result	Error[d]
602797	TA2-2-TRB3-SL16-006-S (off-site laboratory)	10-20-99	**20,300**	736
602797	TA2-2-TRC9-SL83-006-S (off-site laboratory)	10-20-99	**46,100**	1,090
Background Soil Activity[e]			420	NA
Quality Assurance/Quality Control Samples (pCi/L)				
600059	TA2-2-PTW1-EB (off-site laboratory)	4-06-98	ND (171)	--
600458	TA2-2-TRD1-00006-EB	7-06-98	ND (467)	--
600471	TA2-2-TRD6-0015-EB	8-11-98	ND (434)	--
600495	TA2-2-TRD8-0025-EB	9-21-98	ND (315)	--
601138	TA2-2-TRC7-0003-000-EB	11-30-98	ND (374)	--

Note: Values in **bold** exceed background soil activity.
[a]Off-site laboratory analyses performed by tritium distillation method. On-site laboratory analyses performed by liquid scintillation counting method and pCi/g values converted to pCi/L assuming a soil density of 1 g/cubic centimeter and a soil moisture of 5 percent.
[b]Analysis request/chain-of-custody record.
[c]Sample naming scheme is provided in Table 1.
[d]Two standard deviations about the mean detected activity.
[e]From Tharp February 1999.
DU, DUP = Duplicate sample.
EB = Equipment blank.
ER = Environmental Restoration.
ID = Identification.
J = Estimated value. See Data Validation report.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not provided for nondetect results.

ANNEX B
Analytical Results for Samples in the VCM Excavation

ANNEX B
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Table

Table B-1
Summary of SWMU 2 Excavation Confirmatory Soil Sampling VOC Analytical Results
March 1998–August 1999
(On-site Laboratory, except where noted)

Sample Attributes			Analyte (EPA Method 8260/8260[a]) (µg/kg)						
Record Number[b]	ER Sample ID[c]	Sample Depth (ft)	Acetone	Ethyl benzene	2-Hexanone	Methylene chloride	Toluene	o-Xylene	p-Xylene, m-Xylene
600005	TA2-2-ACF1-0001-18-S	18	ND (5 J)	ND (2 J)	ND (5)	ND (1)	ND (1)	ND (2)	ND (3)
600004	TA2-2-ACF1-0001-18-S (off-site laboratory split)	18	ND (2 J) H	ND (1 J) H	ND (2 J) H	ND (2.8 J) H	ND (1 J) H	NA	NA
600008	TA2-2-ACF2-0001-15-S	15	ND (5 J)	ND (2 J)	ND (5)	ND (1)	ND (1)	ND (2)	ND (3)
600007	TA2-2-ACF2-0001-15-S (off-site laboratory split)	15	**19**	ND (1)	ND (2)	**2.9 J (5)**	ND (1)	NA	NA
600012	TA2-2-ACF3-0001-12-S	12	ND (6.2)	ND (2.5 J)	ND (6.2)	ND (1.2)	ND (1.2)	ND (2.5 J)	ND (3.8 J)
600010	TA2-2-ACF3-0001-12-S (off-site laboratory split)	12	ND (2)	ND (1)	ND (2)	ND (1)	**1 J (2)**	NA	NA
600041	TA2-2-ACF4-0001-12-S (off-site laboratory split)	12	ND (2)	ND (1)	ND (2)	ND (1)	ND (1)	NA	NA
600046	TA2-2-PTW1-0001-10-S	10	ND (6.7 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600047	TA2-2-PTW1-0001-10-S (off-site laboratory split)	10	**9.1 J (10)**	ND (1)	ND (2)	**2.5 J (5)**	ND (1)	NA	NA
600064	TA2-2-PTW2-0001-12-S	12	**10 J (21)**	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600062	TA2-2-PTW2-0001-12-S (off-site laboratory split)	12	ND (6.7 J)	ND (1 J)	ND (2 J)	R	ND (1 J)	NA	NA
600067	TA2-2-PTW3-0001-12-S (off-site laboratory split)	12	**4.1 J (10)**	ND (1 J)	ND (2 J)	R	ND (1 J)	NA	NA
600066	TA2-2-PTW3-0001-12-S	12	ND (5.2 J)	ND (2.1)	ND (5.2)	ND (1)	ND (1)	ND (2.1)	ND (3.1)
600074	TA2-2-PTW4-0001-15-S	15	R	R	R	R	R	R	R
600072	TA2-2-PTW4-0001-15-S (off-site laboratory split)	15	ND (2.4 J)	ND (0.23)	ND (4.4)	R	ND (0.22)	NA	NA
Quality Assurance/Quality Control Samples[d] (µg/L)									
600007	TA2-2-ACF2-0001-15-S (EB)	NA	ND (2 J) H	ND (1 J) H	ND (2 J) H	ND (1 J) H	ND (1 J) H	NA	NA
600010	TA2-2-ACF3-0001-12-S (EB)	NA	ND (2)	ND (1)	ND (2)	ND (1)	ND (1)	NA	NA
600041	TA2-2-ACF4-TB	NA	R	R	R	R	R	NA	NA
600047	TA2-2-PTW1-TB	NA	R	R	R	R	R	NA	NA
600059	TA2-2-PTW1-EB	NA	ND (2)	ND (1)	ND (2)	**2.4 J (5)**	ND (1)	NA	NA
600059	TA2-2-PTW1-TB	NA	ND (2)	ND (1)	ND (2)	**3.1 J (5)**	ND (1)	NA	NA
600062	TA2-2-PTW2-TB	NA	ND (2 J) H	ND (1 J) H	ND (2 J) H	ND (1.9 J) H	ND (1 J) H	NA	NA
600067	TA2-2-PTW3-TB	NA	ND (2) H	ND (1) H	**22 H**	**3.7 J (5) H**	**1.5 J (2) H**	NA	NA
600072	TA2-2-PTW4-TB	NA	ND (2.2)	ND (0.23)	ND (4.4)	ND (2.2 J)	ND (0.22)	NA	NA

Note: Values in **bold** represent detected VOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Sample naming scheme is provided in Table 1.

[d]All quality assurance/quality control samples were analyzed by an off-site laboratory.

EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J = Analytical result was qualified as an estimated value during data validation.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantitation limit, shown in parentheses.
µg/kg = Microgram(s) per kilogram.
µg/L = Microgram(s) per liter.
NA = Not analyzed.
ND = Not detected above the method detection limit, shown in parentheses.
R = Value rejected during data validation.
S = Soil sample.
SWMU = Solid Waste Management Unit.
TB = Trip blank.
VOC = Volatile organic compound.

Table B-2
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Depth[d] (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
600004	TA-2-ACF1-0001-18-S	18–18.5	NA	102	0.277 J	ND (0.0104)	7.19	2.28
600007	TA-2-ACF2-0001-15-S	15–15.5	NA	137	0.264 J	0.218 J	6.89	3.75
600010	TA-2-ACF3-0001-12-S	12–12.5	NA	115	0.0509 J	ND (0.0104)	4.18	3.86
600041	TA-2-ACF4-0001-12-S	12–12.5	NA	121	0.126 J	**2.1**	9.98	4.27
600047	TA-2-PTW1-0001-10-S	10–10.5	NA	**262**	0.308 J	0.0978 J	5.13	3.22
600062	TA-2-PTW2-0001-12-S	12–12.5	NA	[illegible]	0.336 J	**5.14**	6.98	4.09
600067	TA-2-PTW3-0001-12-S	12–12.5	3.12	**264**	0.276 J	0.0553 J	5.4	3.23
600072	TA-2-PTW4-0001-15-S	15–15.5	3.83	170 J	0.258 J	0.143 J	7.71	6.26
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	3.07	**223 J**	0.266 J (0.500)	0.264 J (0.500)	4.75 J	3.57
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	2.79	**298 J**	0.320 J (0.498)	0.134 J (0.498)	4.60 J	3.58
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	3.06	**264 J**	0.323 J (0.500)	0.119 J (0.500)	5.35 J	3.49
603352	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	3.39	**347 J**	0.304 J (0.500)	0.0912 J (0.500)	5.69 J	3.82
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	3.28	**201 J**	0.285 J (0.500)	0.176 J (0.500)	5.37 J	3.77
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	3.29	108 J	0.318 J (0.500)	0.118 J (0.500)	6.11 J	4.03
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	2.51	197 J	0.331 J (0.498)	0.275 J (0.498)	6.07 J	4.82
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	2.04	86.1 J	0.336 J (0.498)	0.158 J (0.498)	5.43 J	4.07
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	1.67	85.9 J	0.275 J (0.499)	0.168 J (0.499)	4.64 J	3.39
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	3.25	**283 J**	0.344 J (0.499)	0.16 J (0.499)	6.37 J	4.77
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	2.11	198 J	0.311 J (0.500)	0.135 J (0.500)	5.88 J	4.12
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	2.59	**237 J**	0.296 J (0.499)	0.182 J (0.499)	6.54 J	4.49
603352	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	2.34	155 J	0.316 J (0.500)	0.202 J (0.500)	6.09 J	3.92
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	3.25	**355**	0.307 J (0.499)	0.223 J (0.499)	**12.9**	4.22
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	2.26	135	0.327 J (0.497)	0.484 J (0.497)	6.29	4.58
603354	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	2.29	88.6	0.346 J (0.500)	0.140 J (0.500)	6.86	4.94
603356	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	1.80	82.8	0.334 J (0.497)	ND (0.0382)	5.54	4.50
603356	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	1.90	83.0	0.404 J (0.500)	ND (0.0382)	6.92	5.15
603356	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	2.64	123	0.373 J (0.500)	0.359 J (0.500)	8.26	**33.4**
603356	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	3.73	114	0.579	0.217 J (0.499)	10.1	7.25
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	2.59	128	0.372 J (0.497)	0.098 J (0.497)	7.36	5.25
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	2.32	**217**	0.360 J (0.498)	0.335 J (0.498)	5.97	4.88
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	2.44	159	0.347 J (0.498)	0.133 J (0.498)	7.10	5.14
603356	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	2.34	109	0.400 J (0.497)	0.124 J (0.497)	8.32	5.65

R[illegible] footnotes at end of table.

Table B-2 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)					
Record Number[b]	ER Sample ID[c]	Sample Depth[d] (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	2.24	184	0.239 J (0.500)	0.106 J (0.500)	4.85	3.44
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	1.0–1.5	4.27	**219**	0.392 J (0.499)	0.138 J (0.499)	7.99	6.02
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	3.77	**440**	0.369 J (0.497)	0.129 J (0.497)	7.10	4.97
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	3.13	**328**	0.304 J (0.500)	0.131 J (0.500)	7.55	4.05
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	3.62	**301**	0.391 J (0.497)	0.153 J (0.497)	6.63	5.01
603356	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	4.11	**310**	0.382 J (0.498)	0.151 J (0.498)	7.40	4.96
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	4.00	**241**	0.399 J (0.498)	0.153 J (0.498)	7.44	5.50
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	3.43	**386**	0.470 J (0.500)	ND (0.0382)	9.62	6.19
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	3.21	**1,110**	0.324 J (0.500)	0.315 J (0.500)	6.40	4.64
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	2.35	119	0.280 J (0.481)	ND (0.0382)	6.66	5.87
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	2.48	131	0.261 J (0.472)	ND (0.0382)	7.31	5.68
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	3.36	157	0.383 J (0.481)	ND (0.0382)	8.62	6.13
603358	TA2-2-FINAL-SDW-370N-4050E-1.0	1.0–1.5	2.91	143	0.304 J (0.463)	0.539	7.04	5.77
603358	TA2-2-FINAL-SDW-375N-4000E-1.0	1.0–1.5	1.99	140	0.256 J (0.500)	ND (0.0382)	6.42	6.61
603358	TA2-2-FINAL-SDW-375N-4000E-D	1.0–1.5	2.34	129	0.241 J (0.481)	ND (0.0382)	6.95	6.69
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	2.70	164	0.360 J (0.495)	ND (0.0382)	7.24	5.49
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	2.60	110	0.263 J (0.472)	ND (0.0382)	6.18	4.20
603358	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	3.05	131	0.258 J (0.500)	ND (0.0382)	5.41	4.82
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	3.24	**257**	0.264 J (0.490)	ND (0.0382)	5.48	4.32
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	**5.86**	113	0.260 J (0.476)	ND (0.0382)	5.67	7.21
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	3.46	**228**	0.321 J (0.463)	ND (0.0382)	7.13	4.53
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	3.34	122	0.352 J (0.476)	ND (0.0382)	7.81	5.40
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	3.17	**202**	0.334 J (0.476)	ND (0.0382)	7.42	4.71
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	3.21	165	0.344 J (0.485)	ND (0.0382)	6.85	4.10
603360	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	3.73	182	0.326 J (0.463)	ND (0.0382)	6.03	3.85
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	3.89	**363**	0.437 J (0.495)	ND (0.0382)	9.42	4.86
Background Soil Concentrations—North Area[e]			4.4	200	0.80	0.9	12.8	11.2
Quality Assurance/Quality Control Samples (mg/L)								
603356	TA2-2-FINL-EB1	8-8-00	ND (0.00257)	0.00212 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	0.00184 J
603356	TA2-2-FINL-EB2	8-8-00	ND (0.00257)	0.00177 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	ND (0.00183)
603356	TA2-2-FINL-EB3	8-8-00	ND (0.00257)	0.00092 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	ND (0.00183)
603360	TA2-2-FINL-EB4	8-9-00	ND (0.00253 J)	0.00299 J	ND (0.00047)	ND (0.00063)	ND (0.00106)	0.00215 J
603360	TA2-2-FINL-EB5	8-9-00	ND (0.00253 J)	0.00085 J	ND (0.00047)	ND (0.00063)	0.0012 J	ND (0.00183)

Refer to footnotes at end of table.

Table B-2 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Depth[d] (ft)	Mercury	Nickel	Selenium	Silver	Uranium
600004	TA2-2-ACF1-0001-18-S	18–18.5	ND (0.0173)	0.258 J	NA	NA	NA
600007	TA2-2-ACF2-0001-15-S	15–15.5	ND (0.0173)	4.89	NA	NA	NA
600010	TA2-2-ACF3-0001-12-S	12–12.5	0.0451	4.94	NA	NA	NA
600041	TA2-2-ACF4-0001-12-S	12–12.5	ND (0.0173)	8.78	NA	NA	NA
600047	TA2-2-PTW1-0001-10-S	10–10.5	ND (0.0173)	5.72	NA	NA	NA
600062	TA2-2-PTW2-0001-12-S	12–12.5	0.0233 J	16.8	NA	NA	NA
600067	TA2-2-PTW3-0001-12-S	12–12.5	ND (0.0173)	4.46	NA	NA	NA
600072	TA2-2-PTW4-0001-15-S	15–15.5	ND (0.0173)	8.98	ND (0.07)	ND (0.031)	NA
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	0.028	5.03 J	ND (0.146)	ND (0.101)	0.825
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	0.0237	5.57 J	ND (0.146)	ND (0.101)	0.853
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	0.0149	5.25 J	ND (0.146)	ND (0.101)	0.909
603352	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	0.0159	5.37 J	ND (0.146)	ND (0.101)	0.673
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	0.116	5.23 J	ND (0.146)	ND (0.101)	0.749
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	0.00794 J (0.009)	5.49 J	ND (0.146)	ND (0.101)	0.790
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	0.0797	6.63 J	ND (0.146)	ND (0.101)	1.24
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	0.00826 J (0.00972)	6.64 J	ND (0.146)	ND (0.101)	1.37
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	0.0177	6.04 J	ND (0.146)	ND (0.101)	0.872
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	0.00536 J (0.00912)	6.49 J	ND (0.146)	ND (0.101)	1.57
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	0.00509 J (0.00871)	6.58 J	ND (0.146)	ND (0.101)	0.891
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	0.011	6.03 J	ND (0.146)	ND (0.101)	0.880
603352	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	0.0113	5.89 J	ND (0.146)	ND (0.101)	1.34
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	0.0887	6.08	0.881	ND (0.101)	0.800
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	0.0288	5.85	0.828	ND (0.101)	1.27
603354	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	0.0134	6.61	ND (0.146)	ND (0.101)	0.733
603356	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	0.0151	6.04	ND (0.146)	ND (0.101)	1.40
603356	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	0.0175	7.38	ND (0.146)	ND (0.101)	1.10
603356	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	0.0215	8.21	ND (0.146)	ND (0.101)	0.788
603356	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	0.0421	10.6	ND (0.146)	ND (0.101)	0.866
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	0.012	7.32	ND (0.146)	ND (0.101)	0.697
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	0.0932	6.02	ND (0.146)	ND (0.101)	0.721
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	0.0231	7.16	ND (0.146)	ND (0.101)	0.877
603356	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	0.0309	7.87	ND (0.146)	ND (0.101)	0.813

F[illegible] footnotes at end of table.

Table B-2 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	[illegible] ID[c]	Sample Depth[d] (ft)	Mercury	Nickel	Selenium	Silver	Uranium
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	0.0156	4.97	ND (0.146)	ND (0.101)	1.24
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	1.0–1.5	0.00922 J (0.00923)	8.40	ND (0.146)	ND (0.101)	0.784
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	0.00649 J (0.00866)	7.40	0.456 J (0.497)	ND (0.101)	0.645
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	0.00718 J (0.00955)	7.57	ND (0.146)	ND (0.101)	0.544
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	0.010	6.92	ND (0.146)	ND (0.101)	0.910
[illegible]	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	0.0122	7.51	ND (0.146)	ND (0.101)	0.696
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	ND (0.00455)	8.03	ND (0.146)	ND (0.101)	0.770
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	0.0253	9.42	ND (0.146)	ND (0.101)	1.13
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	0.0579	6.60	ND (0.146)	ND (0.101)	0.756
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	0.0315	6.63	0.298 J (0.481)	0.223 J (0.481)	1.22
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	0.0109	6.80	ND (0.146)	ND (0.101)	1.47
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	0.00861 J (0.00987)	7.67	ND (0.146)	0.209 J (0.481)	1.66
603358	TA2-2-FINAL-SDW-370N-4050E-1.0	1.0–1.5	0.369	6.47	0.298 J (0.463)	0.205 J (0.463)	1.43
603358	TA2-2-FINAL-SDW-375N-4000E-1.0	1.0–1.5	0.0631	6.84	0.381 J (0.500)	0.220 J (0.500)	1.30
603358	TA2-2-FINAL-SDW-375N-4000E-D	1.0–1.5	0.0111	5.82	ND (0.146)	ND (0.101)	1.37
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	0.0319	7.60	ND (0.146)	0.202 J (0.495)	0.995
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	0.0736	5.60	0.469 J (0.472)	ND (0.101)	1.40
603358	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	0.0612	5.16	0.437 J (0.500)	ND (0.101)	1.18
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	ND (0.00455)	4.93	0.332 J (0.490)	ND (0.101)	0.864
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	0.0381	6.02	ND (0.146)	0.199 J (0.476)	0.977
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	0.0138	6.95	0.318 J (0.463)	ND (0.101)	1.14
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	0.00979	8.06	0.769 J	ND (0.101)	1.37
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	0.0724	6.63	0.598 J	ND (0.101)	0.889
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	0.0682	6.22	0.297 J (0.485)	ND (0.101)	0.799
603360	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	0.0407	5.28	ND (0.146 J)	ND (0.101)	1.03
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	0.169	8.36	0.546 J	ND (0.101)	0.946

Refer to footnotes at end of table.

Table B-2 (Concluded)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling
RCRA Metals Plus Beryllium, Nickel, and Uranium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes			Metals (EPA Method SW846 6010/SW846 6020/SW846 7471[a]) (mg/kg)				
Record Number[b]	ER Sample ID[c]	Sample Date	Mercury	Nickel	Selenium	Silver	Uranium
Background Soil Concentrations—North Area[e]			<0.1	25.4	<1	<1	2.3
Quality Assurance/Quality Control Samples (mg/L)							
603356	TA2-2-FINL-EB1	8-8-00	R	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603356	TA2-2-FINL-EB2	8-8-00	R	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603356	TA2-2-FINL-EB3	8-8-00	R	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603360	TA2-2-FINL-EB4	8-9-00	ND (0.00006)	ND (0.00309)	ND (0.00236)	0.0008 J	0.00002 J
603360	TA2-2-FINL-EB5	8-9-00	ND (0.00006)	ND (0.00309)	0.00295 J	ND (0.00053)	ND (0.00002)

Note: Values in **bold** exceed background soil concentrations.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Sample naming scheme is provided in Table 1.

[d]Depth below final excavation floor or sidewall surface for FINAL and FLOOR samples and below ground for ACF and PTW pit samples.

[e]From Dinwiddie September 1997. Subsurface values are used for comparison, since these samples were collected 15 to 18 feet below the surface.

D = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J = Estimated value. See Data Validation report.
J ( ) = The reported value is greater than or equal to the method detection limit but is less than the practical quantification limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligrams(s) per liter.
NA = Not analyzed or not applicable.
ND ( ) = Not detected above the method detection limit, shown in parentheses.
R = Value rejected during data validation.
RCRA = Resource Conservation and Recovery Act.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table B-3
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–August 2000
(On-site Laboratory)

Sample Attributes				Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
				Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
600006	TA2-2-ACF1-0001-18-S	18–18.5	3-06-98	ND (0.0281)	--	0.799	0.375	ND (0.218)	--	ND (2.98)	--
600009	TA2-2-ACF2-0001-15-S	15–15.5	3-12-98	ND (0.0265)	--	0.798	0.375	ND (0.178)	--	0.972	0.763
600011	TA2-2-ACF3-0001-12-S	12–12.5	3-20-98	ND (0.0351)	--	0.703	0.404	ND (0.189)	--	ND (1.25)	--
600042	TA2-2-ACF4-0001-12-S	12–12.5	3-25-98	ND (0.028)	--	0.721	0.357	ND (0.181)	--	ND (1.59)	--
600045	TA2-2-PTW1-0001-10-S	10–10.5	4-01-98	ND (0.0295)	--	0.529	0.312	ND (0.165)	--	0.375	0.649
600063	TA2-2-PTW2-0001-12-S	12–12.5	4-09-98	ND (0.0272)	--	0.581	0.334	ND (0.179)	--	ND (1.53)	--
600065	TA2-2-PTW3-0001-12-S	12–12.5	4-13-98	ND (0.0328)	--	0.56	0.382	ND (0.176)	--	0.715	0.626
600073	TA2-2-PTW4-0001-15-S	15–15.5	4-20-98	ND (0.0319)	--	0.696	0.426	ND (0.186)	--	0.821	0.626
603351	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	8-07-00	ND (0.0263)	--	ND (0.122)	--	0.14	0.151	ND (0.68)	--
603351	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	8-07-00	ND (0.0244)	--	0.496	0.299	0.14	0.147	ND (0.626)	--
603351	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	8-07-00	ND (0.0281)	--	0.721	0.401	ND (0.202)	--	ND (0.686)	--
603351	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	8-07-00	ND (0.0252)	--	0.595	0.324	ND (0.181)	--	ND (0.61)	--
603351	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	8-07-00	ND (0.0258)	--	0.603	0.331	ND (0.19)	--	ND (0.643)	--
603351	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	8-07-00	ND (0.026)	--	0.737	0.678	0.154	0.154	ND (0.682)	--
603351	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	8-07-00	ND (0.0273)	--	0.966	0.474	ND (0.206)	--	ND (0.707)	--
603351	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	8-07-00	ND (0.0358)	--	1.12	0.577	ND (0.16)	--	ND (0.585)	--
603351	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	8-07-00	ND (0.032)	--	0.793	1.5	ND (0.193)	--	0.503	0.51
603351	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	8-07-00	ND (0.0361)	--	0.922	0.51	0.127	0.171	ND (0.523)	--
603351	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	8-07-00	ND (0.0321)	--	0.726	0.389	0.171	0.161	ND (0.511)	--
603351	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	8-07-00	ND (0.0331)	--	0.798	0.434	0.0945	0.17	ND (0.511)	--
603351	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	8-07-00	ND (0.0332)	--	0.855	0.459	ND (0.185)	--	ND (0.505)	--
603353	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	8-07-00	ND (0.0336)	--	0.853	0.456	ND (0.188)	--	ND (0.503)	--
603353	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	8-07-00	ND (0.034)	--	0.976	0.487	0.254	0.172	ND (0.553)	--
603353	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	8-07-00	ND (0.0448)	--	0.866	0.496	ND (0.233)	--	ND (0.643)	--
603355	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	8-08-00	ND (0.0361)	--	0.701	1.05	0.114	0.168	ND (0.53)	--
603355	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	8-08-00	ND (0.0376)	--	0.684	1.27	0.129	0.176	ND (0.509)	--
603355	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	8-08-00	ND (0.0364)	--	ND (0.14)	--	ND (0.192)	--	0.505	0.434
603355	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	8-08-00	ND (0.0396)	--	ND (0.167)	--	0.228	0.184	0.705	0.647
603355	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	8-08-00	ND (0.0397)	--	0.895	0.625	ND (0.215)	--	ND (0.588)	--
603355	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	8-08-00	ND (0.0414)	--	0.792	1.18	0.106	0.182	ND (0.591)	--
603355	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	8-08-00	ND (0.0357)	--	0.786	0.446	0.0973	0.174	0.544	0.487

Refer to footnotes at end of table.

Table B-3 (Continued)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–August 2000
(On-site Laboratory)

Sample Attributes				Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
				Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603355	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	8-08-00	ND (0.0285)	--	0.936	0.438	ND (0.211)	--	ND (0.72)	--
603355	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	8-08-00	ND (0.0268)	--	0.593	0.29	ND (0.197)	--	ND (0.684)	--
603355	TA2-2-FINAL-SDW-550N-[illegible]-1.0	1.0–1.5	8-08-00	ND (0.0281)	--	0.665	0.316	ND (0.21)	--	ND (0.732)	--
603355	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	8-08-00	ND (0.0283)	--	0.638	0.362	0.166	0.163	ND (0.713)	--
603355	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	8-08-00	ND (0.0235)	--	ND (0.105)	--	ND (0.177)	--	ND (0.621)	--
603355	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	8-08-00	ND (0.0296)	--	0.682	0.324	0.103	0.167	ND (0.747)	--
603355	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	8-08-00	ND (0.0259)	--	0.69	0.381	ND (0.201)	--	ND (0.704)	--
603355	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	8-08-00	ND (0.0285)	--	0.701	0.374	ND (0.215)	--	ND (0.757)	--
603355	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	8-08-00	ND (0.0285)	--	0.835	1.5	ND (0.217)	--	ND (0.756)	--
603355	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	8-08-00	ND (0.0282)	--	0.743	0.362	0.0981	0.103	ND (0.708)	--
603357	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	8-08-00	ND (0.0251)	--	0.737	0.392	ND (0.187)	--	ND (0.62)	--
603357	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	8-08-00	ND (0.0265)	--	0.878	0.453	ND (0.19)	--	ND (0.651)	--
603357	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	8-08-00	ND (0.0282)	--	0.757	0.41	ND (0.204)	--	ND (0.7)	--
603357	TA2-2-FINAL-SDW-370N-4050E-1.0	1.0–1.5	8-08-00	ND (0.0257)	--	0.87	1.14	ND (0.193)	--	ND (0.672)	--
603357	TA2-2-FINAL-SDW-375N-4000E-1.0	1.0–1.5	8-08-00	ND (0.0269)	--	0.685	0.324	ND (0.195)	--	ND (0.657)	--
603357	TA2-2-FINAL-SDW-375N-4000E-D	1.0–1.5	8-08-00	ND (0.0251)	--	0.789	0.765	ND (0.191)	--	ND (0.647)	--
603357	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	8-08-00	ND (0.026)	--	0.722	0.367	ND (0.193)	--	ND (0.679)	--
603357	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	8-08-00	ND (0.0253)	--	0.828	0.418	ND (0.191)	--	ND (0.665)	--
603357	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	8-08-00	ND (0.0271)	--	ND (0.115)	--	0.116	0.164	ND (0.707)	--
603357	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	8-08-00	ND (0.0247)	--	ND (0.109)	--	ND (0.191)	--	ND (0.652)	--
603357	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	8-08-00	ND (0.0262)	--	0.673	0.373	ND (0.189)	--	ND (0.663)	--
603359	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	8-09-00	ND (0.0255)	--	0.798	0.374	0.114	0.161	ND (0.702)	--
603359	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0262)	--	0.812	0.421	ND (0.196)	--	ND (0.683)	--
603359	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0232)	--	0.702	0.325	ND (0.182)	--	ND (0.598)	--
603359	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0255)	--	0.501	0.301	ND (0.182)	--	ND (0.612)	--
603359	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	8-09-00	ND (0.0256)	--	0.647	0.304	ND (0.187)	--	ND (0.633)	--

Refer to footnotes at end of table.

Table B-3 (Concluded)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Gamma Spectroscopy Analytical Results
March 1998–August 2000
(On-site Laboratory)

Sample Attributes				Activity (pCi/g)							
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
				Result	Error[c]	Result	Error[c]	Result	Error[c]	Result	Error[c]
603359	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	8-09-00	ND (0.0246)	--	0.682	1.16	ND (0.19)	--	ND (0.656)	--
Background Soil Activities—North Area[d]				0.084[e]	--	1.54	--	0.18	--	1.3	--
Quality Control/Quality Assurance Samples (pCi/mL)											
603351	TA2-2-FINAL-EB1	NA	8-07-00	ND (0.0198)	--	ND (0.153)	--	ND (0.132)	--	ND (0.299)	--
603355	TA2-2-FINAL-EB2	NA	8-08-00	ND (0.0169)	--	ND (0.121)	--	ND (0.124)	--	ND (0.317)	--
603355	TA2-2-FINAL-EB3	NA	8-08-00	ND (0.0183)	--	ND (0.138)	--	ND (0.14)	--	ND (0.375)	--
603359	TA2-2-FINAL-EB4	NA	8-09-00	ND (0.017)	--	ND (0.114)	--	ND (0.133)	--	ND (0.358)	--
603359	TA2-2-FINAL-EB5	NA	8-09-00	ND (0.0187)	--	ND (0.114)	--	ND (0.129)	--	ND (0.331)	--

Note: Values in **bold** exceed background soil activities.

[a]Analysis request/chain-of-custody record.

[b]Sample naming scheme is provided in Table 1.

[c]Two standard deviations about the mean detected activity.

[d]From Dinwiddie September 1997.

[e]The more conservative, lower subsurface background activity is used as a benchmark for consistency with current risk screening assessment methodology.

D = Duplicate sample
EB = Equipment Blank
ER = Environmental Restoration.
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/mL = Picocurie(s) per milliliter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not provided for nondetect results.

Table B-4
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Tritium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes				Activity (pCi/L)	
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Result	Error[c]
600004	TA2-2-ACF1-0001-18-S	18–18.5	3-06-98	ND (99.1)	--
600007	TA2-2-ACF2-0001-15-S	15–15.5	3-12-98	**1,120**	135
600010	TA2-2-ACF3-0001-12-S	12–12.5	3-20-98	**1,000**	240
600041	TA2-2-ACF4-0001-12-S	12–12.5	3-25-98	**140,000**	745
600047	TA2-2-PTW1-0001-10-S	10–10.5	4-01-98	**482,000**	2,710
600062	TA2-2-PTW2-0001-12-S	12–12.5	4-09-98	**649,000**	1,730
600067	TA2-2-PTW3-0001-12-S	12–12.5	4-13-98	**21,100**	334
600072	TA2-2-PTW4-0001-15-S	15–15.5	4-20-98	**64,600**	1,310
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	0.5–1.0	8-07-00	**15,200**	688
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	0.5–1.0	8-07-00	**21,400**	834
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	0.5–1.0	8-07-00	**742**	200
603352	TA2-2-FINAL-FLR-400N-3900E-D	0.5–1.0	8-07-00	**618**	191
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	0.5–1.0	8-07-00	**46,700**	1,370
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	0.5–1.0	8-07-00	**43,900**	1,310
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	0.5–1.0	8-07-00	**21,200**	838
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	0.5–1.0	8-07-00	**13,400**	649
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	0.5–1.0	8-07-00	**8,720**	516
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	0.5–1.0	8-07-00	**1,230**	232
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	0.5–1.0	8-07-00	**271,000**	5,430
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	0.5–1.0	8-07-00	**17,700**	746
603352	TA2-2-FINAL-FLR-450N-4000E-D	0.5–1.0	8-07-00	**15,200**	694
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	0.5–1.0	8-07-00	**923,000**	24,300
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	0.5–1.0	8-07-00	**905**	217
6(3354	TA2-2-FINAL-FLR-500N-3800E-0.5	0.5–1.0	8-07-00	**15,000**	571
6(3356	TA2-2-FINAL-FLR-500N-3850E-0.5	0.5–1.0	8-08-00	**38,500**	1,040
6(3356	TA2-2-FINAL-FLR-500N-3850E-D	0.5–1.0	8-08-00	**30,500**	885
6(3356	TA2-2-FINAL-FLR-500N-3900E-0.5	0.5–1.0	8-08-00	**1,490**	232
3356	TA2-2-FINAL-FLR-500N-3950E-0.5	0.5–1.0	8-08-00	**1,780**	242
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	0.5–1.0	8-08-00	**9,860**	453
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	0.5–1.0	8-08-00	**36,200**	993
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	0.5–1.0	8-08-00	**91,500**	2,430
603356	TA2-2-FINAL-FLR-500N-4100E-D	0.5–1.0	8-08-00	**78,100**	2,080
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	1.0–1.5	8-08-00	**1,360**	238
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	1.0–1.5	8-08-00	ND (161)	--
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	1.0–1.5	8-08-00	ND (168)	--
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	1.0–1.5	8-08-00	**788**	211
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	1.0–1.5	8-08-00	356	198
603356	TA2-2-FINAL-SDW-550N-3950E-D	1.0–1.5	8-08-00	311	196
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	1.0–1.5	8-08-00	239	193
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	1.0–1.5	8-08-00	**3,000**	283
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	1.0–1.5	8-08-00	**571**	204
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	1.0–1.5	8-08-00	**1,070**	234

Refer to footnotes at end of table.

Table B-4 (Concluded)
Summary of SWMU 2 Excavation Confirmatory Soil Sampling Tritium Analytical Results
March 1998–August 2000
(Off-site Laboratory)

Sample Attributes				Activity (pCi/L)	
Record Number[a]	ER Sample ID[b]	Sample Depth (ft)	Sample Date	Result	Error[c]
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	1.0–1.5	8-08-00	**1,350**	261
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	1.0–1.5	8-08-00	**510**	236
603358	TA2-2-FINAL-SDW-370N-~~4050~~4000E-1.0	1.0–1.5	8-08-00	**827**	325
603358	TA2-2-FINAL-SDW-375N-~~4000~~4050E-1.0	1.0–1.5	8-08-00	**1,150**	244
603358	TA2-2-FINAL-SDW-375N-~~4000~~4050E-D	1.0–1.5	8-08-00	**2,330**	293
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	1.0–1.5	8-08-00	**1,400**	255
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	1.0–1.5	8-08-00	**29,400**	1,070
603358	TA2-2-FINAL-SDW-450N-4150E-D	1.0–1.5	8-08-00	**28,200**	902
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	1.0–1.5	8-08-00	**741**	240
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	1.0–1.5	8-08-00	**3,020**	325
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	1.0–1.5	8-09-00	209	163
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	1.0–1.5	8-09-00	**5,120**	403
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	1.0–1.5	8-09-00	**5,360**	409
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	1.0–1.5	8-09-00	**6,160**	439
603360	TA2-2-FINAL-SDW-450N-3770E-D	1.0–1.5	8-09-00	**5,960**	430
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	1.0–1.5	8-09-00	387	176
Background Soil Activity[d]				420	--
Quality Assurance/Quality Control Samples (pCi/L)					
603356	TA2-2-FINAL-EB1	NA	8-07-00	ND (225)	--
603356	TA2-2-FINAL-EB2	NA	8-08-00	ND (225)	--
603356	TA2-2-FINAL-EB3	NA	8-08-00	ND (227)	--
603360	TA2-2-FINAL-EB4	NA	8-09-00	ND (227 J)	--
603360	TA2-2-FINAL-EB5	NA	8-09-00	ND (229 J)	--

Note: Values in **bold** exceed background soil activity.
[a]Analysis request/chain-of-custody record.
[b]Sample naming scheme given in Table 1.
[c]Two standard deviations about the mean detected activity.
[d]From Tharp February 1999.
D = Duplicate sample.
EB = Equipment blank.
ER = Environmental Restoration.
ID = Identification.
J = Estimated value. See Data Validation report.
NA = Not applicable.
ND() = Not detected above the minimum detectable activity shown in parentheses.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not provided for nondetect results.

ANNEX C
Sampling and Analysis Plan Addendum for June 2001 Sampling

Sandia National Laboratories
Operated for the U.S. Department of Energy by
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COPY

Mr. William McDonald
New Mexico Environment Department
Hazardous Materials Bureau
2044 Galisteo Street
P.O. Box 26110
Santa Fe, NM 87502-2100

Dear Mr. McDonald:

Subject: Addendum Sampling and Analysis Plan for SWMU 2 Soil Piles Submission to NMED

On behalf of Sandia Corporation and the Department of Energy (DOE), SNL/NM is submitting an Addendum Sampling and Analysis Plan (SAP) for the resampling of soil piles generated during the SWMU 2 Classified Waste Landfill Voluntary Corrective Measures (VCM) excavation. The addendum for the VCM Plan was developed in consultation with NMED-HMB personnel and focuses on additional characterization of the soil excavated during the Classified Waste Landfill excavation. This soil will be considered for use as backfill for the excavation pending evaluation of this data and a final risk assessment.

If you have any questions regarding this addendum SAP, please contact Robert Galloway of my staff at (505) 844-0922

Sincerely,

Dwight J. Stockham

Dwight J. Stockham
Manager, Department 6133

Copy to:
MS 0184 J. Gould DOE-KAO
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ADDENDUM SAMPLING AND ANALYSIS PLAN:
FOR ADDITIONAL CHARACTERIZATION OF THE ER SWMU 2 VCM EXCAVATION SOIL PILES

This Sampling and Analysis Plan (SAP) constitutes an addendum to the original SAP and Voluntary Corrective Measures (VCM) Plan for the Classified Waste Landfill ER SWMU 2 excavation project at Sandia National Laboratories/New Mexico. The landfill excavation has been completed and the sampling and characterization of the soil and wastes were performed according to those plans. However, additional characterization has been required to verify that potential Constituents of Concern (COCs) listed in the VCM Plan and original SAP are not present or are below risk-based concern levels. The additional data also will support the No Further Action proposal and the decision to use the excavated soil as backfill for the excavation.

Currently, there are approximately 40,000 cubic yards of "potentially uncontaminated" soil in nine soil piles at TA-II and approximately 1,000 cubic yards of "potentially contaminated" soil in 22 soil piles within the TA-II fence. The attached figure shows the current layout and estimated volumes for the soil piles. The additional sampling proposed is described below and summarized in the attached table.

Potential COCs at SWMU 2

The potential COCs for SWMU 2 listed in the December 1997 VCM Plan are:

- Metals (barium, beryllium, cadmium, chromium, lead, mercury, and nickel);
- VOCs;
- HE compounds;
- Radionuclides including strontium, thorium, plutonium, and uranium;
- Tritium

The potential COCs for SWMU 2 listed in the ER SWMU 2 SAP are:

- Metals (barium, beryllium, cadmium, chromium, lead, mercury, and nickel);
- VOCs;
- SVOCs;
- PCBs;
- HE compounds;
- Radionuclides including strontium, thorium, plutonium, and uranium;
- Tritium

The first section of this addendum-SAP lists COCs that will not be analytes because sufficient data was collected to demonstrate that the COC is not a concern or within risk-

based limits for the excavated soil. The second section lists COCs that will be analytes for the resampling effort. The last section includes sampling logic, methodology and QA/QC.

Analytes No Longer COCs at SWMU 2

1. Isotopic Strontium and Plutonium: No isotopic analyses for these radionuclides will be performed because these COCs were not indicated or suspected during extensive field-screening of soil or landfill artifacts with portable instrumentation (FIDLER, GM, NaI, neutron detector, and micro-R). The field-screening and sampling logic is described in the original SWMU 2 SAP. Strontium and plutonium are no longer considered COCs.

2. Isotopic Thorium and Uranium: No isotopic analyses will be performed because these COCs were only identified in a few samples at concentrations above the NMED-approved background. Gamma spectroscopic analysis of the excavated soil, including the in-situ Large Area Gamma Spectroscopy (LAGS) field-screening technique early in the project, were performed at frequencies between once every 10 to 50 cubic yards on "potentially contaminated" soil and once every 200 cubic yards for "potentially uncontaminated" soil removed as overburden. Gamma-emitting isotopes also are easily identified by field-screening but were typically found associated with specific components or in a few containers of burned debris rather than mixed in soil. Soil identified as containing radioisotopes during field-screening was segregated and sampled for gamma spectroscopic analysis at the on-site laboratory before a comparison with the Preliminary Remediation Goals was used to determine the disposition.

Of the 441 laboratory samples analyzed by gamma spectroscopy, thorium-232 (ND to 3.58 pCi/g) was detected in only one sample above the 1.54 pCi/g background value. Uranium-235 (ND to 3.28 pCi/g) was detected in 15 samples above the 0.18 pCi/g background value. Uranium-238 (ND to 208 pCi/g) was detected in 10 samples above the 1.3 pCi/g background value. Nine of the elevated activities were in the 1.33 to 3.16 pCi/g range, while only one was at 208 pCi/g.

3. Radium, and Americium: Radium-226 and americium-241 isotopes were not COCs listed in the VCM Plan or the original SAP but were identified in a few components excavated from the landfill. Both are readily identified by gamma spectroscopy and by FIDLER survey instruments. No isotopic analyses for these COCs will be performed because they were found as integral parts of components (i.e. radium-painted instrument dials or sealed sources) and not in soil.

5. Krypton-85: No samples for Krypton-85 will be collected. Krypton-85 was not listed in the VCM Plan or the original SAP but was found in small quantities as sealed sources in some components through process knowledge after the start of the excavation. However, as a noble gas and non-reactive, detection in soil is highly improbable because if any sealed sources were broken, the gas would have dissipated very quickly.

6. **HE Compounds:** No additional samples for HE compounds will be collected. As stated in the original SAP, soil was to be analyzed for HE if warranted by evidence, or suspected during excavation and field-screening activities. Sampling excavated soil for HE compounds was discontinued early in the project when it became apparent that no bulk HE or explosive compounds had been disposed in the landfill. References to HE in the site disposal history were based on the very small, sealed charges (less than one gram) used as highly reliable switching devices within weapons components. Because the components and sealed charges were excavated in intact condition there was very little chance for HE release to the soil. No further analyses for this COC will be performed.

7. **Metals:** No further sampling for metals will be performed. Analyses for metals (arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and uranium), were performed for all the excavated soils at rates consistent with the original SAP because field-screening with X-ray fluorescence and laboratory analysis showed that heavy metals were the most significant COC for SWMU 2.

Sampling Methodology

The original SAP and VCM plans called for a sampling frequency of one sample per 400 cubic yards of "potentially uncontaminated" soil and one sample per 200 cubic yards of "potentially contaminated" soil. Therefore the estimated 40,000 cubic yards of "potentially uncontaminated" soil will require 100 samples for characterization.

For added conservatism in characterizing the "potentially contaminated" soil, one sample will be collected from each of the 22 "potentially contaminated" soil piles. This increases the sampling frequency to one sample per 25 to 75 cubic yards. The piles will be sampled as described below.

"Potentially Uncontaminated" Soil Piles: The surface of the two large piles will be divided into blocks, each approximating a 400 cubic foot volume of soil. A grab sample will be collected using a trackhoe from the center of each block from analysis. Trenches will be cut into the seven smaller piles and grab samples will be collected from their approximate centers at a frequency of one per 400 cubic yards of volume.

"Potentially Contaminated" Soil Piles: The original SAP called for one sample per 200 cubic yards of "potentially contaminated" soil. However, since these piles are estimated to contain either 25, 50, or 75 cubic yards each, one grab sample per pile will be collected to ensure adequate characterization. Trenches will be cut into each pile and a grab sample will be collected from the approximate center of each pile.

Analytes for the Excavated Soil Piles Resampling

1. **Tritium:** The following additional samples will be collected for tritium analysis: 100 samples from the nine "potentially uncontaminated" soil piles and one sample from each of the 22 "potentially contaminated" soil piles. On-site samples will be analyzed at the SNL/NM Radiation Protection Sample Diagnostics (RPSD) Laboratory by liquid scintillation counting (LSC). Duplicate samples at a frequency of 10 percent will be sent to an off-site lab for tritium analysis by the soil moisture distillation method. The LSC method will yield qualitative numbers that will be evaluated using a "worst case" scenario methodology. The LSC numbers will be arbitrarily multiplied by a factor of 10 and used in a RESRAD analysis for the final proposed landfill situation where this soil is used as backfill and covered with five feet of clean fill. The off-site analytical results will be used for comparison with the on-site results and to verify that the factor of 10 multiplier is reasonable.

2. **Nickel-63:** This isotope was not among the COCs listed in the VCM Plan but was known by process knowledge to be in components found in the landfill and therefore was listed in the original SAP. Because nickel-63 was found in some components as sealed sources at very low activity levels, 100 samples from the "potentially uncontaminated" soil piles and one sample from each of the 22 "potentially contaminated" soil piles will be analyzed on-site at the RPSD laboratory for gross alpha/gross beta using LSC. An elevated gross alpha/gross beta reading (10 times higher than the average of the site data collected to date) will trigger further investigation of the sample for the radioisotope present. The follow-up investigation will identify the potential radionuclide of concern that will be evaluated on a case-by-case basis.

3. **PCBs:** As stated in the original Site 2 SAP, soil was to be analyzed for PCBs if warranted by information obtained during excavation and field-screening activities. Although no evidence was found during the excavation to indicated bulk PCB disposal or soil stained by PCBs, 10 samples (i.e., 10 percent) of the locations in the nine "potentially uncontaminated" soil piles, and one sample from each of the 22 "potentially contaminated" soil piles will be analyzed at an off-site laboratory for PCBs.

4. **VOCs and SVOCs:** VOCs were listed as a COC in the VCM Plan and both VOCs and SVOCs were listed as routine analytes in the original SAP. During the excavation, no VOCs were detected by soil-headspace field-screening with a PID nor were there indications that organics were disposed in the landfill. Although there was no process knowledge or indications that SVOCs were disposed in the landfill, 13 samples (i.e., 10 percent) of the locations in the nine "potentially uncontaminated" soil piles, and one sample from each of the 22 "potentially contaminated" soil piles will be analyzed at an off-site laboratory for VOCs and SVOCs.

5. **Gamma-Emitting Isotopes:** In accordance with SNL/NM protocols for off-site sample release and shipment, each of the 13 "potentially uncontaminated" soil pile locations and 22 "potentially contaminated" soil pile locations will also be sampled for on-site gamma spectroscopy analysis.

QA/QC

Radiological samples will be analyzed on-site at the SNL/NM RPSD laboratory. Off-site splits will be sent at a frequency of at least 10 percent (13 samples) to General Engineering Laboratories (GEL) for analysis. All SVOC, VOC, and PCB samples will also be sent to GEL.

QA/QC samples (equipment blanks, trip blanks (VOCs only), duplicates, and matrix spike/matrix spike duplicates) will be collected during the sampling event per the original ER Site 2 SAP.

All off-site analytical results will be validated following SNL/NM Operating Procedures and the data added to the existing SWMU 2 NFA proposal data set and incorporated into the Risk Assessment for the NFA proposal.

Possible Excavation Resampling

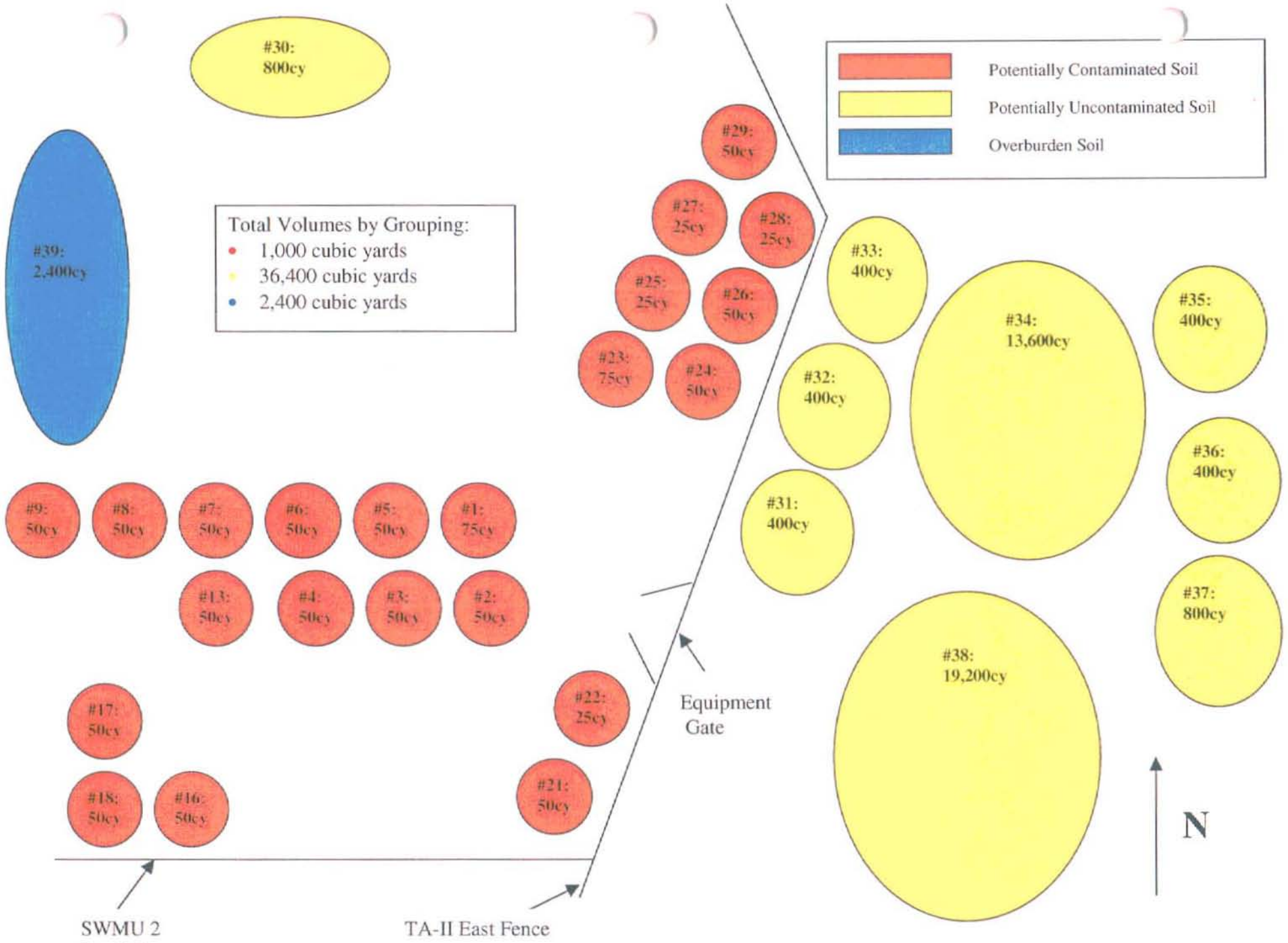
If any of the proposed analytes are detected in the excavated soil piles above risk-based levels, additional verification samples may be collected from the excavation. The decision to sample the excavation, the number of samples, and analytes will be discussed and approved by the New Mexico Environment Department Hazardous Waste Bureau if, and when, the situation arises.

Author:

Bob Galloway (TL, OU 1303) — Date: 6/12/01

Approved by:

Dwight Stockham (Manager, 6133) — Date: 6/12/01



SWMU 2 Soil Pile Map

Summary Table for Sampling of Nine "Potentially Uncontaminated" and Twenty-Two "Potentially Contaminated" Soil Piles from the Classified Waste Landfill Excavation

Analyses	Onsite Lab (RPSD)				Offsite Lab (GEL)				TOTALS
	Potentially Uncontaminated Soil Piles		Potentially Contaminated Soil Piles		Potentially Uncontaminated Soil Piles		Potentially Contaminated Soil Piles		
	Regular	QA/QC	Regular	QA/QC	Regular	QA/QC	Regular	QA/QC	
Tritium (LSC)	100	10-DUP 10-EB	22	3-DUP 10-EB					122 13-DUP ~~10~~ 20-EB
Tritium (Split Samples by Distillation)					13	2-DUP 5-EB	3	1-DUP	16 3-DUP 5-EB
Gross Alpha/Beta	100	10-DUP 10-EB	22	3-DUP 10-EB					122 13-DUP 20-EB
Gross Alpha/Beta (Split Samples)					13	2-DUP 5-EB	3	1-DUP	16 3-DUP 5-EB
Gamma Spectroscopy	10	5-EB	22	5-EB					~~32~~ 35 ~~10~~-EB 2
VOCs (EPA 8260)					13	2-DUP 5-EB 5-TB	22	3-DUP 5-EB 5-TB	35 5-DUP 5-EB 5-TB
SVOCs (EPA 8270)					13	2-DUP 5-EB	22	3-DUP 5-EB	35 5-DUP 5-EB
PCBs (EPA 8082)					13	2-DUP 5-EB	22	3-DUP 5-EB	35 5-DUP 5-EB

DUP	Duplicate Sample
EB	Equipment Blank
LSC	Liquid Scintillation Counting
PCBs	Polychlorinated Biphenyls
SVOCs	Semivolatile Organic Compounds
TB	Trip Blank
VOCs	Volatile Organic Compounds

ANNEX D
Risk Screening Assessment

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SWMU 2: RISK SCREENING ASSESSMENT REPORT

I. Site Description and History

Solid Waste Management Unit (SWMU) 2, the Classified Waste Landfill, Operable Unit 1303, at Sandia National Laboratories/New Mexico (SNL/NM), encompasses approximately 1.5 acres at an average elevation of 5,415 feet above mean sea level. The site is located on the piedmont-slope alluvium immediately west of the northern rim of Tijeras Arroyo. SWMU 2 was established inside SNL/NM Technical Area (TA)-II to bury classified material. TA-II is land owned by the U.S. Department of Energy (DOE) located within the boundaries of Kirtland Air Force Base (KAFB).

Environmental concern about SWMU 2 is based upon the disposal of weapons parts and materials in unlined pits and trenches from the 1950s to 1987, although burials may have occurred as early as 1947. The individual trenches measured approximately 8 to 12 feet wide and 12 feet deep, varying in length from approximately 100 to 300 feet. The individual pits were between 12 and 18 feet deep. Both the trenches and pits were covered with 1 to 4 feet of soil.

The vicinity of SWMU 2 has been heavily disturbed and is unpaved with little native vegetation. The area is essentially flat, and no storm sewers are used to direct surface water in this area. Tijeras Arroyo is the most significant surface-water drainage feature at KAFB, and the active channel is approximately 1,400 feet east of SWMU 2. The arroyo originates in Tijeras Canyon, which is bounded by the Sandia Mountains to the north and the Manzano Mountains to the south. The arroyo trends southwest, eventually draining into the Rio Grande.

The annual precipitation for the area, as measured at the Albuquerque International Sunport, is 8.1 inches. No springs or perennial surface-water bodies are located in the vicinity of the site. During most rainfall events, rainfall quickly infiltrates the soil at SWMU 2. However, virtually all of the moisture subsequently undergoes evapotranspiration. The estimates of evapotranspiration for the KAFB area range from 95 to 99 percent of the annual rainfall.

Groundwater monitoring for the area surrounding SWMU 2 is conducted as part of the Tijeras Arroyo Groundwater (TAG) Investigation. Two water-bearing zones, the shallow groundwater system and the regional aquifer, underlie SWMU 2. The depth to the shallow groundwater system is approximately 300 feet below ground surface (bgs). The shallow groundwater system is not used as a water supply. The depth to the regional aquifer is approximately 500 feet bgs. Both the City of Albuquerque and KAFB utilize the regional aquifer as a water supply source. Groundwater in the shallow groundwater system flows to the southeast while groundwater flows predominantly to the north-northwest in the regional aquifer. The nearest downgradient water-supply well is KAFB-1, located approximately 1.3 miles northwest of the site.

II. Data Quality Objectives

The Data Quality Objectives (DQOs) presented in the SWMU 2 Voluntary Corrective Measure (VCM) plan (SNL/NM December 1997) identified the excavated soil field-screening, sampling, and confirmatory sample locations, sample depths, sampling procedures, and analytical

requirements. The DQOs outlined the Quality Assurance (QA)/Quality Control (QC) requirements necessary to produce defensible analytical data suitable for risk assessment purposes. The excavated-soil characterization and excavation confirmatory sampling conducted during the SWMU 2 VCM were designed to:

- Determine whether hazardous waste or hazardous constituents had been released at the site.
- Characterize the nature and extent of any releases.
- Monitor constituent of concern (COC) concentrations for health and safety, as well as waste management decisions.
- Provide analytical data of adequate quality to both support risk screening assessments and evaluate the possibility of using the excavated soil as backfill for the excavation.

Table 1 summarizes the rationale for the sampling pattern. The source of potential COCs at SWMU 2 was the material buried in pits and trenches at the landfill.

Samples of the excavated soil were collected for field-screening and laboratory analysis throughout the project. Field-screening included: volatile organic compound (VOC) headspace analysis by photoionization detector, metals by x-ray fluorescence, and radionuclides by large-area gamma spectroscopy. Laboratory analyses included: VOCs, semivolatile organic compounds (SVOCs), high explosives (HE), metals, gamma spectroscopy, and tritium. Sample numbers and frequency changed throughout the project based upon the number of nondetects, indications of possible contamination, or waste characterization needs.

VCM confirmatory soil samples were analyzed for metals, VOCs, SVOCs, radionuclides, and tritium by both General Engineering Laboratories, Inc. (GEL) and the on-site SNL/NM Radiation Protection Sample Diagnostics (RPSD) Laboratory. Table 2 provides the number and types of confirmatory samples collected at SWMU 2. Table 3 summarizes the analytical methods and some of the data quality requirements from the SWMU 2 VCM plan.

Following the completion of the VCM excavation, additional sampling of the excavated soil was conducted at the request of the New Mexico Environment Department (NMED) to further justify the intent to use this soil as backfill. As summarized in Table 1, the soil stockpiles were sampled for VOCs, SVOCs, polychlorinated biphenyls (PCBs), tritium, and gross alpha/beta. When PCBs were detected, additional PCB samples from the soil stockpiles and VCM excavation were collected in accordance with guidance received from U.S. Environmental Protection Agency (EPA) Region 6 personnel.

QA/QC and confirmatory soil samples were collected during the VCM in accordance with the Environmental Restoration Project Quality Assurance Project Plan. The QA/QC samples consisted of duplicates and off-site laboratory split samples. Equipment-wash (aqueous rinsate) blanks were collected at the start of the project and during the confirmatory sampling phase of the project. Duplicate samples, off-site laboratory split samples for radiological analysis, daily rinsate blanks, and trip blanks (during VOC sampling only) were collected during

Table 1
Summary of Sampling Performed to Meet DQOs

SWMU 2 Sampling	Potential COC Source	Number of Sampling Locations	Sample Density (samples/acre)	Sampling Location Rationale
Excavated soil from pits and trenches.	Buried material	1 sample per 10 or 50 cubic yards	NA	Evaluate excavated soil for evidence of COC release, waste management, H&S, and possible use as backfill.
Bottom of nine individual pits and bottom and sidewalls of excavation after removal of material and soil.	Buried material	50	0.05	Evaluate soil at the bottom of both the excavation and pits to ensure the VCM was complete.
Excavated soil stockpiles.	Buried Material	1 sample per 100 or 400 cubic yards	NA	Additional characterization of excavated soil for VOC, SVOC, PCB, gross alpha/beta, and tritium contamination.
Bottom and sidewalls of excavation after removal of material and soil.	Buried material	50	0.05	Additional characterization of the VCM excavation for PCBs.

COC = Constituent of concern.
DQO = Data Quality Objective.
H&S = Health and Safety.
NA = Not Applicable.
PCB = Polychlorinated biphenyl(s).
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.
VOC = Volatile organic compound.

Table 2
Number of Soil Samples Collected During the SWMU 2 VCM Excavation and Confirmatory Sampling, March 1998 to August 2000

Sample type	RCRA Metals + Be, Ni, U	VOCs	SVOCs	HE	PCB	Gamma Spectro-scopy	Gross Alpha/ Beta	Tritium
Excavated soil	318–368[a]	104	1	4	–	391	–	154
VCM Confirmatory	50	8	8	–	42	50	–	50
Soil Stockpile Confirmatory	–	35	35	–	399		120	122
Duplicates	58	15	6	4	52	12	17	31
Off-site Splits	15	9	–	2	–	–	16	16
Equipment Blanks (includes Trip Blanks for VOCs only)	11	29	9	–	16	9	9	15
Total Samples	452–502[a]	200	59	10	509	462	162	388
Analytical laboratory	ERCL, GEL	ERCL, GEL	GEL	ERCL, GEL	GEL	RPSD	RPSD, GEL	RPSD, GEL

[a]Not all soil samples analyzed for all analytes.
ERCL = Environmental Restoration Chemistry Laboratory.
GEL = General Engineering Laboratories, Inc.
HE = High explosives.
PCB = Polychlorinated biphenyl.
RCRA = Resource Conservation and Recovery Act.
RPSD = Radiation Protection Sample Diagnostics Laboratory.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.
VOC = Volatile organic compound.
– = No samples.

Table 3
Summary of Data Quality Requirements

Analytical Requirement	Data Quality Level	ERCL	GEL	RPSD
RCRA metals + Be, Ni, U EPA Method 6010/7000	Defensible	304 samples[a]	73 samples	–
VOCs EPA Method 8260	Defensible	112 samples	46 samples	–
SVOCs EPA Method 8270	Defensible	–	44 samples	–
HE compounds EPA Methods 8330, 8095	Defensible	4 samples	2 samples	–
Polychlorinated Biphenyls EPA Method 8082	Defensible	–	441 samples	–
Gamma Spectroscopy EPA Method 901.1	Defensible	–	–	441 samples
Gross Alpha/Beta EPA Method 900.0	Defensible	–	16 samples	120 samples
Tritium EPA Method 906.0	Defensible	Not analyzed	68 samples	326 samples

Note: The number of samples does not include QA/QC samples, such as duplicates, trip blanks, and equipment blanks.
[a]Not all soil samples analyzed for all analytes.
EPA = U.S. Environmental Protection Agency.
ERCL = Environmental Restoration Chemistry Laboratory.
GEL = General Engineering Laboratories, Inc.
HE = High explosive(s).
QA = Quality assurance.
QC = Quality control.
RCRA = Resource Conservation and Recovery Act.
RPSD = Radiation Protection Sample Diagnostics.
SVOC = Semivolatile organic compound.
VOC = Volatile organic compound.
– = No samples.

the additional soil stockpile characterization and VCM excavation sampling phases. No significant QA/QC problems were identified in the QA/QC samples.

All the excavated-soil and stockpile characterization, as well as confirmatory soil sampling results, were verified/validated by SNL/NM. The off-site laboratory results from GEL were validated according to "Data Validation Procedure for Chemical and Radiochemical Data SNL/NM Environmental Restoration Project Analytical Operating Procedure 00-03, Rev. 0" (SNL/NM December 1999). The data validation reports are presented in the associated SWMU 2 no further action (NFA) proposal. The gamma spectroscopy data from the RPSD Laboratory were reviewed according to "Laboratory Data Review Guidelines, Procedure No: RPSD-02-11, Issue No: 02" (SNL/NM July 1996). The gamma-spectroscopy results are presented in the NFA proposal. These reviews confirmed that the analytical data are defensible and therefore acceptable for use in the NFA proposal. Therefore, the DQOs have been fulfilled.

III. Determination of Nature, Rate, and Extent of Contamination

III.1 Introduction

The determination of the nature, migration rate, and extent of contamination at SWMU 2 was based upon an initial conceptual model validated with VCM excavated-soil characterization and confirmatory soil sampling conducted at the site. The initial conceptual model was developed from archival research and aerial photographs. The DQOs contained in the SWMU 2 VCM plan identified the excavated-soil sample frequency, VCM confirmatory locations, sample depth, and analytical requirements. The sample data were subsequently used to develop the final conceptual model for SWMU 2, which is presented in Section 5.0 of this risk-based disposal proposal. The quality of the data used to specifically determine the nature, migration rate, and extent of contamination is described below.

III.2 Nature of Contamination

Both the nature of contamination and the potential for the degradation of COCs at SWMU 2 were evaluated using laboratory analyses of the soil samples (Section IV). The analytical requirements included analyses for metals, VOCs, SVOCs, HE, PCBs, and radionuclides. The analyses characterized potential contaminants at the site. The analytes and methods listed in Tables 2 and 3 are appropriate for characterizing the COCs and potential degradation products at SWMU 2.

III.3 Rate of Contaminant Migration

SWMU 2 is an inactive landfill that was excavated to remove source material; the landfill will be backfilled with the previously excavated soil and covered with a 5-foot layer of clean fill. The rate of COC migration from subsurface soil is therefore predominantly dependent upon infiltrating precipitation, as described in Section V. Data available from the SNL/NM TAG Investigation; numerous SNL/NM monitoring programs for air, water, and radionuclides; various biological surveys; and meteorological monitoring are adequate for characterizing the rate of COC migration at SWMU 2.

III.4 Extent of Contamination

Soil samples were collected during excavation of the landfill and from the stockpiled soil following the excavation. Excavated-soil samples were collected to assess whether contaminants had been released into the surrounding soil, and confirmatory soil samples were collected to verify the effectiveness of the VCM. The samples were collected using the sampling frequency or density shown in Table 1.

Confirmatory soil samples were collected from both undisturbed soil at the base of the nine isolated burial pits and the floor and sidewalls of the landfill excavation. The base of the excavation was considered to be the bottom of the pits or landfill. Sampling at more extensive depths was not required because the sample results showed no significant contamination. Furthermore, the vertical rate of contamination migration is expected to be extremely low for

SWMU 2 because of the low precipitation, high evapotranspiration, and relatively low solubility of the COCs. Therefore, the excavated-soil and confirmatory samples are considered representative of the soil potentially contaminated with the COCs and sufficient to determine the suitability of the excavated soil for use as backfill.

In summary, the sampling of the excavation and confirmatory soil sampling were appropriate and adequate to determine the nature, migration rate, and extent of residual COCs in soil at SWMU 2.

IV. Comparison of COCs to Background Screening Levels

Site history and characterization activities are used to identify potential COCs. The SWMU 2 NFA proposal describes the identification of COCs and the sampling that was conducted to determine the concentration levels of those COCs across the site. Generally, COCs that were evaluated in this risk assessment included all detected organic and all reported inorganic and radiological COCs. When the detection limit of an organic compound was too high (i.e., could possibly cause an adverse effect to human health or the environment), the compound was retained. Nondetect organic constituents not included in this assessment were determined to have detection limits low enough to ensure protection of human health and the environment. In order to provide conservatism in this risk assessment, the calculation used only the maximum concentration value of each COC for the entire site. The SNL/NM maximum background concentration (Dinwiddie September 1997) was selected to provide the background screening values listed in Tables 4 and 5. Human health nonradiological COCs also were compared to SNL/NM proposed Subpart S action levels, as appropriate (IT July 1994).

Nonradiological inorganic constituents that are essential nutrients, such as iron, magnesium, calcium, potassium, and sodium, were not included in this risk assessment (EPA 1989). Both radiological and nonradiological COCs were evaluated. The nonradiological COCs evaluated included both inorganic and organic compounds. Because this site will be covered with a 1.5-meter (approximately 5-foot) layer of clean fill, the COCs are considered to be below the limits of biological activity in the soil. Therefore, no ecological exposure pathways are considered to exist for these COCs.

Table 4 lists the nonradiological COCs and Table 5 lists the radiological COCs for the human health risk assessment at SWMU 2. Both tables show the associated SNL/NM maximum background concentration values (Dinwiddie September 1997). Tables 4 and 5 are discussed in Section VI.4.

V. Fate and Transport

The primary release of COCs at SWMU 2 occurred to the subsurface soil from buried materials. Subsequent excavation of this site and backfill with excavated soil will result in COCs

Table 4
Nonradiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

COC Name	Maximum Concentration (mg/kg)	SNL/NM Background Concentration (mg/kg)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Log K_{ow} (for organic COCs)	Bioaccumulator?[b] (BCF>40, log K_{ow}>4)
Arsenic	8.3	4.4	No	44[c]	NA	Yes
Barium	8,100	200	No	170[d]	NA	Yes
Beryllium	4.2	0.80	No	19[c]	NA	No
Cadmium	740	<1	No	64[c]	NA	Yes
Chromium, total	460	12.8	No	16[c]	NA	No
Lead	620	11.2	No	49[c]	NA	Yes
Mercury	180	<0.1	No	5,500[c]	NA	Yes
Nickel	400	25.4	No	47[c]	NA	Yes
Selenium	250	<1	No	800[e]	NA	Yes
Silver	110	<1	No	0.5[c]	NA	No
Uranium	4.5	2.3	No	20[d]	NA	No
Acetone	0.019	NA	NA	0.69[f]	-0.24[f]	No
Bis (2-ethylhexyl) phthalate	0.251 J	NA	NA	851[g]	7.6[i]	Yes
Butylbenzylphthalate	0.243 J	NA	NA	663[f]	4.77[i]	Yes
2-Chlorophenol	0.01 J	NA	NA	214[g]	2.15[g]	Yes
Di-n-butylphthalate	0.168 J	NA	NA	6,761[g]	4.61[i]	Yes
Diphenylamine	0.0809 J	NA	NA	83[j]	3.50[k]	Yes
Ethylbenzene	0.0043 J	NA	NA	15.5[g]	3.15[g]	No

Refer to footnotes at end of table.

Table 4 (Concluded)
Nonradiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

COC Name	Maximum Concentration (mg/kg)	SNL/NM Background Concentration (mg/kg)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Log K_{ow} (for organic COCs)	Bioaccumulator?[b] (BCF>40, log K_{ow}>4)
Fluoranthene	0.0203 J	NA	**NA**	12,302[i]	4.90[i]	**Yes**
2-Hexanone	0.014 J	NA	**NA**	6[h]	1.38[h]	No
Methylene chloride	0.0073	NA	**NA**	5[f]	1.25[f]	No
PCBs, total	5.58	NA	**NA**	31,200[c]	6.72[c]	**Yes**
Phenanthrene	0.0213 J	NA	**NA**	23,800[c]	4.63[c]	**Yes**
Phenol	0.0122 J	NA	**NA**	277[g]	1.46[g]	**Yes**
Pyrene	0.0234 J	NA	**NA**	36,300[c]	5.32[i]	**Yes**
Toluene	0.001 J	NA	**NA**	10.7[c]	2.69[c]	No
o-Xylene	0.014	NA	**NA**	23.4[f]	1.5[i]	No
p-,m-Xylenes	0.021	NA	**NA**	23.4[f]	1.5[i]	No

Note: **Bold** indicates the COCs that exceed the background screening values and/or are bioaccumulators.

[a]Dinwiddie (September 1997) North Super Group.
[b]NMED (March 1998).
[c]Yanicak (March 1997).
[d]Neumann (1976).
[e]Callahan et al. (1979).
[f]Howard (1990).
[g]Howard (1989).
[h]Howard (1993).
[i]Micromedex (1998).
[j]EPA (1995).
[k]Hansch and Leo (1985).

BCF = Bioconcentration factor.
COC = Constituent of concern.
J = Estimated concentration.
K_{ow} = Octanol-water partition coefficient.
Log = Logarithm (base 10).
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
NMED = New Mexico Environment Department.
PCB = Polychlorinated biphenyl(s).
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

Table 5
Radiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value and BCF

COC Name	Maximum Concentration (pCi/g)	SNL/NM Background Concentration (pCi/g)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Is COC a Bioaccumulator?[b] (BCF >40)
Tritium	85.9	0.021[c]	**No**	NA	No[d]
Th-232	3.58	1.54	**No**	3000[e]	No[d]
U-235	3.28	0.18	**No**	900[e]	**Yes**
U-238	208	1.3	**No**	900[e]	**Yes**
Cs-137	0.247	0.084	**No**	3000[f]	**Yes**[f]

Note: **Bold** indicates COCs that exceed background screening values and/or are bioaccumulators.
[a]From Dinwiddie (September 1997), North Super Group.
[b]NMED (March 1998).
[c]Tharp (1999).
[d]Yanicak (March 1997).
[e]Baker and Soldat (1992).
[f]Whicker and Schultz (1982).
BCF = Bioconcentration factor.
COC = Constituent of concern.
NA = Not applicable.
NMED = New Mexico Environment Department.
pCi/g = Picocurie(s) per gram.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

being confined to the subsurface soil below a 1.5-meter layer of clean fill. Therefore, the COCs in the soil will not be exposed to transport mechanisms, such as wind, surface water, and biota at this site.

Water at SWMU 2 is received as precipitation (rain and occasionally snow). The annual precipitation (approximately 8.1 inches) will either evaporate at or near the point of contact, infiltrate into the soil, or form runoff. Infiltration at the site is enhanced by the sandy nature of the soil, which is primarily Wink fine sand (USDA 1977). The generally flat terrain limits the extent of lateral transport of soil particles by runoff. However, because contaminated soil at this site will be buried and capped with clean fill, the COCs in soil will not be exposed to transport by surface-water runoff.

Water that infiltrates into the soil will continue to percolate through the soil until field capacity is reached. The effective rooting depths of the natural (undisturbed) soil at SWMU 2 is about 60 inches (USDA 1977). This indicates the depth of the system's transient water cycling zone (the dynamic balance between percolation/infiltration and evapotranspiration). Because soil that contains COCs will be buried more than 1.5 meters (approximately 5 feet) deep, it is unlikely that the buried COCs will be exposed to water percolating from the surface. As noted in Section I, it is estimated that approximately 95 to 99 percent of the annual precipitation is lost to evapotranspiration in this area. Because groundwater at this site is located more than 300 feet bgs, the potential for COCs to reach groundwater through the unsaturated zone above the water table is extremely low.

COCs can enter the food chain through uptake by plant roots and be transported to aboveground tissues where they may be consumed by herbivores that may, in turn, be eaten by predators. Once in the food web, COCs can be transported from the site either by the species that consume them or other surface transport mechanisms. However, because the soil at SWMU 2 that contain COCs will be buried deeper than the effective rooting depth of 60 inches, food chain transport is expected to be negligible at this site.

The COCs at SWMU 2 include both organic and inorganic constituents. The inorganic COCs (including radionuclides) are elemental in form and are not considered to be degradable, although radiological COCs will undergo decay to stable isotopes or radioactive daughter elements. Other possible transformations of inorganic constituents could include changes in valence (oxidation/reduction reactions) or incorporation into organic forms (e.g., the conversion of selenite or selenate from soil to seleno-amino acids in plants). However, because of the long half lives of the radionuclides, the aridity of the environment at this site, and the lack of potential contact with biota, none of these mechanisms are expected to result in significant losses or transformations of inorganic COCs. Organic compounds may be degraded through photolysis, hydrolysis, and biotransformation. Photolysis requires light, and therefore takes place in the air, at the ground surface, or in surface water. Hydrolysis includes chemical transformations in water and may occur in the soil solution. Biotransformation is the transformation of chemicals caused by plants, animals, and microorganisms. Because the COCs at this site are limited to subsurface soil, photolysis is unlikely to occur, although some hydrolysis and biotransformation may occur if the soil becomes moist. These mechanisms of COC loss, however, are limited by the arid environment at this site. Although the organic COCs at this site are volatile, the subsurface location of the COCs will prevent significant loss through volatilization.

Table 6 summarizes the fate and transport processes that can occur at SWMU 2. COCs at this site include both inorganic (including radionuclides) and organic constituents. Because the

contaminated soil at this site will be buried under a 5-foot cover layer of clean fill, there is no potential for transport of COCs by wind or surface-water runoff. Because of the thickness of the cover layer, the potential for uptake into the food chain is low. Significant leaching into the subsurface soil is unlikely and leaching into the groundwater at this site is highly unlikely. The potential for transformation is low, and loss through decay is insignificant due to the long half lives of the radiological COCs.

Table 6
Summary of Fate and Transport at SWMU 2

Transport and Fate Mechanism	Existence at Site	Significance
Wind	Yes	None
Surface runoff	Yes	None
Migration to groundwater	No	None
Food chain uptake	Yes	Low
Transformation/degradation	Yes	Low

SWMU = Solid Waste Management Unit.

VI. Human Health Risk Screening Assessment

VI.1 Introduction

Human health risk screening assessment of this site includes a number of steps that culminate in a quantitative evaluation of the potential adverse human health effects caused by constituents located at the site. The steps include the following:

Step 1.	Site data are described that provide information on the potential COCs, as well as the relevant physical characteristics and properties of the site.
Step 2.	Potential pathways are identified by which a representative population might be exposed to the COCs.
Step 3.	The potential intake of these COCs by the representative population is calculated using a tiered approach. The first component of the tiered approach includes two screening procedures. One screening procedure compares the maximum concentration of the COC to an SNL/NM maximum background screening value. COCs that are not eliminated during the first screening procedure are subjected to a second screening procedure, if applicable, that compares the maximum concentration of the COC to the SNL/NM proposed Subpart S action level.
Step 4.	Toxicological parameters are identified and referenced for COCs that were not eliminated during the screening steps.
Step 5.	Potential toxicity effects (specified as a hazard index [HI]) and estimated excess cancer risks are calculated for nonradiological COCs and background. For radiological COCs, the incremental total effective dose equivalent (TEDE) and incremental estimated cancer risk are calculated by subtracting applicable background concentrations directly from maximum on-site contaminant values. This background subtraction applies only when a radiological COC occurs as contamination and exists as a natural background radionuclide.
Step 6.	These values are compared with guidelines established by EPA and the DOE to determine whether further evaluation and potential site cleanup are required. Nonradiological COC risk values also are compared to background risk so that an incremental risk can be calculated.
Step 7.	Uncertainties of the above steps are also addressed.

VI.2 Step 1. Site Data

Section I of this risk assessment provides the site description and history for SWMU 2. Section II presents a comparison of results to DQOs. Section III discusses the nature, rate, and extent of contamination.

VI.3 Step 2. Pathway Identification

SWMU 2 has been designated with a future land use scenario of industrial (DOE et al. September 1995) (see Appendix 1 for default exposure pathways and parameters). Because of the location and characteristics of the potential contaminants, the primary pathway for human exposure is considered to be soil ingestion for the nonradiological COCs and direct gamma exposure for the radiological COCs. The inhalation pathway for both nonradiological and radiological COCs is included because the potential exists to inhale dust and volatiles. Soil ingestion is included for the radiological COCs as well. No water pathways to the groundwater are considered. Depth to groundwater at SWMU 2 is more than 300 feet bgs. Because of the lack of surface water or other significant mechanisms for dermal contact, the dermal exposure pathway is not considered significant. No intake routes through plant, meat, or milk ingestion are considered appropriate for the industrial land use scenario. However, plant uptake is considered for the residential land use scenario.

Pathway Identification

Nonradiological Constituents	Radiological Constituents
Soil ingestion	Soil ingestion
Inhalation (dust and volatiles)	Inhalation (dust and volatiles)
Plant uptake (residential only)	Plant uptake (residential only)
	Direct gamma

VI.4 Step 3. COC Screening Procedures

This section discusses Step 3, which includes the two screening procedures. The first screening procedure compared the maximum COC concentration to the background screening level. The second screening procedure compared maximum COC concentrations to SNL/NM proposed Subpart S action levels. This second procedure was applied only to COCs that were not eliminated during the first screening procedure.

VI.4.1 Background Screening Procedure

VI.4.1.1 Methodology

Maximum concentrations of nonradiological COCs were compared to the approved SNL/NM maximum screening levels for this area (Dinwiddie September 1997). The SNL/NM maximum

background concentration was selected to provide the background screening values in Table 4 and used to calculate risk attributable to background in Section VI.6.2. Only the COCs that either were detected above their respective SNL/NM maximum background screening levels or did not have either a quantifiable or a calculated background screening level were considered in further risk assessment analyses.

For radiological COCs that exceeded the SNL/NM background screening levels, background values were subtracted from the individual maximum radionuclide concentrations. Those that did not exceed these background levels were not carried any further in the risk assessment. This approach is consistent with DOE Order 5400.5, "Radiation Protection of the Public and the Environment" (DOE 1993). Radiological COCs that did not have a background value and were detected above the analytical minimum detectable activity were carried through the risk assessment at their maximum levels. The resultant radiological COCs remaining after this step are referred to as background-adjusted radiological COCs.

VI.4.1.2 Results

Tables 4 and 5 show SWMU 2 maximum COC concentrations that were compared to the SNL/NM maximum background values (Dinwiddie September 1997) for the human health risk assessment. For the nonradiological COCs, 11 constituents were measured at concentrations greater than their respective background screening values. Eight nonradiological COCs were organic compounds that do not have corresponding background screening values.

The maximum concentration value for lead was 620 milligrams (mg)/kilogram (kg). The EPA intentionally does not provide any human health toxicological data on lead; therefore, no risk parameter values could be calculated. NMED guidance for lead screening concentrations for construction and industrial land use scenarios are 750 and 1500 mg/kg, respectively (NMED March 2000). The EPA screening guidance value for a residential land use scenario is 400 mg/kg (Laws July 1994). The maximum lead concentration at this site was less than the NMED industrial screening value. Using the maximum lead concentration, the residential screening level was exceeded. However, since the site was adequately characterized, average concentrations were more representative of actual site conditions. The upper 95% confidence limit (UCL) of the mean lead concentration was 25.1 mg/kg, which was below the residential land use screening level. Thus, lead was eliminated from further consideration in the human health risk assessment.

The presence of Resource Conservation and Recovery Act (RCRA) constituents in the SWMU 2 soil will necessitate future land use restrictions under RCRA. Under 40 CFR 761.61 self-implementing procedures for PCB cleanups, the cleanup level for bulk PCB remediation waste in low occupancy areas is less than, or equal to, 25 mg/kg. At SWMU 2, the maximum PCB concentration is 5.58 mg/kg, the redeposited soils will be covered with 5 feet of clean fill, and RCRA land use restrictions will be in place. Using the self-implementing provision as a screening level, PCBs were eliminated from further consideration in the human health risk assessment. However, the risk associated with these PCB concentrations was calculated in a separate assessment (see Section VI.9).

For the radiological COCs, five constituents (tritium, U-238, U-235, Cs-137, and Th-232) exhibited maximum activities slightly greater than background screening values.

VI.4.2 Subpart S Screening Procedure

VI.4.2.1 Methodology

The maximum concentrations of nonradiological COCs not eliminated during the background screening process were compared with action levels (IT July 1994) calculated using methods and equations promulgated in the proposed RCRA Subpart S (EPA 1990) and Risk Assessment Guidance for Superfund (RAGS) (EPA 1989) documentation. Accordingly, all calculations were based upon the assumption that receptor doses from both toxic and potentially carcinogenic compounds result most significantly from ingestion of contaminated soil. Because all the samples were taken from the surface and near-surface soils, this assumption is considered valid. If there were 10 or fewer COCs, and each had a maximum concentration of less than 1/10 the action level, the site was judged to pose no significant health hazard to humans. If there were more than 10 COCs, the Subpart S screening procedure was not performed.

VI.4.2.2 Results

Because the SWMU 2 sample set contained more than 10 COCs that failed the background screening procedure (including COCs that did not have background screening values), the proposed Subpart S screening process was not performed. All COCs that exceeded the background screening values were carried forward in the risk assessment for SWMU 2, and an individual hazard quotient (HQ) and excess cancer risk value were calculated for each COC.

Because Radiological COCs have no predetermined action levels analogous to proposed Subpart S levels, this step in the screening process was not performed for radiological COCs.

VI.5 Step 4. Identification of Toxicological Parameters

Tables 7 (nonradiological) and 8 (radiological) list the COCs retained in the risk assessment and the values for the available toxicological information. The toxicological values used for the COCs in Table 6 were from the Integrated Risk Information System (IRIS) (EPA 1998), the Health Effects Assessment Summary Tables (HEAST) (EPA 1997a), the EPA Region 3 (EPA 1997b), and EPA Region 9 (EPA 1996) electronic databases. Dose conversion factors (DCFs) used in determining the excess TEDE values for radiological COCs for the individual pathways were the default values provided in the RESRAD computer code (Yu et al. 1993a) as developed in the following documents:

- DCFs for ingestion and inhalation were taken from "Federal Guidance Report No. 11, Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion" (EPA 1988).

Table 7
Toxicological Parameter Values for SWMU 2 Nonradiological COCs

COC Name	RfD_o (mg/kg-d)	Confidence[a]	RfD_{inh} (mg/kg-d)	Confidence[a]	SF_o $(mg/kg\text{-}day)^{-1}$	SF_{inh} $(mg/kg\text{-}day)^{-1}$	Cancer Class[b]
Arsenic	3.0E-4[c]	M	–	–	1.5E+0[c]	1.5E+1[c]	A
Barium	7.0E-2[c]	M	1.4E-4[d]	–	–	–	–
Beryllium	2.0E-3[c]	L to M	5.7E-6[c]	M	–	8.4E+0[c]	B1
Cadmium	5.0E-4[c]	H	5.7E-5[d]	–	–	6.3E+0[c]	B1
Chromium III	1.0E+0[c]	L	5.7E-7[e]	–	–	–	–
Chromium VI	5.0E-3[c]	L	–	–	–	4.2E+1[c]	A
Mercury	3.0E-4[f]	–	8.6E-5[c]	M	–	–	D
Nickel	2.0E-2[c]	M	–	–	–	–	–
Selenium	5.0E-3[c]	H	–	–	–	–	D
Silver	5.0E-3[c]	L	–	–	–	–	D
Uranium	3E-3[c]	M	–	–	–	–	–
Acetone	1.0E-1[c]	L	1.0E-1[d]	–	–	–	D
Bis (2-ethylhexyl) phthalate	2.0E-2[d]	–	2.2E-2[d]	–	1.4E-2[d]	1.4E-2[d]	–
Butylbenzylphthalate	2.0E-1[c]	L	2.0E-1[d]	–	–	–	C
2-Chlorophenol	5.0E-3[c]	L	5.0E-3[d]	–	–	–	–
Di-n-butylphthalate	1.0E-1[c]	L	1.0E-1[d]	–	–	–	D
Diphenylamine	2.5E-2[c]	L	2.5E-2[d]	–	–	–	–
Ethylbenzene	1.0E-1[c]	L	2.9E-1[c]	L	–	–	D
Fluoranthene	4.0E-2[c]	L	4.0E-2[d]	–	–	–	D
2-Hexanone	4.0E-2[f]	–	–	–	–	–	–
Methylene chloride	6.0E-2[c]	M	8.6E-1[f]	–	7.5E-3[c]	1.7E-3[c]	B2
Phenanthrene[g]	3.0E-1[c]	L	3.0E-1[d]	–	–	–	D
Phenol	6.0E-1[c]	L	6.0E-1[d]	–	–	–	D
Pyrene	3.0E-2[c]	L	3.0E-2[d]	–	–	–	D
Toluene	2.0E-1[c]	M	1.1E-1[c]	M	–	–	D
o-Xylene	2.0E+0[f]	–	2.0E-1[d]	–	–	–	–
p-,m-Xylenes	2.0E+0[f]	–	2.0E-1[d]	–	–	–	–

Refer to footnotes at end of table.

Table 7 (Concluded)
Toxicological Parameter Values for SWMU 2 Nonradiological COCs

[a]Confidence associated with IRIS (EPA 1998) database values. Confidence: L = low, M = medium, H = high.
[b]EPA weight-of-evidence classification system for carcinogenicity (EPA 1989) taken from IRIS (EPA 1998):

- A = Human carcinogen.
- B1 = Probable human carcinogen. Limited human data are available.
- B2 = Probable human carcinogen. Sufficient evidence in animals and inadequate or no evidence in humans.
- D = Not classifiable as to human carcinogenicity.

[c]Toxicological parameter values from IRIS electronic database (EPA 1998).
[d]Toxicological parameter values from EPA Region 9 electronic database (EPA 1996).
[e]Toxicological parameter values from EPA Region 3 electronic database (EPA 1997b).
[f]Toxicological parameter values from HEAST database (EPA 1997a).
[g]Toxicological parameter values for phenanthrene do not exist. Anthracene was used as a surrogate.

COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
HEAST = Health Effects Assessment Summary Tables.
IRIS = Integrated Risk Information System.
mg/kg-d = Milligram(s) per kilogram per day.
$(mg/kg\text{-}day)^{-1}$ = Per milligram per kilogram per day.
RfD_{inh} = Inhalation chronic reference dose.
RfD_o = Oral chronic reference dose.
SF_{inh} = Inhalation slope factor.
SF_o = Oral slope factor.
SWMU = Solid Waste Management Unit.
– = Information not available.

Table 8
Radiological Toxicological Parameter Values for SWMU 2 COCs Obtained from RESRAD Risk Coefficients[a]

COC Name	SF_o (1/pCi)	SF_{inh} (1/pCi)	SF_{ev} (g/pCi-yr)	Cancer Class[b]
Tritium	7.2E-14	9.6E-14	0	A
U-238	6.20E-11	1.20E-08	6.60E-08	A
U-235	4.70E-11	1.30E-08	2.70E-07	A
Th-232	3.30E-11	1.90E-08	2.00E-11	A
Cs-137	3.20E-11	1.90E-11	2.10E-06	A

[a]From Yu et al. (1993a).
[b]EPA weight-of-evidence classification system for carcinogenicity (EPA 1989): A = Human carcinogen for high dose and high dose rate (i.e., greater than 50 rem per year). For low-level environmental exposures, the carcinogenic effect has not been observed and documented.
1/pCi = One per picocurie.
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
g/pCi-yr = Gram(s) per picocurie per year.
SF_{ev} = External volume exposure slope factor.
SF_{inh} = Inhalation slope factor.
SF_o = Oral (ingestion) slope factor.
SWMU = Solid Waste Management Unit.

- DCFs for surface contamination (contamination on the surface of the site) were taken from DOE/EH-0070, "External Dose-Rate Conversion Factors for Calculation of Dose to the Public" (DOE 1988).

- DCFs for volume contamination (exposure to contamination deeper than the immediate surface of the site) were calculated using the methods discussed in "Dose-Rate Conversion Factors for External Exposure to Photon Emitters in Soil" (Kocher 1983) and in ANL/EAIS-8, *Data Collection Handbook to Support Modeling the Impacts of Radioactive Material in Soil* (Yu et al. 1993b).

VI.6 Step 5. Exposure Assessment and Risk Characterization

Section VI.6.1 describes the exposure assessment for this risk assessment. Section VI.6.2 provides the risk characterization, including the HI and excess cancer risk for both the potential nonradiological COCs and associated background for industrial and residential land uses. The incremental TEDE and incremental estimated cancer risk are provided for the background-adjusted radiological COCs for both the industrial and residential land uses.

VI.6.1 Exposure Assessment

Appendix 1 provides the equations and parameter input values used to calculate intake values and subsequent HI and excess cancer risk values for the individual exposure pathways. The appendix shows parameters for both industrial and residential land use scenarios. The

equations for nonradiological COCs are based upon the RAGS (EPA 1989). Parameters are based upon information from the RAGS (EPA 1989), as well as other EPA guidance documents, and reflect the reasonable maximum exposure (RME) approach advocated by the RAGS (EPA 1989). For radiological COCs, the coded equations provided in RESRAD computer code are used to estimate the incremental TEDE and cancer risk for individual exposure pathways. Further discussion of this process is provided in the *Manual for Implementing Residual Radioactive Material Guidelines Using RESRAD* (Yu et al. 1993a).

Although the designated land use scenario for this site is industrial, risk and TEDE values for a residential land use scenario also are presented only to provide perspective of potential risk to human health under the more restrictive land use scenario.

VI.6.2 Risk Characterization

Table 9 shows an HI of 2 for the SWMU 2 nonradiological COCs and an estimated excess cancer risk of 5E-6 for the designated industrial land use scenario. The numbers presented include exposure from soil ingestion as well as dust and volatile inhalation for nonradiological COCs. Table 10 shows an HI of 0.01 and an excess cancer risk of 2E-6, assuming the maximum background concentrations of the SWMU 2 associated background constituents for the designated industrial land use scenario.

For the radiological COCs, contribution from the direct gamma exposure pathway is included. For the industrial land use scenario, a TEDE was calculated for an individual on the site that resulted in an incremental TEDE of 1.9E-2 millirems (mrem)/year (yr). In accordance with EPA guidance found in Office of Solid Waste and Emergency Response Directive No. 9200.4-18 (EPA 1997c), an incremental TEDE of 15 mrem/yr is used for the probable land use scenario (industrial in this case); the calculated dose value for SWMU 2 for the industrial land use scenario is well below this guideline. The estimated excess cancer risk is 3.9E-7.

For the residential land use scenario nonradiological COCs, the HI is 1010 and the estimated excess cancer risk is 9E-5 (Table 9). The numbers in the table include exposure from soil ingestion, dust and volatile inhalation, and plant uptake. Although EPA (EPA 1991) generally recommends that inhalation not be included in a residential land use scenario, this pathway is included because of the potential for soil in Albuquerque, New Mexico, to be eroded and, subsequently, for dust to be present in predominantly residential areas. Because of the nature of the local soil, other exposure pathways are not considered (see Appendix 1). Table 10 shows that for the SWMU 2 associated background constituents, the HI is 0.3 and the estimated excess cancer risk is 5E-5.

For the radiological COCs, the incremental TEDE for the residential land use scenario is 2.8E-7 mrem/yr. The guideline being used is an excess TEDE of 75 mrem/yr (SNL/NM February 1998) for a complete loss of institutional controls (residential land use in this case); the calculated dose value for SWMU 2 for the residential land use scenario is well below this guideline. Consequently, SWMU 2 is eligible for unrestricted radiological release as the residential land use scenario resulted in an incremental TEDE of less than 75 mrem/yr to the on-site receptor. The estimated excess cancer risk is 5.1E-12. The excess cancer risk from the nonradiological COCs and the radiological COCs is not additive, as noted in the RAGS (EPA 1989).

Table 9
Risk Assessment Values for SWMU 2 Nonradiological COCs

COC Name	Maximum Concentration (mg/kg)	Industrial Land Use Scenario[a]		Residential Land Use Scenario[a]	
		Hazard Index	Cancer Risk	Hazard Index	Cancer Risk
Arsenic	8.3	0.03	4E-6	0.47	9E-5
Barium	8100	0.12	–	1.21	–
Beryllium	4.2	0.00	2E-9	0.01	3E-9
Cadmium	740	1.45	3E-7	604.92	4E-7
Chromium, total	460	0.09	1E-6	0.37	2E-6
Mercury	180	0.59	–	310.05	–
Nickel	400	0.02	–	0.59	–
Selenium	250	0.05	–	87.95	–
Silver	110	0.02	–	4.54	–
Uranium	4.5	0.00	–	0.01	–
Acetone	0.019	0.00	–	0.00	–
Bis (2-ethylhexyl) phthalate	0.251 J	0.00	1E-9	0.00	9E-9
Butylbenzylphthalate	0.243 J	0.00	–	0.00	–
2-Chlorophenol	0.01 J	0.00	–	0.00	–
Di-n-butylphthalate	0.168 J	0.00	–	0.00	–
Diphenylamine	0.0809 J	0.00	–	0.00	–
Ethylbenzene	0.0043 J	0.00	–	0.00	–
Fluoranthene	0.0203 J	0.00	–	0.00	–
2-Hexanone	0.014 J	0.00	–	0.00	–
Methylene chloride	0.0073	0.00	5E-10	0.00	6E-8
Phenanthrene	0.0213 J	0.00	–	0.00	–
Phenol	0.0122 J	0.00	–	0.00	–
Pyrene	0.0234 J	0.00	–	0.00	–
Toluene	0.001 J	0.00	–	0.00	–
o-Xylene	0.014	0.00	–	0.00	–
p,m-Xylenes	0.021	0.00	–	0.00	–
Total		**2**	**5E-6**	**1010**	**9E-5**

[a]From EPA (1989).
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
J = Estimated value.
mg/kg = Milligram(s) per kilogram.
SWMU = Solid Waste Management Unit.
– = Information not available.

Table 10
Risk Assessment Values for SWMU 2 Nonradiological Background Constituents

COC Name	Background Concentration[a] (mg/kg)	Industrial Land Use Scenario[b]		Residential Land Use Scenario[b]	
		Hazard Index	Cancer Risk	Hazard Index	Cancer Risk
Arsenic	4.4	0.01	2E-6	0.25	5E-5
Barium	200	0.00	–	0.03	–
Beryllium	0.80	0.00	4E-10	0.00	6E-10
Cadmium	<1	–	–	–	–
Chromium, total	12.8	0.00	–	0.00	–
Mercury	<0.1	–	–	–	–
Nickel	25.4	0.00	–	0.04	–
Selenium	<1	–	–	–	–
Silver	<1	–	–	–	–
Uranium	2.3	0.00	–	0.01	–
Total		**0.01**	**2E-6**	**0.3**	**5E-5**

[a]From Dinwiddie (September 1997), North Super Group.
[b]From EPA (1989).
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
mg/kg = Milligram(s) per kilogram.
SWMU = Solid Waste Management Unit.
– = Information not available.

VI.7 Step 6. Comparison of Risk Values to Numerical Guidelines

The human health risk assessment analysis evaluated the potential for adverse health effects for both the industrial land use scenario (the designated land use scenario for this site) and the residential land use scenario.

For the industrial land use scenario nonradiological COCs, the HI is 2 (greater than the numerical guideline of 1 suggested in the RAGS [EPA 1989]). The estimated excess cancer risk is 5E-6. NMED guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (NMED March 2000); thus, the excess cancer risk for this site is below the suggested acceptable risk value. This assessment also determined risks considering background concentrations of the potential nonradiological COCs for both the industrial and the residential land use scenarios. Assuming the industrial land use scenario, for nonradiological COCs, using the background concentrations, the HI is 0.01 and the estimated excess cancer risk is 2E-6. Incremental risk is determined by subtracting risk associated with background concentrations from potential COC risk. These numbers are not rounded before the difference is determined and, therefore, may appear to be inconsistent with numbers presented in tables and within the text. For conservatism, the background constituents that do not have quantified background concentrations are assumed to have an HQ of 0.00. Incremental HI is 2.36 and the estimated incremental cancer risk is 3.30E-6 for the industrial land use scenario. The incremental HI is above the NMED guideline under an industrial land use scenario.

For the industrial land use scenario, incremental TEDE for radiological COCs is 1.9E-2 mrem/yr, which is significantly less than EPA's numerical guideline of 15 mrem/yr. Incremental estimated excess cancer risk is 3.9E-7.

The calculated HI for the residential land use scenario nonradiological COCs is 1010, which is above the numerical guidance. The estimated excess cancer risk was calculated to be 9E-5. NMED Guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (NMED March 2000); thus, the excess cancer risk for this site is above the suggested acceptable risk value. The HI for associated background for the residential land use scenario is 0.3; the estimated excess cancer risk is 5E-5. The incremental HI is 1009.79 and the estimated incremental cancer risk is 4.25E-5 for the residential land use scenario. The incremental HI and excess cancer risk are above the NMED guidelines under a residential land use scenario.

The incremental TEDE for a residential land use scenario from the radiological components is 2.8E-7 mrem/yr, which is significantly less than the numerical guideline of 75 mrem/yr suggested in the SNL/NM RESRAD Input Parameter Assumptions and Justification (SNL/NM February 1998). The estimated excess cancer risk is 5.1E-12.

VI.8 Step 7. Uncertainty Discussion

The determination of the nature, rate, and extent of contamination at SWMU 2 was based upon an initial conceptual model that was validated with excavated-soil sampling and confirmatory soil sampling conducted at the completion of the VCM. The VCM sampling was implemented in accordance with the SWMU 2 VCM Plan (SNL/NM December 1997) and subsequent sampling required by both NMED and EPA. The DQOs contained in the VCM plan are appropriate for use in risk screening assessments. The data collected, based upon sample location, density, and depth, are representative of the site and soil planned for excavation backfill. The analytical requirements and results satisfy the DQOs. Data quality was verified/validated in accordance with SNL/NM procedures (SNL/NM December 1999 and SNL/NM July 1996). Therefore, there is no uncertainty associated with the data quality used to perform the risk screening assessment at SWMU 2.

Because of the location, history of the site, and designated future land use (DOE et al. September 1995), there is low uncertainty in the land use scenario and the potentially affected populations that were considered in performing the risk assessment analysis. Because the COCs are found in surface and near-surface soils, and because of the location and physical characteristics of the site, there is little uncertainty in the exposure pathways relevant to the analysis.

An RME approach was used to calculate the risk assessment values. This means that the parameter values in the calculations are conservative and that calculated intakes are probably overestimates. Maximum COC concentrations measured in soil samples were used to provide conservative results.

Table 7 shows the uncertainties (confidence level) in nonradiological toxicological parameter values. There is a mixture of estimated values and values from the IRIS (EPA 1998), the HEAST (EPA 1997a), EPA Region 3 (EPA 1997b), and EPA Region 9 (EPA 1996) electronic databases. Where values are not provided, information is not available from these sources.

Because of the conservative nature of the RME approach, uncertainties in toxicological values are not expected to change the conclusion from the risk assessment analysis.

Total and incremental estimated excess cancer risk values for the COCs were below the NMED guideline for the industrial land use scenario. Although the total and incremental HIs were above the NMED guideline, the HI was conservatively estimated using maximum concentrations of the detected COCs. Because the site was adequately characterized, average concentrations were more representative of actual site conditions. When the UCLs of the mean concentrations for cadmium (18.5 mg/kg) and mercury (2.7 mg/kg) were used in place of the maximum concentrations, the total and incremental HIs were reduced to 0.4 and 0.37, respectively. Both values were within NMED guidelines considering an industrial land use scenario.

For radiological COCs, the conclusion of the risk assessment is that potential effects on human health for both industrial and residential land use scenarios are within guidelines and represent only a small fraction of the estimated 360 mrem/yr received by the average U.S. population (NCRP 1987).

The overall uncertainty in all of the steps in the risk assessment process is not considered to be significant with respect to the conclusion reached.

VI.9 Summary

SWMU 2 contains identified COCs consisting of some inorganic, organic, and radiological compounds. Because of the location of the site, the designated industrial land use scenario, and the nature of contamination, potential exposure pathways identified for this site included soil ingestion as well as dust and volatile inhalation for chemical COCs, and soil ingestion, dust inhalation, and direct gamma exposure for radionuclides. Plant uptake was included as an exposure pathway for the residential land use scenario only.

Using conservative assumptions and an RME approach to risk assessment, calculations for nonradiological COCs show that for the industrial land use scenario, the HI (2) is above the accepted numerical guidance from the EPA. Excess cancer risk was estimated to be 5E-6. Thus excess cancer risk is below the acceptable risk value provided by the NMED for an industrial land use scenario (NMED March 1998). The incremental HI is 2.36, and the incremental excess cancer risk is 3.30E-6 for the industrial land use scenario. The incremental HI is above the NMED guideline for the industrial land use scenario.

Although the total and incremental HIs were above the NMED guideline, the HI was conservatively estimated by applying maximum concentrations of the detected COCs. Because the site was adequately characterized, average concentrations were considered to be more representative of actual site conditions. When the UCLs of the mean concentrations for cadmium (18.5 mg/kg) and mercury (2.7 mg/kg) were used in place of the maximum concentrations, the total and incremental HIs were reduced to 0.4 and 0.37, respectively. Both values were within proposed guidelines under an industrial land use scenario.

Incremental TEDE and corresponding estimated cancer risk from radiological COCs are much lower than EPA guidance values; the estimated TEDE is 1.9E-2 mrem/yr for the industrial land use scenario. This value is much lower than EPA's numerical guidance of 15 mrem/yr (EPA 1997c). The corresponding incremental estimated cancer risk value is 3.9E-7 for the industrial

land use scenario. Furthermore, the incremental TEDE for the residential land use scenario that results from a complete loss of institutional control is only 2.8E-7 mrem/yr with an associated risk of 5.1E-12. The guideline for this scenario is 75 mrem/yr (SNL/NM February 1998). Therefore, SWMU 2 is eligible for unrestricted radiological release.

Uncertainties associated with the calculations are considered small relative to the conservatism of the risk assessment analysis. Therefore, it is concluded that this site poses no significant risk to human health under the industrial land use scenario.

Although PCBs were eliminated from the risk assessment according to TSCA screening procedures (Section VI.4.1.2), in accordance with EPA guidance, risk associated with the PCB concentrations was calculated. To evaluate the risk associated with PCBs, an assessment was performed using the sum of the UCLs of the mean PCB concentrations (0.165 mg/kg), assuming all the distributions were normal. The equation used to calculate the UCL was

$$UCL_{0.95} = \text{mean} + t_{0.95,\, n-1} * \text{standard deviation} / \text{square root of n}$$

Where n = number of samples

Values of t were taken from tables that featured the quantiles of the t distribution (values of t such that 100p% of the distribution is less than t_p).

The analysis included conservative assumptions regarding PCB composition and exposure scenario; the PCB concentration was assumed to be all Aroclor-1254 (most conservative) and direct soil exposure in a residential scenario was used. The risk calculation equations are based upon RAGS 1989 and 1992, as described in Appendix 1.

An HI of 0.07 and excess cancer risk of 3E-5 were calculated. This excess cancer risk estimate is within the acceptable 1E-4 to 1E-6 range generally allowed by EPA and, given the conservative assumptions used in the analysis, demonstrates that the risk posed by redeposition of the SWMU 2 soil is acceptable. The slope factors used in the excess cancer risk calculation were taken from the IRIS (2002) for Aroclor-1254. The slope factors were 2.0E+0 for the oral slope factor and 4.0E-1 for the inhalation slope factor.

A comparison to the self-implementing cleanup provisions under 40 CFR 761.61(a) that impose a cleanup level of 1 mg/kg for site cleanups with no further restrictions is also useful for comparison. Although the 1 mg/kg is a maximum level (not a UCL), EPA accepts the risk associated with this self-implementing value. Finally, the presence of RCRA constituents in the SWMU 2 soil will necessitate future land restrictions under RCRA. The site will be restricted to industrial use and the redeposited soils will be covered with 5 feet of clean fill. Given the conservative nature of the risk assessment and the land use restrictions imposed under RCRA, SNL/NM proposes that the risk associated with these PCB concentrations is acceptable.

VII. Ecological Risk Screening Assessment

VII.1 Introduction

This section addresses the potential for ecological risks associated with exposure to COCs in soil at SWMU 2. A component of the NMED Risk-Based Decision Tree (NMED March 1998) is to conduct an ecological screening assessment that corresponds with that presented in EPA's

Ecological RAGS (EPA 1997d). The current methodology contains an initial scoping assessment that determines the need for a more detailed screening assessment. The initial components of NMED's decision tree (a discussion of DQOs, data assessment, and evaluations of bioaccumulation, as well as fate and transport potential) are addressed in previous sections of this report. This section provides a discussion of whether complete exposure pathways exist at SWMU 2 between the COCs and potential ecological receptors. If it is determined that such pathways exist, the scoping assessment proceeds to a screening assessment, whereby a more quantitative estimate of ecological risk is conducted.

VII.2 Scoping Assessment

The scoping assessment focuses primarily on the likelihood of exposure of biota at or adjacent to the site to be exposed to constituents associated with site activities. As shown in Tables 4 and 5, COCs that exceed SNL/NM background screening values are present in the soil at SWMU 2. However, as stated in Section IV, all potentially contaminated soil at this site will be reburied and covered with an overlying cap consisting of 1.5 meters (approximately 5 feet) of clean fill. Based upon information provided in "Predictive Ecological Risk Assessment Methodology" (IT July 1998) regarding the limits of biological activity in soil at KAFB, this cap is expected to be of sufficient thickness to preclude contact between the COCs and biota. Therefore, no complete ecological pathways are expected to exist at this site. As a consequence, a screening assessment was not deemed necessary to predict the potential level of ecological risk associated with the site.

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APPENDIX 1
EXPOSURE PATHWAY DISCUSSION FOR CHEMICAL AND RADIONUCLIDE CONTAMINATION

Introduction

Sandia National Laboratories/New Mexico (SNL/NM) proposes that a default set of exposure routes and associated default parameter values be developed for each future land use designation being considered for SNL/NM Environmental Restoration (ER) project sites. This default set of exposure scenarios and parameter values would be invoked for risk assessments unless site-specific information suggested other parameter values. Because many SNL/NM solid waste management units (SWMU) have similar types of contamination and physical settings, SNL/NM believes that the risk assessment analyses at these sites can be similar. A default set of exposure scenarios and parameter values will facilitate the risk assessments and subsequent review.

The default exposure routes and parameter values suggested are those that SNL/NM views as resulting in a Reasonable Maximum Exposure (RME) value. Subject to comments and recommendations by the U.S. Environmental Protection Agency (EPA) Region VI and New Mexico Environment Department (NMED), SNL/NM proposes that these default exposure routes and parameter values be used in future risk assessments.

At SNL/NM, all SWMUs exist within the boundaries of the Kirtland Air Force Base (KAFB). Approximately 157 potential waste and release sites have been identified where hazardous, radiological, or mixed materials may have been released to the environment. Evaluation and characterization activities have occurred at all of these sites to varying degrees. Among other documents, the SNL/NM ER draft Environmental Assessment (DOE 1996) presents a summary of the hydrogeology of the sites, the biological resources present and proposed land use scenarios for the SNL/NM SWMUs. At this time, all SNL/NM SWMUs have been tentatively designated for either industrial or recreational future land use. The NMED has also requested that risk calculations be performed based upon a residential land use scenario. All three land use scenarios will be addressed in this document.

The SNL/NM ER project has screened the potential exposure routes and identified default parameter values to be used for calculating potential intake and subsequent Hazard index (HI), excess cancer risk and dose values. The EPA (EPA 1989a) provides a summary of exposure routes that could potentially be of significance at a specific waste site. These potential exposure routes consist of:

- Ingestion of contaminated drinking water
- Ingestion of contaminated soil
- Ingestion of contaminated fish and shellfish
- Ingestion of contaminated fruits and vegetables
- Ingestion of contaminated meat, eggs, and dairy products

- Ingestion of contaminated surface water while swimming
- Dermal contact with chemicals in water
- Dermal contact with chemicals in soil
- Inhalation of airborne compounds (vapor phase or particulate)
- External exposure to penetrating radiation (immersion in contaminated air, immersion in contaminated water, and exposure from ground surfaces with photon-emitting radionuclides).

Based upon the location of the SNL/NM SWMUs and the characteristics of the surface and subsurface at the sites, we have evaluated these potential exposure routes for different land use scenarios to determine which should be considered in risk assessment analyses (the last exposure route is pertinent to radionuclides only). At SNL/NM SWMUs, currently no consumption of fish, shellfish, fruits, vegetables, meat, eggs, or dairy occurs for products that originate on site. Additionally, no potential for swimming in surface water is present due to the high-desert environmental conditions. As documented in the RESRAD computer code manual (ANL 1993), risks resulting from immersion in contaminated air or water are not significant compared to risks from other radiation exposure routes.

For the industrial and recreational land use scenarios, SNL/NM ER has, therefore, excluded the following four potential exposure routes from further risk assessment evaluations at any SNL/NM SWMU:

- Ingestion of contaminated fish and shellfish
- Ingestion of contaminated fruits and vegetables
- Ingestion of contaminated meat, eggs, and dairy products
- Ingestion of contaminated surface water while swimming.

That part of the exposure pathway for radionuclides related to immersion in contaminated air or water also is eliminated.

For the residential land use scenario, we will include ingestion of contaminated fruits and vegetables because of the potential for residential gardening.

Based upon this evaluation, for future risk assessments the exposure routes that will be considered are shown in Table 1. Dermal contact is included as a potential exposure pathway in all land use scenarios. However, the potential for dermal exposure to inorganic compounds is not considered significant and will not be included. In general, the dermal exposure pathway is generally not considered to be significant relative to water ingestion and soil ingestion pathways, but will be considered for organic components. Because of the lack of toxicological parameter values for this pathway, the inclusion of this exposure pathway into risk assessment calculations may not be possible and may be part of the uncertainty analysis for a site where dermal contact is potentially applicable.

Table 1
Exposure Pathways Considered for Various Land Use Scenarios

Industrial	Recreational	Residential
Ingestion of contaminated drinking water	Ingestion of contaminated drinking water	Ingestion of contaminated drinking water
Ingestion of contaminated soil	Ingestion of contaminated soil	Ingestion of contaminated soil
Inhalation of airborne compounds (vapor phase or particulate)	Inhalation of airborne compounds (vapor phase or particulate)	Inhalation of airborne compounds (vapor phase or particulate)
Dermal contact	Dermal contact	Dermal contact
External exposure to penetrating radiation from ground surfaces	External exposure to penetrating radiation from ground surfaces	Ingestion of fruits and vegetables
		External exposure to penetrating radiation from ground surfaces

Equations and Default Parameter Values for Identified Exposure Routes

In general, SNL/NM expects that ingestion of compounds in drinking water and soil will be the more significant exposure routes for chemicals; external exposure to radiation also may be significant for radionuclides. All of the above routes will, however, be considered for their appropriate land use scenarios. The general equations for calculating potential intakes via these routes are shown below. The equations are from the Risk Assessment Guidance for Superfund (RAGS): Volume 1 (EPA 1989a, 1991). These general equations also apply to calculating potential intakes for radionuclides. A more in-depth discussion of the equations used in performing radiological pathway analyses with the RESRAD code may be found in the RESRAD Manual (ANL 1993). Also shown are the default values SNL/NM ER suggests for use in RME risk assessment calculations for industrial, recreational, and residential scenarios, based upon EPA and other governmental agency guidance. The pathways and values for chemical contaminants are discussed first, followed by those for radionuclide contaminants. RESRAD input parameters that are left as the default values provided with the code are not discussed. Further information relating to these parameters may be found in the RESRAD Manual (ANL 1993).

Generic Equation for Calculation of Risk Parameter Values

The equation used to calculate the risk parameter values (i.e., hazard quotients/hazard index [HI], excess cancer risk, or radiation total effective dose equivalent [dose]) is similar for all exposure pathways and is given by:

Risk (or Dose) = Intake x Toxicity Effect (either carcinogenic, noncarcinogenic, or radiological)

$$= C \times (CR \times EFD/BW/AT) \times \text{Toxicity Effect} \quad (1)$$

where

C = contaminant concentration (site specific)
CR = contact rate for the exposure pathway
EFD = exposure frequency and duration
BW = body weight of average exposure individual
AT = time over which exposure is averaged.

The total risk/dose (either cancer risk or HI) is the sum of the risks/doses for all of the site-specific exposure pathways and contaminants.

The evaluation of the carcinogenic health hazard produces a quantitative estimate for excess cancer risk resulting from the constituents of concern (COC) present at the site. This estimate is evaluated for determination of further action by comparison of the quantitative estimate with the potentially acceptable risk range of 1E-6 for Class A and B carcinogens and 1E-5 for Class C carcinogens. The evaluation of the noncarcinogenic health hazard produces a quantitative estimate (i.e., the HI) for the toxicity resulting from the COCs present at the site. This estimate is evaluated for determination of further action by comparison of this quantitative estimate with the EPA standard HI of unity (1). The evaluation of the health hazard due to radioactive compounds produces a quantitative estimate of doses resulting from the COCs present at the site.

The specific equations used for the individual exposure pathways can be found in RAGS (EPA 1989a) and the RESRAD Manual (ANL 1993). Table 2 shows the default parameter values suggested for used by SNL/NM at SWMUs, based upon the selected land use scenario. References are given at the end of the table indicating the source for the chosen parameter values. The intention of SNL/NM is to use default values that are consistent with regulatory guidance and consistent with the RME approach. Therefore, the values chosen will, in general, provide a conservative estimate of the actual risk parameter. These parameter values are suggested for use for the various exposure pathways based upon the assumption that a particular site has no unusual characteristics that contradict the default assumptions. For sites for which the assumptions are not valid, the parameter values will be modified and documented.

Summary

SNL/NM proposes the described default exposure routes and parameter values for use in risk assessments at sites that have an industrial, recreational or residential future land use scenario. There are no current residential land use designations at SNL/NM ER sites, but this scenario has been requested to be considered by the NMED. For sites designated as industrial or recreational land use, SNL/NM will provide risk parameter values based upon a residential land use scenario to indicate the effects of data uncertainty on risk value calculations or in order to potentially mitigate the need for institutional controls or restrictions on SNL/NM ER sites. The parameter values are based upon EPA guidance and supplemented by information from other government sources. The values are generally consistent with those proposed by Los Alamos National Laboratory, with a few minor variations. If these exposure routes and parameters are acceptable, SNL/NM will use them in risk assessments for all sites where the assumptions are consistent with site-specific conditions. All deviations will be documented.

Table 2
Default Parameter Values for Various Land Use Scenarios

Parameter	Industrial	Recreational	Residential
General Exposure Parameters			
Exposure frequency	8 hr/day for 250 day	4 hr/wk for 52 wk/yr	350 day/yr
Exposure duration (yr)	25[a,b]	30[a,b]	30[a,b]
Body weight (kg)	70[a,b]	70 adult[a,b] 15 child	70 adult[a,b] 15 child
Averaging Time (days) for carcinogenic compounds (= 70 y x 365 day/yr) for noncarcinogenic compounds (= ED x 365 day/yr)	25,550[a] 9,125	25,550[a] 10,950	25,550[a] 10,950
Soil Ingestion Pathway			
Ingestion rate	100 mg/day[c]	200 mg/day child 100 mg/day adult	200 mg/day child 100 mg/day adult
Inhalation Pathway			
Inhalation rate (m^3/yr)	5,000[a,b]	260[d]	7,000[a,b,d]
Volatilization factor (m^3/kg)	Chemical specific	chemical specific	chemical specific
Particulate emission factor (m^3/kg)	1.32E9[a]	1.32E9[a]	1.32E9[a]
Water Ingestion Pathway			
Ingestion rate (liter/day)	2[a,b]	2[a,b]	2[a,b]
Food Ingestion Pathway			
Ingestion rate (kg/yr)	NA	NA	138[b,d]
Fraction ingested	NA	NA	0.25[b,d]
Dermal Pathway			
Surface area in water (m^2)	2[b,e]	2[b,e]	2[b,e]
Surface area in soil (m^2)	0.53[b,e]	0.53[b,e]	0.53[b,e]
Permeability coefficient	Chemical specific	chemical specific	chemical specific

[a]Risk Assessment Guidance for Superfund, Vol. 1, Part B (EPA 1991).
[b]Exposure Factors Handbook (EPA 1989b).
[c]EPA Region VI guidance.
[d]For radionuclides, RESRAD (Argonne National Laboratory, 1993. *Manual for Implementing Residual Radioactive Material Guidelines Using RESRAD*, Version 5.0, ANL/EAD/LD-2, Argonne National Laboratory, Argonne, IL. 1993) is used for human health risk calculations; default parameters are consistent with RESRAD guidance.
[e]Dermal Exposure Assessment (EPA 1992).
ED = Exposure duration.
EPA = U.S. Environmental Protection Agency.
hr = Hour.
kg = Kilogram(s).
m^2 = Square meter(s).
m^3 = Cubic meter(s).
mg = Milligram(s).
NA = Not available.
wk = Week.
yr = Year.

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Addendum to NFA
October 2004

ESHSEC

National Nuclear Security Administration
Sandia Site Office
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

OCT 0 6 2006

CERTIFIED MAIL--RETURN RECEIPT REQUESTED

Mr. James Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Road East, Building 1
Santa Fe, NM 87505

Dear Mr. Bearzi:

On behalf of the Department of Energy (DOE) and Sandia Corporation, DOE is submitting the final report for the cleanup of the Classified Waste Landfill (CLWL), at Sandia National Laboratories, New Mexico (SNL/NM), EPA ID Number: NM5890110518. The CLWL is designated as SWMU 2 under the Hazardous and Solid Waste Amendments (HSWA) Module to the Resource Conservation and Recovery Act (RCRA) Permit for SNL/NM, as implemented by the New Mexico Environment Department (NMED).

The cleanup of SWMU 2 was undertaken by the SNL/NM Environmental Restoration Project as a Voluntary Corrective Measure (VCM). During the VCM, soil sampling results indicated the presence of low concentrations of polychlorinated biphenyls (PCBs). At that time, DOE sought approval from the Environmental Protection Agency Region 6 to complete the VCM, addressing Toxic Substance Control Act (TSCA) requirements in a risk-based disposal request under 40 CFR 761.61(c). The request documented the SNL/NM approach to characterization sampling, backfill and decontamination operations, and verification sampling. EPA approved, with conditions, the remaining TSCA-related VCM activities. Prior to making a final determination under RCRA, NMED required that all EPA-approved activities be implemented and documented.

The enclosed report, "No Further Action Proposal Addendum and Toxic Substance Control Act Backfill Report for Solid Waste Management Unit 2 - Classified Waste Landfill at Technical Area II," documents the activities conducted following the EPA approval of the 761.61(c) request and serves as the Final Report for SWMU 2 under both RCRA and TSCA.

Under TSCA, this Final Report documents the characterization and verification sampling methodology, the analytical techniques used, the analytical results, the decontamination process and results, and the disposition of wastes.

Under RCRA, this Final Report documents all confirmatory soil sampling activities and results, the materials and processes used to complete the backfill operations,

and a final risk assessment. This report also serves as a No Further Action (NFA) Addendum, providing information relevant to the previously requested NFA determination pending before NMED.

If you have any questions, please contact John Gould at (505) 845-6089.

Sincerely,

Patty Wagner

Patty Wagner
Manager

Enclosure

cc w/enclosure:
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Sandia National Laboratories/New Mexico
Environmental Restoration Project

NO FURTHER ACTION PROPOSAL ADDENDUM AND TOXIC SUBSTANCES CONTROL ACT FINAL REPORT FOR SOLID WASTE MANAGEMENT UNIT 2— CLASSIFIED WASTE LANDFILL AT TECHNICAL AREA II

September 2004

United States Department of Energy
Sandia Site Office

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

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ACRONYMS AND ABBREVIATIONS

ACF	American Car & Foundry
amsl	above mean sea level
bgs	below ground surface
CFR	Code of Federal Regulations
CLWL	Classified Waste Landfill
cm^2	square centimeter(s)
COC	constituent of concern
COPEC	constituent of potential ecological concern
CPM	counts per minute
CSM	Conceptual Site Model
cy	cubic yard(s)
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
g	gram(s)
GEL	General Engineering Laboratories, Inc.
GPS	Global Positioning System
HE	high explosive
HI	hazard index
HQ	hazard quotient
HSWA	Hazardous and Solid Waste Amendments
HWMF	Hazardous Waste Management Facility
KAFB	Kirtland Air Force Base
kg	kilogram(s)
L	liter(s)
MDA	minimum detectable activity
µg	microgram(s)
mg	milligram(s)
mrem	millirem(s)
NFA	No Further Action
NMED	New Mexico Environment Department
PCB	polychlorinated biphenyl
pCi	picocurie(s)
PID	photoionization detector
PPE	personal protective equipment
ppm	part(s) per million
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
RPSD	Radiation Protection Sample Diagnostics
SAP	Sampling and Analysis Plan
SNL/NM	Sandia National Laboratories/New Mexico
STL	Severn Trent Laboratories
SVOC	semivolatile organic compound
SWMU	Solid Waste Management Unit
TA	Technical Area
TEDE	total effective dose equivalent
TSCA	Toxic Substances Control Act
UCL	upper confidence limit

ACRONYMS AND ABBREVIATIONS (Concluded)

VCM	Voluntary Corrective Measure
VOC	volatile organic compound
W-pits	western pits
yr	year

1.0 INTRODUCTION

The Classified Waste Landfill (CLWL) is a solid waste management unit (SWMU) under the Resource Conservation and Recovery Act (RCRA) permit for Sandia National Laboratories/New Mexico (SNL/NM). The CLWL, designated as SWMU 2, has been investigated and remediated under the Hazardous and Solid Waste Amendments (HSWA) to RCRA, as implemented by the New Mexico Environment Department (NMED).

The cleanup of SWMU 2 was undertaken by the SNL/NM Environmental Restoration (ER) Project as a Voluntary Corrective Measure (VCM), an option provided in the HSWA module of the RCRA permit. During the VCM, SWMU 2 was excavated, buried material (mostly classified) was separated from the soil, and the soil was stockpiled on site pending sampling and analysis to determine whether the soil was suitable for use as backfill. At this stage, the NMED requested additional characterization of the soil piles, including sampling for polychlorinated biphenyls (PCBs).

The soil sampling results indicated the presence of low concentrations of PCBs (up to 5.58 parts per million [ppm]). Because PCBs are regulated by the U.S. Environmental Protection Agency (EPA) under the Toxic Substances Control Act (TSCA), approval was sought from EPA Region 6 to complete the VCM, including characterization sampling, backfill and decontamination operations, and verification sampling. The EPA approved, with conditions, the remaining TSCA-related VCM activities. Prior to making a final determination under RCRA, the NMED required that all EPA-approved activities be implemented and documented.

This report documents the activities conducted in accordance with the EPA approval and serves as the Final Report for SWMU 2 under both RCRA and TSCA.

Under RCRA, this Final Report documents confirmatory soil sampling activities and results as well as the materials and processes used to complete the backfill operations and provides a final risk assessment. This report also serves as a No Further Action (NFA) Proposal Addendum, providing information relevant to the previously requested NFA determination pending before the NMED.

Under TSCA, this Final Report summarizes the characterization and verification sampling methodology as well as the analytical techniques used and documents the analytical results, the decontamination process and results, and the disposition of decontamination wastes.

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2.0 DESCRIPTION OF SWMU 2

SWMU 2, the Classified Waste Landfill, encompasses approximately 1.5 acres in the eastern portion of Technical Area (TA)-II at SNL/NM (Figures 2-1 and 2-2). TA-II is located on land leased by the U.S. Department of Energy within the boundaries of Kirtland Air Force Base (KAFB).

2.1 Physical Setting

SWMU 2 is situated immediately west of the Tijeras Arroyo rim and approximately 60 feet in elevation above the floodplain. The annual precipitation for the area, as measured at Albuquerque International Sunport, is 8.1 inches (NOAA 1990). No springs or perennial surface-water bodies are located within 4 miles of the site. During most rainfall events, rainfall quickly infiltrates the soil at SWMU 2. However, virtually all of the moisture subsequently undergoes evapotranspiration. The estimates of evapotranspiration rates for the KAFB area range from 95 to 99 percent of the annual rainfall (Thompson and Smith 1985, SNL/NM February 1998a). Most of the land surrounding SWMU 2 is unpaved, and no storm sewers are used to direct surface water. The site is not within the 100-year (yr) Tijeras Arroyo floodplain and is located approximately 1,400 feet northwest of the active channel, which flows only several times each year at Powerline Road. Tijeras Arroyo, the most significant surface-water drainage feature on KAFB, originates in Tijeras Canyon, which is bounded by the Sandia Mountains to the north and the Manzanita Mountains to the south. The arroyo trends southwest along the southern edge of the site, eventually draining into the Rio Grande, located approximately 8.5 miles west of SWMU 2.

TA-II lies at the southeastern boundary of the East Mesa on a broad pediment that gently slopes west toward the Rio Grande. Surface drainage across the East Mesa follows the pediment slope westward toward the Rio Grande. The topography at TA-II is nearly flat with elevations ranging from 5,420 feet above mean sea level (amsl) at the northeastern boundary to about 5,410 feet amsl at the southwestern boundary.

Based upon data from monitoring wells at TA-II, a perched groundwater zone occurs above the regional aquifer beneath SWMU 2. The perched zone is approximately 320 feet below ground surface (bgs), while the regional aquifer is approximately 520 feet bgs. The closest downgradient production well is KAFB-1, located approximately 1.4 miles northwest of the site.

2.2 Operational History

SWMU 2 was used to dispose of classified materials, primarily weapons components, by direct burial from 1947 until 1987. Until 1958, no disposal records were kept. After 1958, although available, disposal records did not provide substantial information on the landfill contents.

Disposal consisted of burying materials in unlined, open trenches, although nine individual pits were also identified. The trenches were cut in an east-west orientation. Material was dumped into a trench and covered up, creating a series of discrete "cells" within each trench. The trenches were approximately 8 to 12 feet deep and stopped at a layer of caliche (native

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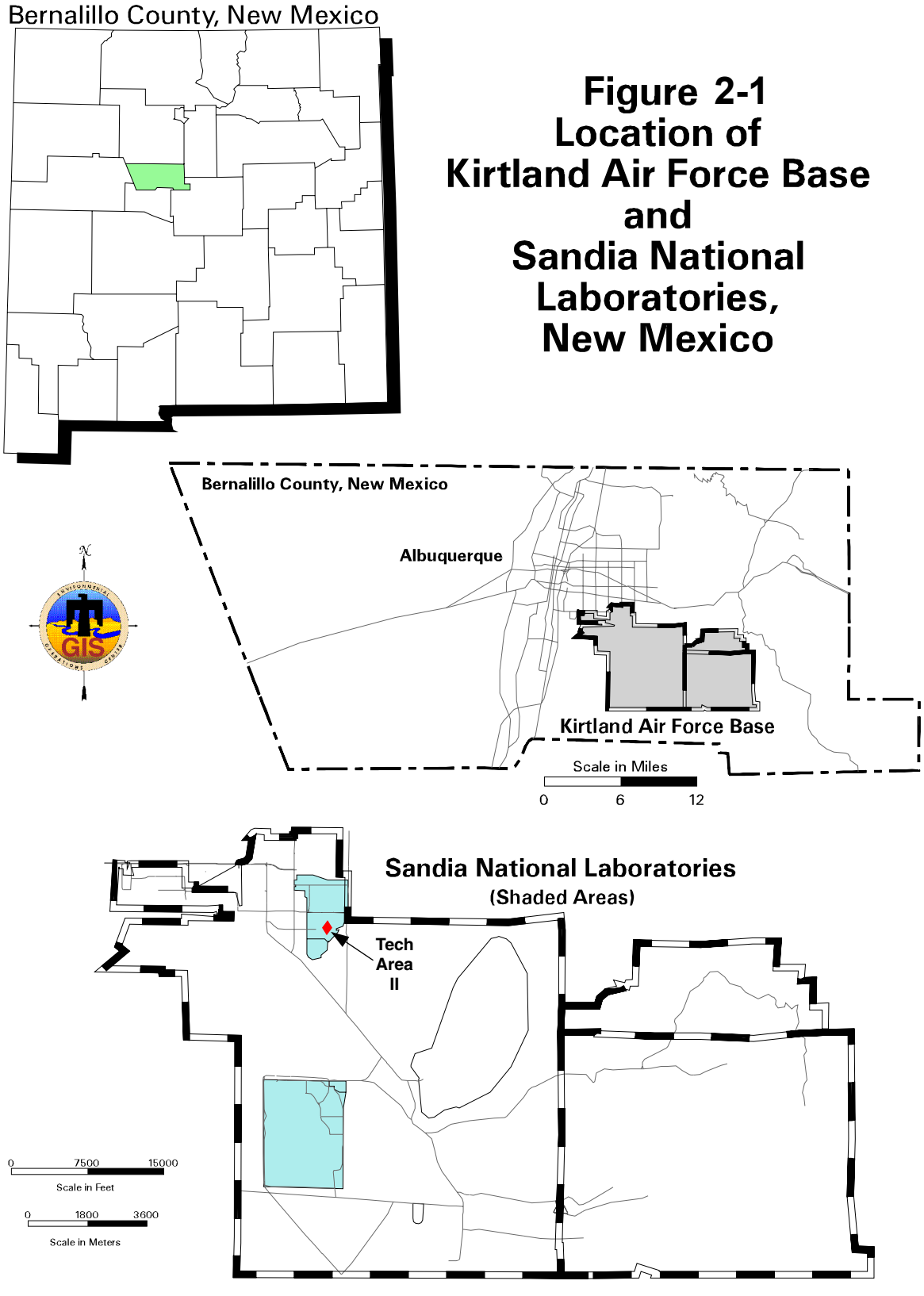

Figure 2-1 Location of Kirtland Air Force Base and Sandia National Laboratories, New Mexico

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Sandia National Laboratories, New Mexico
Environmental Geographic Information System

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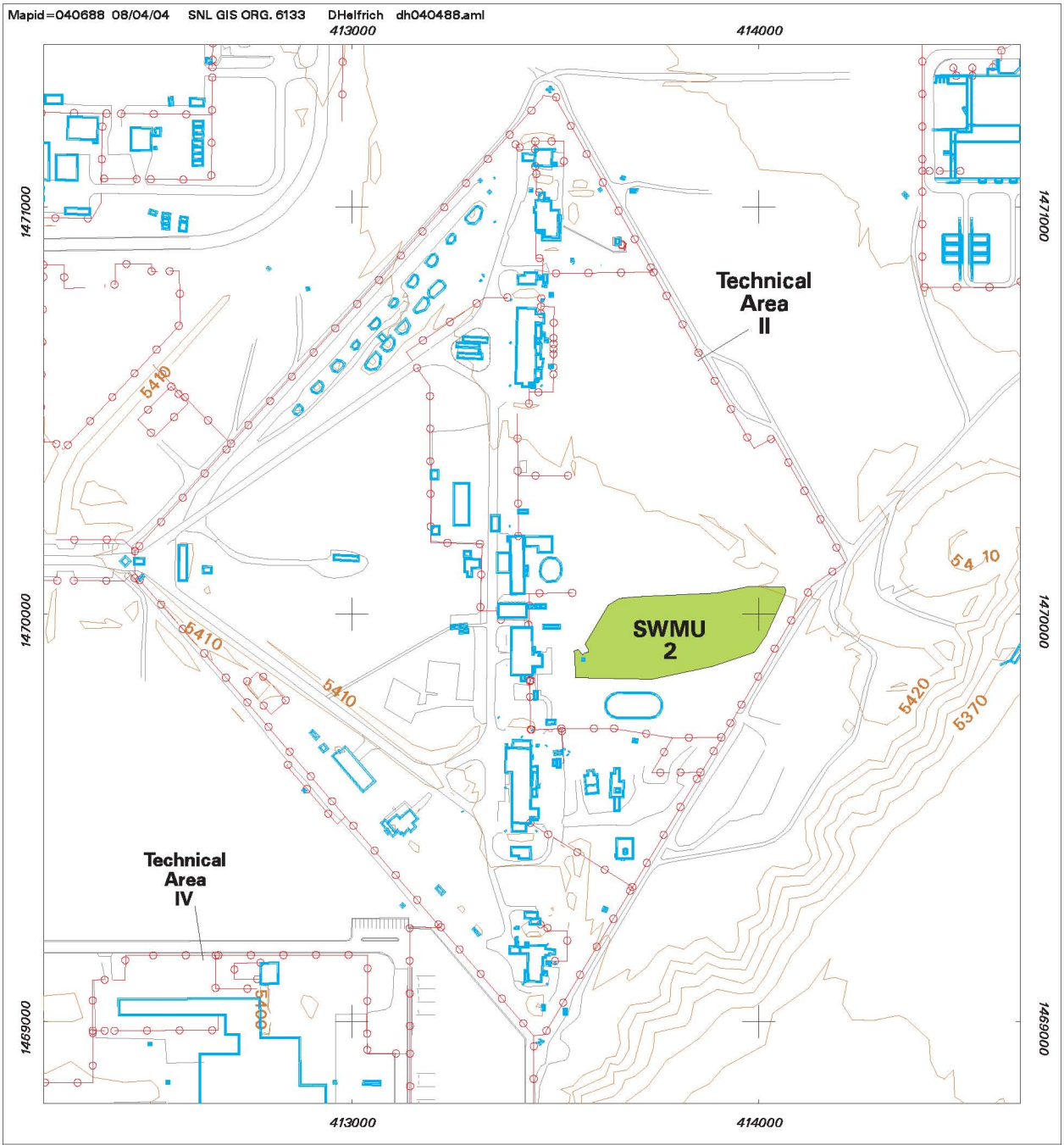

Figure 2-2
Location of SWMU 2, Classified Waste Landfill within TA-II

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

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soil hardened with calcium carbonate). The individual trenches, approximately 8 to 12 feet wide, varied in length from approximately 100 to 300 feet. Five disposal pits on the east side of the landfill proper were used to dispose of material from the former American Car & Foundry (ACF) plant. Four more pits, designated as the western pits (W-pits), were identified west of the landfill and were found to be 15 to 18 feet deep. None of the trenches or pits were lined or contained any type of leachate barriers or monitoring devices.

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3.0 SWMU 2 REMEDIATION ACTIVITIES

A chronology of remediation activities conducted prior to initiating the backfill operations at SWMU 2 is provided in Table 3-1. These activities are summarized in the following sections.

3.1 VCM Activities

SWMU 2 was excavated as a VCM under RCRA corrective action authority. The VCM Plan was submitted to the NMED in December 1997 (SNL/NM December 1997). The VCM activities, conducted between March 1998 and February 2000, resulted in the excavation of approximately 30,000 cubic yards (cy) of soil and approximately 1.5 million pounds of material. This material primarily consisted of metallic shapes, thermal batteries, electronic components, and wooden boxes. No drums of solvents or containers of other liquids were buried. The landfill was excavated by digging out one pit or trench disposal cell at a time, then separating the material, soil, and cobble fractions for further characterization and management. The depth of the excavated pits and trenches ranged from 10 to 18 feet, with an average depth of approximately 12 feet. Further details of VCM activities, such as the excavation and material sorting processes, types and volumes of materials excavated, waste characterization and disposition activities, and final geophysical surveys of the excavation may be found in the SWMU 2 NFA proposal (SNL/NM September 2001).

3.2 Post-VCM Activities

In August 2000, following the VCM excavation and final geophysical surveys, confirmatory soil samples were collected from the excavation floor and sidewalls. Following the analysis of these samples, the NMED requested additional characterization to verify that potential constituents of concern (COCs) listed in the VCM Plan and original Sampling and Analysis Plan (SAP) (SNL/NM February 1998b) were below concentrations that could pose a risk to human health or the environment. An addendum to the SAP (SNL/NM June 2001) was submitted to the NMED, and the sampling was conducted in June 2001. Analysis of these samples indicated the presence of low concentrations of PCBs in the soil piles. Because of schedule constraints, the NFA proposal for SWMU 2 was submitted in September 2001. At that time, SNL/NM committed to submit an addendum to the NFA proposal addressing the issues concerning the PCB-contaminated soil piles at the site.

The NMED and EPA Region 6 were verbally notified about the presence of PCB contamination in the soil piles in July 2001. The cleanup and subsequent management of PCBs at SWMU 2 were discussed with EPA Region 6 in May 2002. The formal request for approval of risk-based disposal of PCBs in the soil at SWMU 2 was submitted to EPA Region 6 in September 2002 (SNL/NM August 2002). The addendum to the NFA proposal for SWMU 2 presenting the additional October and November 2001 data, a revised risk assessment, and revisions to the soil pile disposition strategy was submitted to the NMED in December 2002 (SNL/NM December 2002). For the PCB risk-based disposal request a 45-day Notice for Public Comment period commenced on March 27, 2003, and expired on May 12, 2003, without any comments received. The EPA accepted the PCB cleanup proposal pursuant to 40 CFR 761.61(c) and the alternative decontamination procedure for equipment pursuant to 40 CFR 761.79(h) on June 12, 2003 (Edlund June 2003). The approval allowed for the soil excavated

Table 3-1
Chronology of SWMU 2 Remediation Activities

Timeframe	SNL/NM ER Project Activity
12-97	Submitted VCM Plan to NMED
02-98	Issued SAP
03-98–02-00	Completed VCM and characterization of excavated soil
08-00	Collected and analyzed confirmatory samples for metals, VOCs, radionuclides, gamma spectroscopy, and tritium
06-01	Submitted addendum to the SAP to NMED
06-01	Collected additional samples that were analyzed for potential COCs
07-01	Verbally notified EPA Region 6 about the presence of PCB contamination in the SWMU 2 soil piles
09-01	Submitted SWMU 2 NFA proposal to NMED
10-01–11-01	Submitted samples collected from soil piles for PCB analysis
05-02	Discussed clean-up and disposal of PCBs at SWMU 2 with EPA Region 6
09-02	Submitted Approval Request for Risk-Based Disposal of PCBs in Soil at SWMU 2 formally to EPA Region 6
12-02	Submitted addendum to the NFA proposal for SWMU 2 to NMED
03-27-03–05-12-03	Completed Public Comment period for PCB risk-based disposal request with no comments received
06-12-03	EPA Region 6 accepted PCB cleanup and equipment decontamination proposal with Conditions of Approval

COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
NFA = No Further Action.
NMED = New Mexico Environment Department.
PCB = Polychlorinated biphenyl.
SAP = Sampling and Analysis Plan.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.
VOC = Volatile organic compound.

during the VCM to be deposited back into the CLWL excavation and stipulated that the final 5 feet of backfill would be clean fill soil. Clean fill soil was defined as soil containing COCs at concentrations that allow ecological and human health risk assessments to pass criteria under an industrial land-use scenario.

4.0 SWMU 2 BACKFILL MATERIAL CHARACTERIZATION

The following sections summarize the sampling and analysis events associated with the characterization of material used to backfill and grade the SWMU 2 excavation and operational areas. The analytical results for characterization samples collected are presented in Appendix A. Chapter 10.0 includes a summary of the soil samples associated with the data tables provided in Appendix A. Because the disposal conditions approved by EPA Region 6 (Edlund June 2003) require that clean soil be used in the 0- to 5-foot-bgs interval, the data for this interval are identified separately from the data associated with soil placed deeper than 5 feet bgs. The analytical results for samples collected between March 1998 and November 2001 are presented in Tables A-1 through A-14 in Appendix A. These data are discussed in further detail in the request for risk-based disposal of PCBs in soil at SWMU 2 (SNL/NM August 2002) and in the addendum to the SWMU 2 NFA proposal (SNL/NM December 2002). The analytical results for Soil Pile 39, final verification samples, and TA-III Borrow Pit Soil are discussed in Sections 4.5 through 4.7.

4.1 March 1998 and February 2000 Characterization of VCM Excavation

During the VCM excavation of the pits and trenches conducted between March 1998 and February 2000, the excavated soil was sampled. Soil characterization was performed to:

- Determine the nature and extent of potential contamination
- Monitor COC concentrations for health and safety and waste management decisions
- Compare COC concentrations to Preliminary Remediation Goals as an initial step in determining whether soil could be used as backfill material pending the final risk assessment
- Provide data for the final human health and ecological risk assessments

Soil characterization included both field-screening and laboratory analyses. Field-screening included metals analysis by x-ray fluorescence, soil headspace analysis for volatile organic compounds (VOCs) using a photoionization detector (PID), and radionuclide characterization by using in situ Large Area Gamma Spectroscopy and portable alpha- and beta-gamma detectors. Additional details of the VCM field-screening activities are provided in the SWMU 2 NFA proposal (SNL/NM September 2001).

Soil samples were submitted for laboratory analysis at a ratio of 1:20 field-screening samples. VOCs were analyzed by EPA Method 8260; semivolatile organic compounds (SVOCs) by EPA Method 8270; high explosive (HE) compounds by EPA Method 8330 (or equivalent); RCRA metals plus beryllium, nickel, and uranium by EPA Methods 6010/7000 and 6020; gamma spectroscopy radionuclides by EPA Method 901.1 (or equivalent); and tritium by EPA Method 906.0 (EPA November 1986). Qualitative tritium measurements also were performed using liquid scintillation counting.

Laboratory analyses for VOCs in the soil were discontinued in August 1999 because of the low number of detections since March 1998, low concentrations of the VOCs that were detected, and continued lack of contamination indicated by visual observation and PID field-screening. Additional VOC samples were collected in June 2001.

SVOC analyses were discontinued in December 1998 because the material in the landfill was largely intact, despite oxidized metal surfaces. No stained soil was observed during the excavation, and no containers that may have contained liquids were found. Additional SVOC samples were collected in June 2001.

HE analyses were discontinued when no HE compounds were detected in suspect materials that were analyzed. Sampling of the excavated soil for HE compounds also was discontinued early in the project when it became apparent that no bulk HE or explosive compounds had been disposed of in the landfill. No additional HE samples were collected in June 2001.

4.2 March and April 1998 and August 2000 Confirmatory Samples

In August 2000, following the VCM excavation and final geophysical surveys, confirmatory soil samples were collected from the excavation floor and sidewalls. The off-site laboratory (General Engineering Laboratories, Inc. [GEL]) analyzed all confirmatory soil samples for RCRA metals plus beryllium, nickel, and uranium by EPA Method 6010/7000 and tritium by EPA Method 906.0 (EPA November 1986). Gamma spectroscopy analyses were performed at the SNL/NM Radiation Protection Sample Diagnostics (RPSD) Laboratory. No samples for VOC or SVOC analyses were collected in August 2000.

Samples collected in March and April 1998 from the bases of the excavated ACF and W-pits were also considered confirmatory samples. These samples were analyzed for VOCs, SVOCs, RCRA metals plus beryllium, nickel, and uranium, and radionuclides, including tritium.

4.3 June 2001 Sampling and Characterization

The original VCM Plan stated that if the excavated soil passed risk-based criteria, it would be used for backfill. In order to prove acceptability of the soil for backfill, additional soil pile samples were required by the NMED.

As summarized in the SAP addendum (SNL/NM June 2001), each of the 22 potentially contaminated piles and 13 of the 100 sample locations (10 percent) in the potentially uncontaminated (large) soil piles were sampled in June 2001 for VOCs, SVOCs, PCBs, tritium, and gross alpha/beta activity.

The soil piles were sampled in the following manner. The smaller soil piles were sampled using a backhoe to dig into the approximate center of each pile. A horizontal sampling grid was established over the larger soil piles to define "cells" approximately 400 cy in volume. An excavator was used to dig down into the approximate center of each cell where a sample was collected.

4.4 October to November 2001 PCB Sampling

The analytical results from the June 2001 sampling event indicated that low levels of PCBs were present in the SWMU 2 excavated soil. After October 2001 discussions with Ms. Kathryn Thomas of EPA Region 6, it was decided that the 42 soil piles would be characterized for PCBs by sampling at a frequency of one sample per 100 cy for the soil piles and on a grid with 50-foot centers from the floor and sides of the VCM excavation. In October and November 2001, the original sample locations in the VCM excavation and the "cells" established for the June 2001 soil pile sampling were resampled for PCB analysis. The maximum PCB concentration was 5.58 ppm

4.5 June 2003 Sampling of Soil Pile 39

Soil Pile 39 was created from CLWL overburden excavated during the early phase of the VCM and was constructed to provide site personnel blast shielding from gas cylinders that could potentially be breached during excavation activities. Process knowledge indicated this soil pile would be appropriate for use as clean fill. To confirm process knowledge, Soil Pile 39 was sampled in June 2003 at a minimum frequency of one sample per 100 cy. An excavator was used to dig down into the soil pile to collect samples at various depths at 12 different locations. The samples were analyzed for RCRA metals plus beryllium, nickel, and uranium, PCBs, and gross alpha/gross beta activity at GEL. Gamma spectroscopy and tritium analyses were performed on site at the SNL/NM RPSD Laboratory. The analytical results for these samples are presented in Appendix A, Tables A-15 through A-19. The results for the 18 samples are discussed in the following sections and confirm that the soil from Soil Pile 39 meets the criteria for use as clean fill.

4.5.1 Metals

Table A-15 presents the analytical results for RCRA metals plus beryllium, nickel, and uranium. All results were below the established background values with the exception of five samples in which mercury was detected above the background concentration of less than 0.1 milligram (mg)/kilogram (kg); the mercury concentrations for these five samples were 0.102, 0.11, 0.146, 0.491, and 0.512 mg/kg.

4.5.2 PCBs

The PCB analytical results are provided in Table A-16. The maximum concentration of total PCBs detected in the samples was 0.0117 mg/kg. No detectable amounts of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, or Aroclor-1248 were found in the samples. Sixteen of the eighteen samples contained detectable amounts of Aroclor-1254; the detectable concentrations ranged from 0.0012 J to 0.0096 mg/kg. Two of the samples contained detectable amounts of Aroclor-1260 at concentrations of 0.0017 J and 0.0021 J mg/kg.

4.5.3 Gross Alpha/Gross Beta Activity

Table A-17 presents the results for the gross alpha and beta analyses. Gross alpha-emitters were detected in the 18 samples with results ranging from 2.86 to 14.2 picocuries (pCi)/gram (g). Gross beta-emitters were detected in the 18 samples with results ranging from 10.1 to 43.6 pCi/g.

4.5.4 Radionuclides

The gamma spectroscopy analyses of the Soil Pile 39 samples are presented in Table A-18. Cesium-137 was not detected in any of the samples; none of the minimum detectable activity (MDA) values exceeded background activity. Thorium- 232 was detected in all of the 18 samples, but all detected activities were below the established background value of 1.54 pCi/g. Uranium-235 was not detected in the samples. Uranium-238 was detected in three of the samples. The detections ranged from 0.426 to 0.687 pCi/g, which are below the background value of 1.3 pCi/g.

4.5.5 Tritium

Table A-19 provides the results for the tritium analysis. Tritium was detected in all 18 samples with activities ranging from 301 to 31,200 pCi/liter (L). Sixteen of the samples exceeded the SNL/NM-established background activity of 420 pCi/L (Tharp February 1999).

4.6 October 2003 to February 2004 Verification Sampling

Verification samples were collected from the areas where the soil piles had been located to ensure that all PCB-contaminated soil had been removed during the backfill operations. The soil samples were analyzed for RCRA metals plus beryllium, nickel, and uranium as well as PCBs at Severn Trent Laboratories (STL) in St. Louis, Missouri. The analytical results for the verification samples are presented in Appendix A (Tables A-20 and A-21) and are discussed in the following sections.

4.6.1 Metals

Table A-20 presents the analytical results for RCRA metals plus beryllium, nickel, and uranium. Samples collected at the surface (0 to 0.5 inches bgs) at 72 locations yielded the following results:

- Arsenic was detected in all of the samples at concentrations ranging from 2.5 to 5.3 mg/kg. One sample had an arsenic concentration (5.3 mg/kg) above the established background value of 4.4 mg/kg.
- Barium was detected in all of the samples at concentrations ranging from 90.6 to 280 mg/kg. Eight of the samples had concentrations (208 to 280 mg/kg) above the established background value of 200 mg/kg.

- Beryllium was detected in all of the samples. The detected concentrations were below the background value of 0.8 mg/kg.

- Cadmium was detected in 54 of the samples at concentrations ranging from 0.088 J to 49.4 mg/kg. The results for 37 of the samples, with cadmium concentrations ranging from 0.96 to 49.4 mg/kg, were above the established background value of 0.9 mg/kg. The second highest concentration of cadmium was 7.9 mg/kg, suggesting that the sample containing 49.4 mg/kg of cadmium was not representative of the cadmium concentrations at the surface of the site.

- Chromium was detected in all of the samples at concentrations ranging from 5.4 to 18.2 mg/kg. The results for four of the samples with chromium concentrations of 13.0, 14.3, 16.6, and 18.2 mg/kg were above the established background value of 12.8 mg/kg.

- Lead was detected in all of the samples at concentrations ranging from 4.4 to 75.6 mg/kg. Twenty of the samples, ranging from 11.4 to 75.6 mg/kg, contained lead concentrations above the established background value of 11.2 mg/kg.

- Mercury was detected in 69 of the samples at concentrations ranging from 0.021 J to 3.1 mg/kg. Fifty-three of the samples had concentrations ranging from 0.1 to 3.1 mg/kg. The established background concentration for mercury is less than 0.1 mg/kg.

- Nickel was detected in all of the samples at concentrations ranging from 5.4 to 17.9 mg/kg. These results were below the established background value of 25.4 mg/kg.

- Selenium was detected in four of the samples at concentrations of 0.22 J, 0.27 J, 1.3, and 4.5 mg/kg. The established background concentration for selenium is less than 1 mg/kg.

- Silver was detected in 42 of the samples at concentrations ranging from 0.042 J to 3.4 mg/kg. Five of the samples contained concentrations of 1.3, 2.5, 2.6, 3.1, and 3.4 mg/kg. The established background concentration for silver is less than 1 mg/kg.

- Uranium was not detected in any of the verification samples.

4.6.2 PCBs

The results of the PCB analyses performed on samples collected at 79 locations are presented in Table A-21. There were no detectable amounts of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, or Aroclor-1260 in the samples. The samples at Locations 34 and 69 initially contained concentrations of Aroclor-1254 greater than 1 mg/kg. As discussed in Section 6.3.2, the PCB-contaminated soil was removed from these areas and additional verification sampling was performed. The data provided in Table A-21 represent the analytical results following the removal of the PCB-contaminated soil. Fifty-two samples had detectable amounts of Aroclor-1254 with concentrations ranging from 0.033 to 0.91 mg/kg.

4.7 April 2002 Sampling of TA-III Borrow Pit Soil

Because the volume of soil excavated during the VCM activities was not sufficient to complete the backfilling to grade, it was necessary to obtain clean fill from another source. After consultation with the NMED, clean fill from the TA-III borrow pit established for SWMU 74, the Chemical Waste Landfill, was selected as the source for this additional clean fill. This soil was sampled at a minimum frequency of one sample per 3,000 cy and was analyzed for RCRA metals plus beryllium and nickel, VOCs, SVOCs, PCBs, and radiological constituents in April 2002. Nine samples, including one duplicate sample, were analyzed. Tables containing the analytical results for the TA-III borrow pit soil are provided in Appendix A (Tables A-22 through A-27) and are discussed in the following sections. These analytical results confirm that the TA-III borrow pit soil meets the criteria for use as clean fill.

4.7.1 Metals

Table A-22 presents the analytical results for RCRA metals plus beryllium and nickel. The results for the nine samples were below the established background values for all constituents.

4.7.2 PCBs

Table A-23 presents the PCB analytical results. These samples contained no detectable amounts of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, or Aroclor-1260. One sample had a detectable concentration of Aroclor-1254 (0.003 J mg/kg).

4.7.3 VOCs

Table A-24 provides the results for the VOC analyses. The samples contained no detectable concentrations of acetone, ethylbenzene, 2-hexanone, or xylene. The maximum trichloroethene concentration for the six sample was 0.00088 J mg/kg. One sample had detectable amounts of methylene chloride (0.000889 J mg/kg), toluene (0.000432 J mg/kg), and trichloroethene (ranging from 0.000438 J to 0.00088 J mg/kg). All detected VOC concentrations are listed in Table A-24.

4.7.4 SVOCs

Table A-25 presents the results of the SVOC analyses. The samples contained no detectable concentrations of anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, butylbenzylphthalate, 2-chlorophenol, diphenylamine, fluoranthene, pentachlorophenol, phenanthrene, phenol, or pyrene. One sample had a detectable amount of di-n-butylphthalate (0.0266 J mg/kg). All of the samples had detectable concentrations of bis(2-ethylhexyl) phthalate ranging from 0.0201 J to 0.0607 J mg/kg. All detected SVOC concentrations are listed in Table A-25.

4.7.5 Radionuclides

The gamma spectroscopy analyses of the TA-III borrow pit samples are presented in Table A-26. Cesium-137 was detected in all of the samples with activities ranging from 0.017 to 0.378 pCi/g. Seven samples had activities above the established background of 0.084 pCi/g for cesium-137. Five samples had detectable activities for uranium-235 ranging from 0.0703 to 0.196 pCi/g. The activity of one sample (0.196 pCi/g) was above the established background of 0.18 pCi/g. Eight samples had activities for uranium-238 ranging from 0.66 to 1.23, which were below the established background of 1.3 pCi/g. One of the uranium-238 results was not usable.

4.7.6 Tritium

Table A-27 provides the results for the tritium analysis. Tritium was detected in three of the samples with activities ranging from 237 to 258 pCi/L. These activities are below the SNL/NM-established background activity of 420 pCi/L (Tharp February 1999).

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5.0 SWMU 2 BACKFILL MATERIALS

5.1 Criteria for Use of Material as Backfill

According to the VCM Plan (SNL/NM December 1997), excavated soil that passed the SNL/NM ER Project risk-based criteria would be used as a source of clean fill soil to backfill the SWMU 2 excavation (see Section 3.2).

A risk assessment was presented to the EPA in the "Approval Request for Risk-Based Disposal of PCBs in Soil at Environmental Restoration Project SWMU 2, Classified Waste Landfill" (SNL/NM August 2002) and to the NMED in the addendum to the SWMU 2 NFA proposal (SNL/NM December 2002). The risk assessment demonstrated that the CLWL met risk-based criteria with a 5-foot layer of clean fill placed to grade within the excavation. Due to residual metals and PCB concentrations, a 5-foot layer of clean soil was required to preclude contact between the COCs and biota.

As discussed in Section 6.1.4, the existing SWMU 2 analytical data were evaluated prior to initiating the backfill operations to identify soil from the CLWL excavation that would meet the criteria as clean fill for use in the 0- to 5-foot-bgs depth interval. The results of the ecological risk assessment presented in Chapter 10.0 demonstrate that the soil used as clean fill meets the most restrictive risk criteria for construction of the 5-foot layer of clean fill, including total PCB concentrations of less than 1 ppm.

5.2 Description of Backfill Material

Backfill materials consisted of mechanically screened rock and soil from the SWMU 2 excavation and clean soil from the TA-III borrow pit located west of the Chemical Waste Landfill. The following sections provide a brief description of the materials used to complete backfilling of the CLWL excavation to grade.

5.2.1 Rock/Cobbles

Mechanically screened rock/cobbles from the excavated soil that were greater than 4 inches in diameter were placed in the bottom of the excavation and serve as the excavation bottom layer. Measurements and calculations estimated the volume at 1,400 cy.

5.2.2 Backfill from the CLWL

SWMU 2 was backfilled next with soil excavated from the CLWL during the March 1998 to February 2000 VCM. This soil was mechanically screened to remove material greater than 4 inches in diameter. Measurements and calculations estimated the partially compacted volume at 28,800 cy.

5.2.3 Backfill from the TA-III Borrow Pit

Soil from the TA-III borrow pit was used as SWMU 2 backfill in Lifts 10 through 15. This soil was originally intended for use as clean fill at SWMU 74, the Chemical Waste Landfill, and was mechanically screened to remove material greater than 4 inches in diameter. Measurements and calculations estimated the noncompacted volume used at SWMU 2 to be 5,100 cy.

6.0 SWMU 2 BACKFILL OPERATIONS

Backfill operations at SWMU 2 were conducted between April 9 and September 30, 2003. The activities included pre-backfill actions and the placement and compaction of backfill materials in the excavation. A schedule delineating the backfill activities is provided in Table 6-1. These activities are briefly described in the following sections.

6.1 Pre-Backfill Activities

Activities performed prior to commencing the SWMU 2 backfill operations consisted of:

- Consolidating and mechanically screening the soil piles
- Surveying the soil piles and excavation to obtain volume estimates
- Preparing the excavation slopes and floor
- Compiling and evaluating existing SWMU 2 analytical data

The following sections discuss the pre-backfill activities.

6.1.1 Consolidation and Mechanical Screening of Soil Piles

During the first stage of the backfill activities, soil piles were consolidated to provide space in which to conduct screening operations and permit more efficient hauling of backfill materials into the excavation. Backfill soil was mechanically screened to remove rocks greater than 4 inches in diameter. This was done to permit adequate soil compaction and ensure the engineered properties of the soil would mitigate subsidence. Soil Piles 1 through 9, 13, 16 through 18, 21, and 22 were mechanically screened during the VCM activities. Soil Piles 31 through 34, 37, and 39 were mechanically screened during the pre-backfill activities.

Four consolidated soil piles were formed to provide space for the backfill activities and improve the efficiency of the operations. Soil Piles 1 through 9 and 13 were consolidated into Soil Pile 40, and Soil Piles 16 through 18 were consolidated into Soil Pile 41. Soil Pile 42 consisted of soil from Soil Piles 23 through 29 and characterization samples that were used for laboratory analyses. Soil Pile 43 was comprised of soil from Soil Piles 31 through 34 and 37. The screened soil from Soil Pile 43 was temporarily placed on top of Soil Pile 38 because of space limitations within SWMU 2 that precluded a segregated location. After the screening process was complete, the soil from Soil Pile 43 was removed from the top of Soil Pile 38 and returned to its original location. Because soil from Soil Pile 43 was used to construct the 5-foot-thick layer of clean soil, care was taken to ensure that Soil Pile 38 did not become mixed with the soil from Soil Pile 43.

Details of the soil pile consolidation and mechanical screening efforts are provided in Table 6-1, Schedule of SWMU 2 Backfill Activities. Table 6-2 identifies the soil piles that were created during the VCM, how they were consolidated during the backfill operations, their estimated volumes, and their final placement in the SWMU 2 excavation. Figure 6-1 illustrates the configuration of soil and rock piles as they existed at the beginning of the pre-backfill activities. Figure 6-2 shows the consolidated soil and rock piles after the pre-backfilling actions were completed.

Table 6-1
Chronology of SWMU 2 Backfill Activities

Date	Activity
04-09-03–04-15-03	Implement site preparation activities.
04-15-03–04-23-03	Consolidate CLWL soil piles; Soil Piles 1–9 and 13 consolidated into Soil Pile 40; Soil Piles 16–18 consolidated into Soil Pile 41; Soil Piles 23–29 consolidated into Soil Pile 42; Soil Piles 31–34 and 37 consolidated into Soil Pile 43.
05-06-03	Start screening CLWL Soil Pile 43; place screened soil on top of Soil Pile 38.
05-06-03–06-02-03	Prepare City of Albuquerque Surface Disturbance Permit.
05-14-03–06-07-03	Finish screening CLWL Soil Pile 43; place screened soil on top of Soil Pile 38.
05-21-03–06-12-03	Evaluate sample data to develop detailed strategy for placement of soil in CLWL excavation; CLWL soil piles and CLWL excavation are surveyed to obtain more accurate estimate of soil volumes to be placed into excavation.
06-04-03	City of Albuquerque approves Surface Disturbance Permit.
06-13-03	Receive estimates of soil piles and excavation from surveyors; estimated 24,100 cy of soil and 29,500 excavation volume; GPS estimate is 27,900 cy soil and 31,000 excavation volume.
06-17-03 06-25-03	Define preliminary data set for ecological risk assessment.
06-24-03 06-25-03	Reshape, level, and compact excavation.
06-26-03	Empty CLWL soil sample into Soil Pile 41.
06-27-03	Mark locations for sampling of CLWL Soil Pile 39 (blast berm soil).
06-30-03	Sample Soil Pile 39 for analysis of metals and radiological constituents (samples taken for every 100 cy soil); preliminary ecological risk assessment indicates moderate risk to some wildlife receptors due to PCBs and levels inhibitive of plant growth for cadmium, mercury, selenium, and silver.
07-02-03	Begin developing new strategy for backfilling CLWL that will minimize the ecological risk.
07-14-03	Empty CLWL soil samples into Soil Pile 42.
07-16-03	Finalize strategy for backfilling the CLWL to minimize ecological risk; begin CLWL backfill operations; rip bottom of excavation, add water and verify adequate moisture in bottom of excavation; begin placement of rock layer in bottom of excavation.
07-21-03	Complete placement of rock layer in bottom of excavation; begin screening soil from Soil Pile 39; begin placement of 8-inch layer of contaminated soil over rock.
07-22-03	Begin segregating Soil Pile 43 soil from Soil Pile 38 soil.
07-23-03	Complete placement of 8-inch layer of soil over rock using soil from Soil Piles 21, 22, 35, 36, 40, 41, and 42; begin Lift 1 using soil from Soil Pile 40.
07-31-03	Complete segregating Soil Pile 43 soil from Soil Pile 38 soil.
08-01-03	Complete screening soil from Soil Pile 39; mark area of Soil Pile 38 containing soil with PCB concentrations >1 ppm.
08-05-03	Complete Lift 1 using soil from Soil Pile 40, west side of Soil Pile 38, and soil from Soil Pile 30; complete details for decontaminating heavy equipment.

Refer to footnotes at end of table.

Table 6-1 (Continued)
Chronology of SWMU 2 Backfill Activities

Date	Activity
08-06-03	Complete Lift 2 using soil from west side of Soil Pile 38 and soil scrapings from haul roads between soil piles and excavation; set up decontamination pad and begin decontamination of heavy equipment.
08-07-03	Complete Lift 3 using soil from west side of Soil Pile 38.
08-13-03	Begin collection of PCB wipes from decontaminated heavy equipment.
08-15-03	Complete Lift 4 using soil from Soil Pile 38.
08-19-03	Complete Lift 5 using soil from Soil Pile 38.
08-20-03	Complete Lift 6 using soil from Soil Pile 38; complete decontamination of heavy equipment.
08-21-03	Disassemble decontamination pad.
08-22-03	Complete Lift 7 using soil from Soil Pile 38.
08-26-03	Receive Excavation Permit 0308-456 issued for scraping operational areas.
08-27-03	Begin receiving PCB wipe results from heavy equipment.
08-28-03	Complete Lift 8 using soil from Soil Pile 38, rock from site haul roads, and rock mechanically screened from Soil Pile 39.
09-03-03	Complete Lift 9 using soil from Soil Piles 38 and 43.
09-05-03	Complete Lift 10 using soil from Soil Pile 38, Soil Pile 39, and TA-III borrow pit.
09-08-03	Complete collection of PCB wipes from decontaminated heavy equipment.
09-09-03	Complete Lift 11 using soil from Soil Pile 38, Soil Pile 39, and TA-III borrow pit.
09-11-03	Complete Lift 12 using soil from Soil Pile 38, Soil Pile 39, and TA-III borrow pit.
09-15-03	Complete Lift 13 using soil from Soil Pile 38 and TA-III borrow pit; NMED approves verification sample locations.
09-17-03	Complete Lift 14 using soil from Soil Pile 38 and TA-III borrow pit.
09-18-03	Receive all PCB wipe results from heavy equipment; all results less than 10 mg/kg.
09-26-03	Complete Lift 15 using soil from TA-III borrow pit; blade/final grade CLWL excavation; CLWL backfill complete.
09-29-03–09-30-03	Conduct site cleanup activities.
11-05-03	Deliver waste from heavy equipment decontamination to the SWTF for disposal in regulated landfill.
02-10-04	Remove approximately 30 cy of PCB-contaminated soil from area around Sample Locations 34 and 69 using a skid steer loader with a bucket attachment.
02-11-04	Collect verification samples around areas where PCB-contaminated soil was removed (AR/COC 607170).
02-18-04	Receive PCB results for AR/COC 607170; Sample Location 76 contains Aroclor-1254 at a concentration of 2.0 ppm.
02-26-04	Remove approximately 15 cy of PCB-contaminated soil from around Sample Location 76 using a skid steer loader with a bucket attachment.
02-27-04	Collect verification samples around area where PCB-contaminated soil was removed (AR/COC 607251).
03-02-04	Transfer PCB-contaminated soil (3 roll-off containers) to the HWMF for disposal at Rio Rancho facility.

Refer to footnotes at end of table.

Table 6-1 (Concluded)
Chronology of SWMU 2 Backfill Activities

Date	Activity
03-17-04	Receive PCB results for AR/COC 607251; sample results indicate area clean of PCB-contaminated soil.
03-18-04	Take PCB wipes of skid steer bucket (AR/COC 607364); no decontamination required because bucket is clean.
03-19-04	Fill areas where PCB-contaminated soil was removed with soil from TA-III borrow pit (approximately 45 cy).
03-30-04	Receive results from AR/COC 607364; results invalid because of high recovery for LCS/LCSD; collect new PCB wipe from skid steer bucket for analysis (AR/COC 607462).
04-05-04	Receive PCB results for AR/COC 607251; sample results indicate skid steer bucket is clean.

AR/COC = Analysis Request/Chain of Custody.
CLWL = Classified Waste Landfill.
cy = Cubic yard(s).
ft = Foot (feet).
GPS = Global Positioning System.
HWMF = Hazardous Waste Management Facility.
LCS/LCSD = Laboratory control sample/laboratory control sample duplicates.
mg/kg = Milligram(s) per kilogram.
NMED = New Mexico Environment Department.
PCB = Polychlorinated biphenyl.
ppm = part(s) per million.
SWMU = Solid Waste Management Unit.
SWTF = Solid Waste Transfer Facility.
TA = Technical Area.

Table 6-2
Summary of SWMU 2 Soil Pile Consolidation and Utilization

VCM Soil Pile No.[a]	Consolidated Soil Pile No.	Estimated Volume (GPS Method) (cy)	Maximum Total PCB Concentration (ppm)	Placement in SWMU 2 Excavation
1	40	300	5.58	Over bottom rock layer; Lift 1
2				
3				
4				
5				
6				
7				
8				
9				
13				
16	41	100	0.0098	Over bottom rock layer
17				
18				
21	21	20	2.32	Over bottom rock layer
22	22	10	0.0678	Over bottom rock layer
23	42	150	0.637	Over bottom rock layer
24				
25				
26				
27				
28				
29				
30	30	720	0.2343	Lift 1
31	43	11,000	0.14	Lift 9
32				
33				
34				
37				
35	35	400	0.418	Over bottom rock layer
36	36	400	1.2352	Over bottom rock layer
38 (west side of soil pile)	38	3,000	2.15	Lifts 1–3
38 (other than west side of soil pile)	38	10,600	0.296	Lifts 3–14
39	39	1,200	0.069	Lift 8

[a]VCM Soil Piles 10, 11, 12, 14, 15, 19, and 20 did not exist at the beginning of the backfill activities.
cy = Cubic yard(s).
GPS = Global Positioning System.
PCB = Polychlorinated biphenyl.
ppm = Part(s) per million.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.

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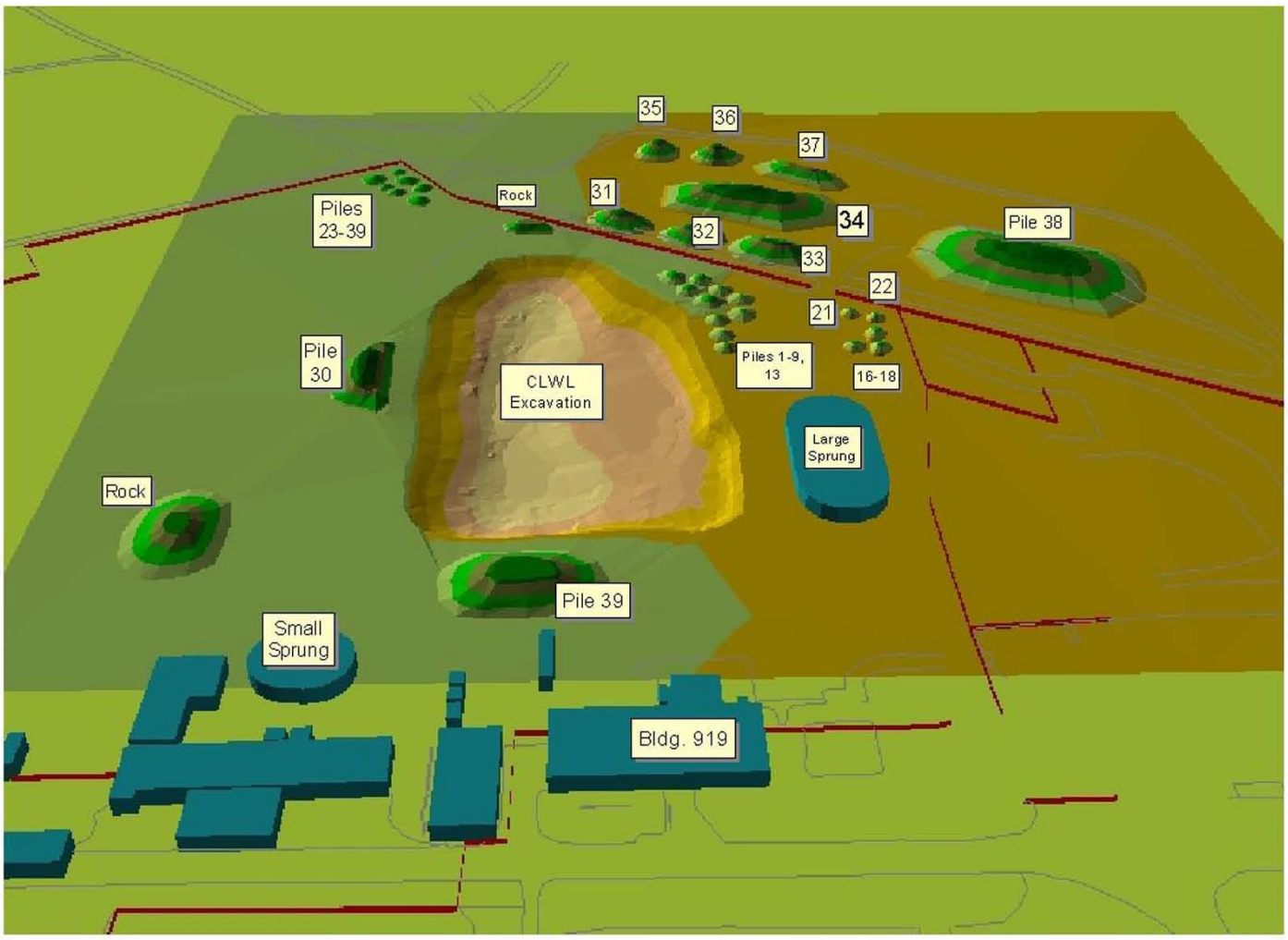

Road
Fence
Building / Structure
Pre-backfill Excavation
Elevation Range
5432-5434
5429-5432
5425-5429
5421-5425
5418-5421
5414-5418
5411-5414
5407-5411
5404-5407

Figure 6-1
Classified Waste Landfill
Pre-backfill Excavation
and Soil Piles
April 9, 2003
(oblique view to East)

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Road
Fence
Building / Structure
Reshaped Excavation
Elevation Range
5430-5434
5427-5430
5424-5427
5420-5424
5417-5420
5414-5417
5410-5414
5407-5410
5404 5407

Figure 6-2
Classified Waste Landfill after Excavation Reshaping and Soil Pile Consolidation
June 26, 2003
(oblique view to East)

Sandia National Laboratories, Tech. Area II
Environmental Geographic Information System

6.1.2 Excavation and Backfill Material Volume Estimates

Estimates of the CLWL excavation and backfill material volumes were developed to facilitate the detailed planning of the SWMU 2 backfill operations. Two independent volume estimates were made. One estimate was derived from topographical surveys performed by URS Corporation; the other was provided by the Environmental Geographic Information System and utilized Global Positioning System (GPS) data. These methods estimated the excavation volume to be between 29,500 and 31,000 cy. The volume of backfill material from the excavation was estimated to be between 24,100 and 27,900 cy. This indicated that approximately 5,000 cy of clean soil would be needed to complete the backfill. Soil from the TA-III borrow pit was selected as a source of backfill material because it had been characterized for use at SWMU 74, the Chemical Waste Landfill, and was previously accepted by the NMED as suitable backfill material.

6.1.3 Excavation Preparation

Soil erosion since completion of the VCM in February 2000 resulted in uneven and unstable excavation sidewalls and floor. Because of safety and soil compaction concerns, it was necessary to prepare the excavation prior to installing the backfill materials.

The excavation was reshaped and graded to establish a relatively level floor so that the placement of soil in even 12-inch lifts could be accomplished in an efficient manner and the soil could be uniformly compacted. The excavation sidewalls were sloped to approximately 30 degrees to comply with Occupational Safety and Health Administration regulations. The excavation shaping included wetting down and compacting the sidewalls and floor to establish stable surfaces, achieve proper soil moisture, and control fugitive dust.

Ramps were constructed in the northwest and southeast corners of the excavation to ensure safe access and egress of heavy equipment during the backfill operations. An earthen berm, approximately 1.5 feet high, was constructed around the outer perimeter of the excavation to prevent surface water from entering or leaving the excavation area.

6.1.4 Evaluation of Existing SWMU 2 Analytical Data

EPA Region 6 approved the request for risk-based disposal of PCB-contaminated soil on June 12, 2003, with the stipulation that clean fill must be used to construct the 0- to 5-foot-bgs interval of the backfill (Edlund June 2003). Scoping assessments indicated that the uppermost layer was required to preclude contact between the elevated concentrations of COCs and the biota. These scoping assessments are further discussed in the request for risk-based disposal of PCBs in soil at SWMU 2 (SNL/NM August 2002) and the addendum to the SWMU 2 NFA proposal (SNL/NM December 2002).

Previous risk assessments presented in the NFA proposal (SNL/NM September 2001) did not specify the concentrations of COCs that were permissible to achieve the risk-based goals for clean fill. Therefore, pre-backfill evaluations of the existing SWMU 2 analytical data were performed to identify the clean fill that could be used to construct the 5-foot layer. In addition, these evaluations were also critical to determine the optimum sequence for placing the backfill material in the excavation when considering both operational factors and risk-based criteria.

Iterations of the preliminary ecological risk assessments are documented in ER Logbook No. 092. The concentration of Aroclor-1254 was used as the primary criteria for determining the order in which soil would be placed into the excavation. Concentrations of metals were of secondary concern as the soil containing high concentrations of PCBs also contained the highest concentrations of metals. The pre-backfill ecological risk assessments indicated an acceptable level of risk could be achieved by using soil from consolidated Soil Pile 43, Soil Pile 39, and portions of Soil Pile 38 with low concentrations of PCBs for the upper 5 feet of backfill.

The order in which the soil was placed into the excavation during the backfill operations is detailed in Section 6.2. The final ecological risk assessment based upon concentrations of COCs in the soil comprising the upper 5-foot layer is discussed in Chapter 10.0.

6.2 Placement and Compaction of Backfill Material

As outlined in the backfill and compaction plan for SWMU 2 (SNL/NM August 2003), the placement of backfill material in the excavation was as follows. The rock that was mechanically screened from the excavated soil was placed on the floor of the excavation as a marker layer. The soil having the highest PCB and metals concentrations was placed and compacted on top of the rock layer. Relatively cleaner material was then placed at shallower depths and compacted. The following sections provide details of the backfill material placement and compaction.

6.2.1 Placement of Backfill Material

The placement of backfill material in the excavation was accomplished from July 16 through September 26, 2003, as described in the chronology provided in Table 6-1. A summary of the placement of each lift is shown in Table 6-3. Table 6-4 provides a description of the backfill material associated with each lift. This section presents a brief account of the placement of backfill material into the CLWL excavation.

The installation of the backfill material began with a rock marker layer at a depth of approximately 16 feet bgs. Prior to installing this marker layer, the bottom of the excavation floor was ripped, and water was added to achieve adequate moisture content. An 8-inch layer of soil containing higher concentrations of PCBs and metals (soil from Soil Piles 21, 22, 35, 36, 40, 41, and 42) was then placed on top of the marker layer and compacted. Figure 6-3 shows the excavation with the marker layer completed but before being covered with the soil layer.

Lifts 1 through 3 were completed to an elevation of approximately 12 feet bgs as follows. Lift 1 was completed using the remainder of contaminated soil from Soil Pile 40. Soil Pile 30, consisting of soil with relatively low concentrations of PCBs and metals, was also placed in Lift 1 to permit the most efficient use of the heavy equipment on site. The portion of Soil Pile 38 containing PCB concentrations greater than or equal to 1 ppm, shown in Figure 6-4, was removed using precision excavation techniques and placed in Lifts 2 and 3. Soil scraped from the haul roads between the soil piles and the excavation also was used as backfill material in Lift 2. Figure 6-5 represents the excavation and soil piles after the completion of Lift 3 when all the soil containing PCB concentrations greater than or equal to 1 ppm had been placed into the excavation.

Table 6-3
Summary of SWMU 2 Backfill Lifts

Lift	Completion Date	Average Depth (bgs)	Description of Soil
15	09-25-03	0 ft	TA-III borrow pit soil
14	09-17-03	1 ft	Soil Pile 38 and TA-III borrow pit soil
13	09-15-03	2 ft	Soil Pile 38 and TA-III borrow pit soil
12	09-11-03	3 ft	Soil Pile 38, Soil Pile 39, and TA-III borrow pit soil
11	09-09-03	4 ft	Soil Pile 38, Soil Pile 39, and TA-III borrow pit soil
10	09-05-03	5 ft	Soil Pile 38, Soil Pile 39, and TA-III borrow pit soil
9	09-03-03	6 ft	Soil Pile 38 and Soil Pile 43
Lift 8 completes placement of soil below 5 ft of ground surface			
8	08-28-03	7 ft (Minimum Depth 5 ft)	Soil Pile 38; rock mechanically screened from Soil Pile 39; soil scraped from underneath soil piles, gravel from site haul roads and operational areas
7	08-22-03	8 ft	Soil Pile 38
6	08-20-03	9 ft	Soil Pile 38
5	08-19-03	10 ft	Soil Pile 38
4	08-15-03	11 ft	Soil Pile 38
Lift 3 completes placement of soil with PCB concentrations ≥1 ppm			
3	08-07-03	12 ft	Soil from west side of Soil Pile 38
2	08-06-03	13 ft	Soil from west side of Soil Pile 38 and soil scrapings from haul roads between soil piles and excavation
1	08-05-03	14 ft	Soil Pile 40, west side of Soil Pile 38, and Soil Pile 30
8-inch Soil Over Marker Layer (6 inches compacted)	07-23-03	14.5 ft	Soil Piles 21, 22, 35, 36, 40, 41, 42
Marker Layer	07-21-03	15 ft	Rock/cobbles mechanically screened from soil excavated during VCM
Average Depth of CLWL Over-Excavation = 16 ft			

bgs = Below ground surface.
CLWL = Classified Waste Landfill.
ft = Foot (feet).
PCB = Polychlorinated biphenyl.
ppm = Part(s) per million.
SWMU = Solid Waste Management Unit.
TA = Technical Area.
VCM = Voluntary Corrective Measure.

Table 6-4
Placement of SWMU 2 Backfill Material

Description of Backfill Material	Placement in Excavation	Placement Date
Rock mechanically screened from soil excavated during VCM	Bottom of excavation	07-16-03–07-21-03
Soil Pile 36 soil	Over bottom rock layer	07-21-03
Soil Pile 35 soil	Over bottom rock layer	07-21-03
Soil Pile 41	Over bottom rock layer	07-23-03
Soil Pile 42	Over bottom rock layer	07-23-03
Soil Pile 21	Over bottom rock layer	07-23-03
Soil Pile 22	Over bottom rock layer	07-23-03
Soil Pile 40	Over bottom rock layer and Lift 1	07-23-03
Soil Pile 30 soil	Lift 1	07-23-03–07-24-03
Soil scrapings from haul roads between soil piles and excavation	Lift 2	08-06-03
Soil Pile 38 soil (west side of soil pile only)	Lift 1 through Lift 3	08-04-03–08-07-03
Soil Pile 38 soil (other than west side of soil pile)	Lift 3 through Lift 14	08-07-03–09-17-03
Rock mechanically screened from Soil Pile 39	Lift 8	08-27-03
Rock from site haul roads and operational areas	Lift 8	08-27-03–08-28-03
Soil Pile 43	Lift 9	09-02-03–09-03-03
TA-III borrow pit soil	Lift 10 through Lift 15	09-04-03–09-25-03

SWMU = Solid Waste Management Unit.
TA = Technical Area.
VCM = Voluntary Corrective Measure.

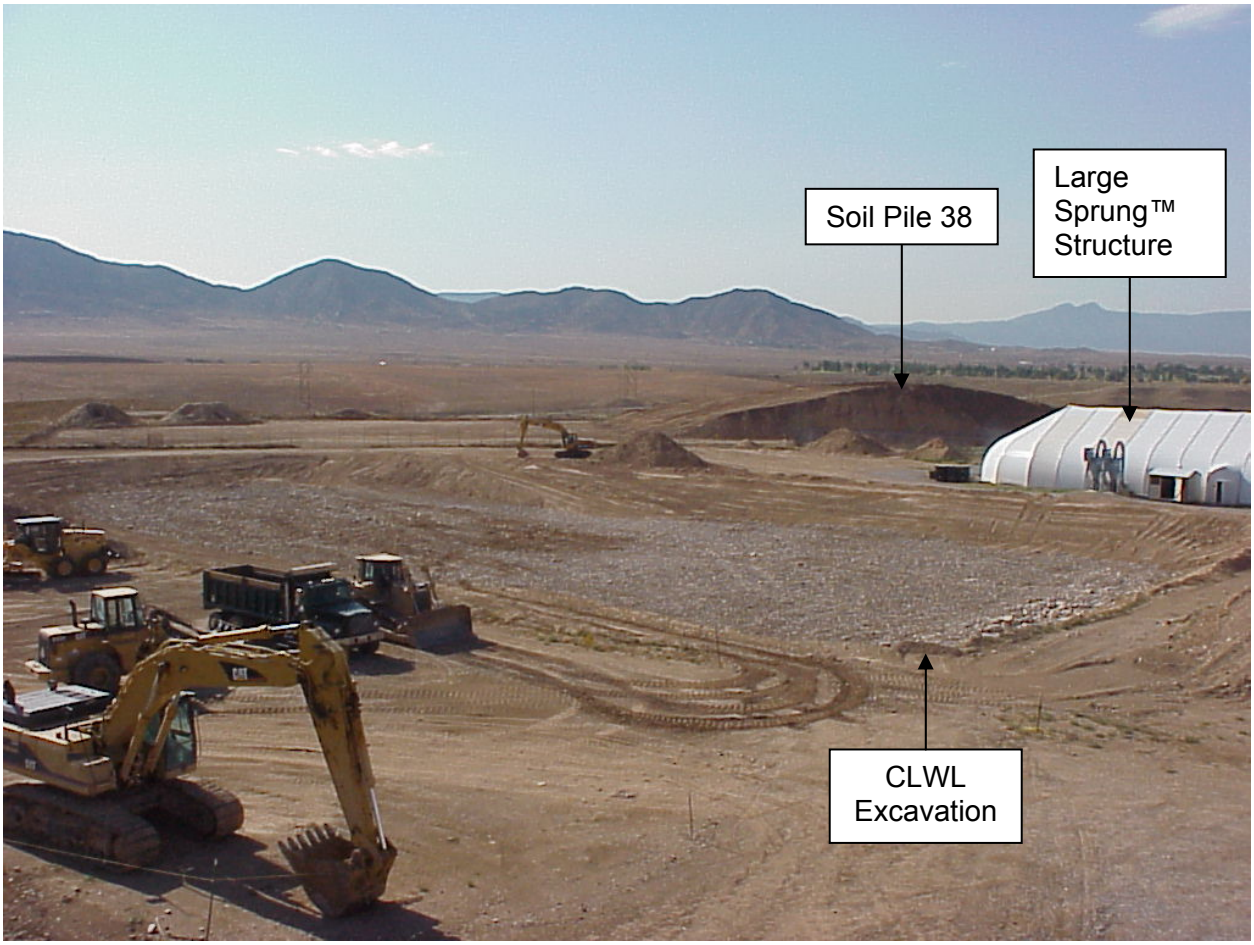


Figure 6-3
Classified Waste Landfill Excavation, Reshaped with the Marker Layer Completed. View to the Southeast. July 21, 2003

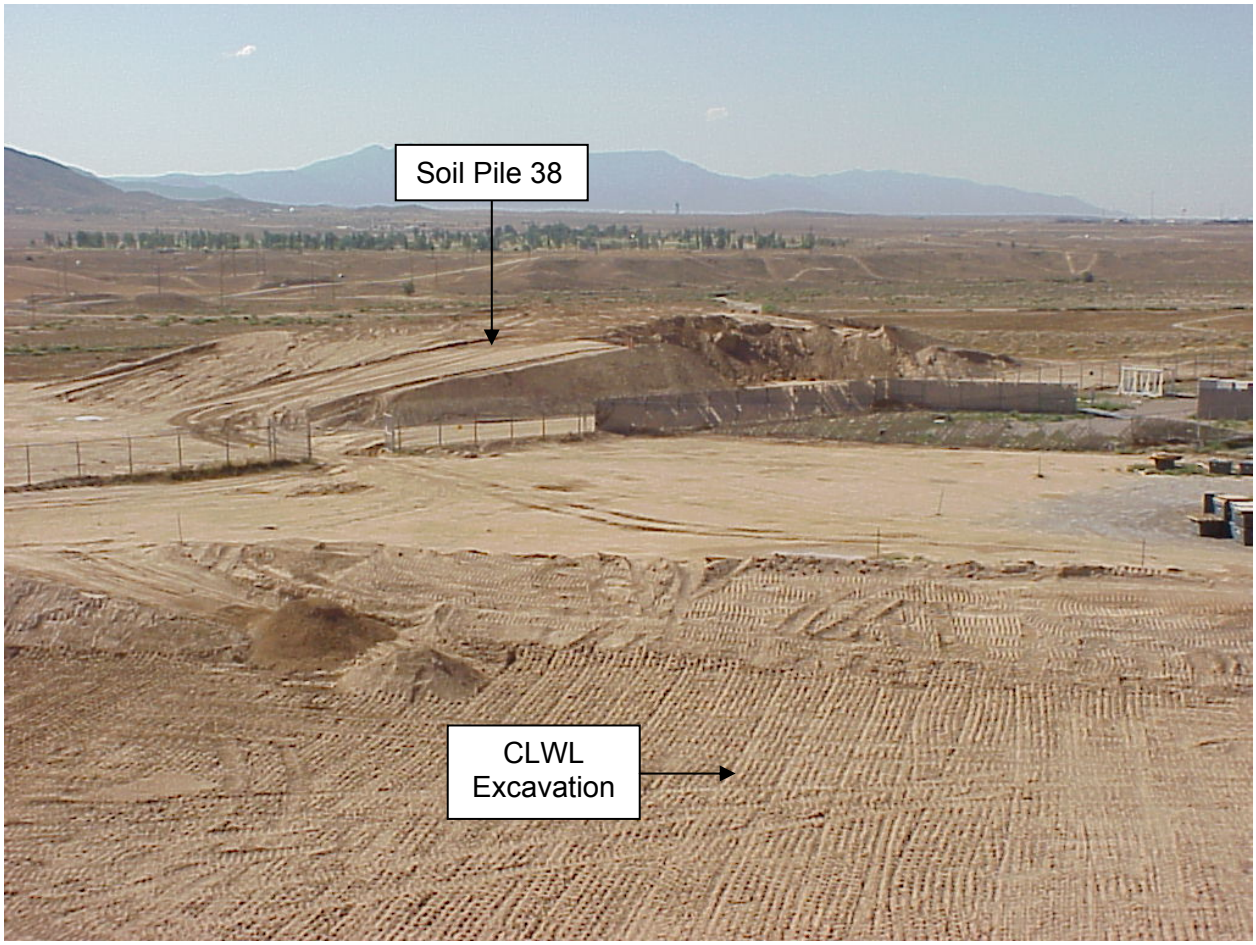
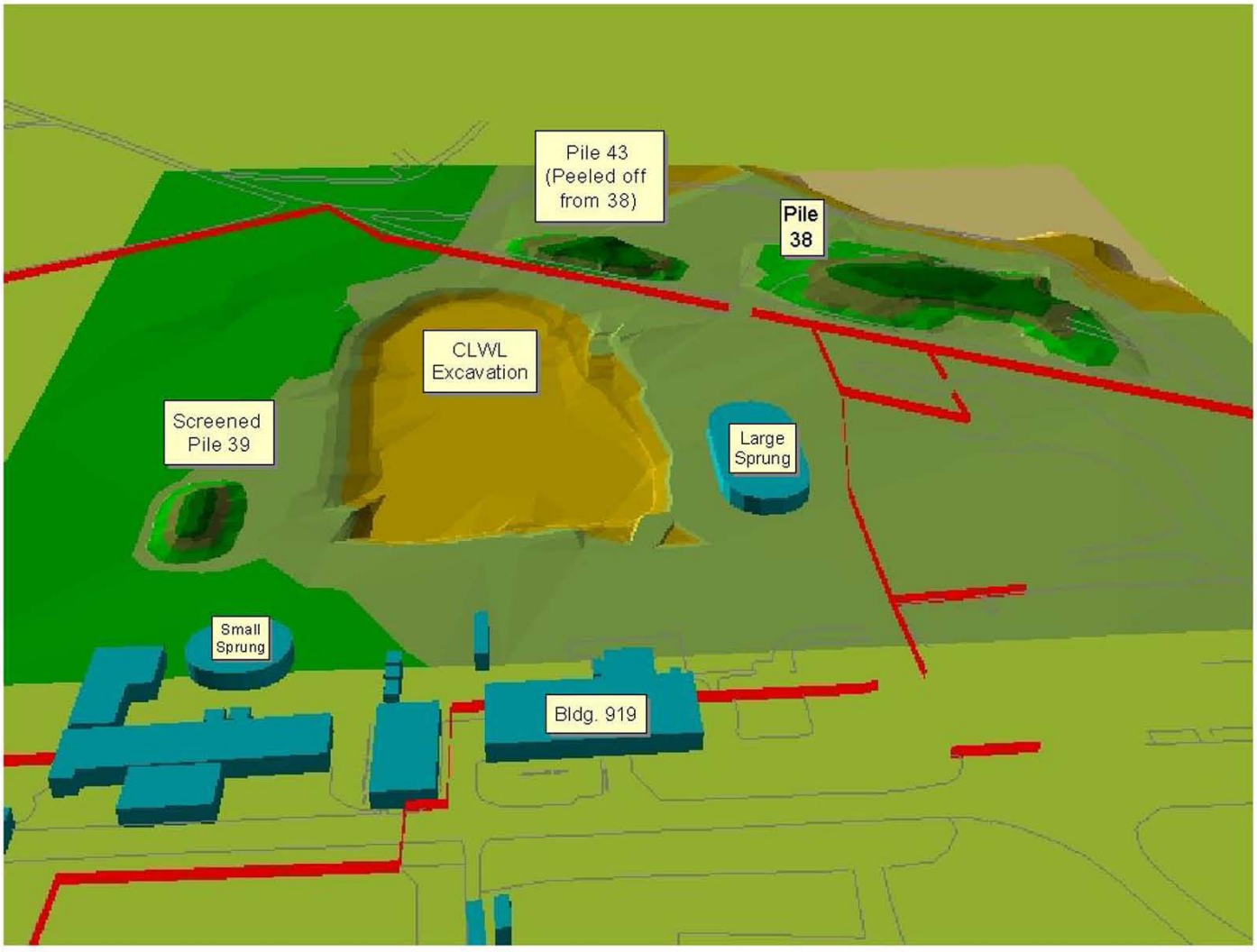


Figure 6-4
Soil Pile 38 after Removal of Soil Containing PCB Concentrations ≥1 ppm.
View to the Southeast. August 7, 2003



Road
Fence
Building / Structure
Lift - 3
Elevation Range
5427-5431
5424-5427
5421-5424
5418-5421
5414-5418
5411-5414
5408-5411
5405-5408
5402-5405

Figure 6-5
Excavation and Soil Piles
after Placement of Lift 3,
August 13, 2003
(oblique view to East)

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The heavy equipment used to haul soil containing PCB concentrations greater than or equal to 1 ppm was removed from service for decontamination after the completion of Lift 3. Care was taken to ensure that this heavy equipment did not come into contact with soil that would be used to construct the 5-foot-thick layer of clean soil. The equipment decontamination efforts are discussed in Chapter 11.0.

Heavy equipment that did not come into contact with soil containing PCB concentrations greater than or equal to 1 ppm was used to complete Lift 4 and subsequent lifts. Because coming into contact with soil placed in Lift 3 might contaminate the heavy equipment, Lift 4 was completed by hauling soil from Soil Pile 38 to the excavation using dump trucks. After the dump trucks backed down the southeast access ramp, the cleaner soil was dumped without allowing the truck tires to come into contact with the soil from Lift 3. A dozer was then used to push the cleaner soil in front of it and over the surface of Lift 3. After a layer of cleaner soil covered Lift 3, other pieces of heavy equipment, such as scrapers, were used to complete Lift 4. Figure 6-6 shows the transition between placing PCB-contaminated and cleaner soils into the excavation.

Lifts 4 through 8, consisting of relatively cleaner soil with PCB concentrations of less than 1 ppm, completed the placement of the backfill material to 5 feet bgs. Lift 8 also contained the rock that was mechanically screened from Soil Pile 39 as well as soil scraped from areas beneath the soil piles. Soil and gravel scraped from other operational areas, such as equipment storage areas and site haul roads, were also placed in Lift 8 as a housekeeping measure to ensure that small component fragments remaining from the VCM activities would be removed from the site surface. (Although the backfill and compaction plan for SWMU 2 [SNL/NM August 2003] indicated that floors of the waste management Sprung® structure would be scraped as a housekeeping measure, this action was not taken because it would have adversely impacted the work being performed within this structure.) The rock and gravel placed in Lift 8 also served as a marker layer at approximately 5 feet bgs. The elevation of Lift 8 was not uniform and varied from 5 feet bgs at the east end to approximately 7 feet bgs at the west end.

Lifts 9 through 15, consisting of soil from Soil Piles 38, 43 (Soil Piles 31 through 34 and 37), 39, and TA-III borrow pit soil, completed the backfill from 5 feet bgs to the surface.

Figure 6-7 provides a schematic cross-section of the CLWL after completion of the backfill activities.

6.2.2 Soil Compaction

The placement and compaction of fill followed the same general procedures and compaction specifications that were approved by the NMED (Bearzi June 2002) for the Chemical Waste Landfill (SNL/NM July 2002). After consultation with SNL/NM Organization 10827 (Construction Inspection and Acceptance), the ER Project determined that 12-inch lifts with adequate moisture (optimum percent moisture ±3%) would comply with SNL/NM Construction Standard Specification, Section 02200 (SNL/NM September 1995). Prior to the backfilling operation, compaction studies were conducted at a geotechnical laboratory to determine the optimum percent moisture and maximum dry density for SWMU 2 soil (Kleinfelder April 2003). The optimum percent moisture was 9.3 percent with a corresponding maximum dry density of 127.4 pounds per cubic foot.

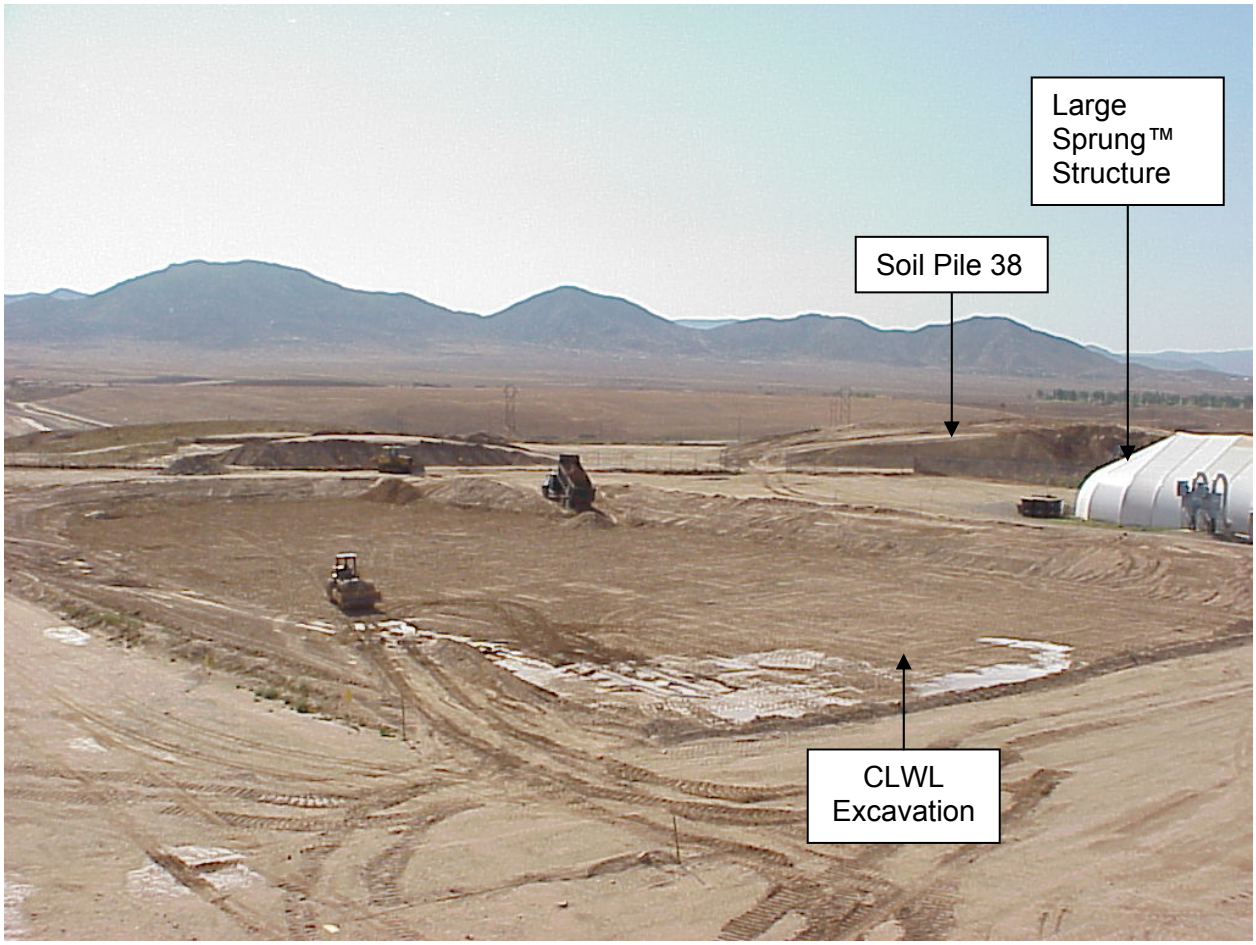

Figure 6-6
Classified Waste Landfill, Transition between Backfill Lift 3 and Lift 4.
View to the Southeast. August 11, 2003

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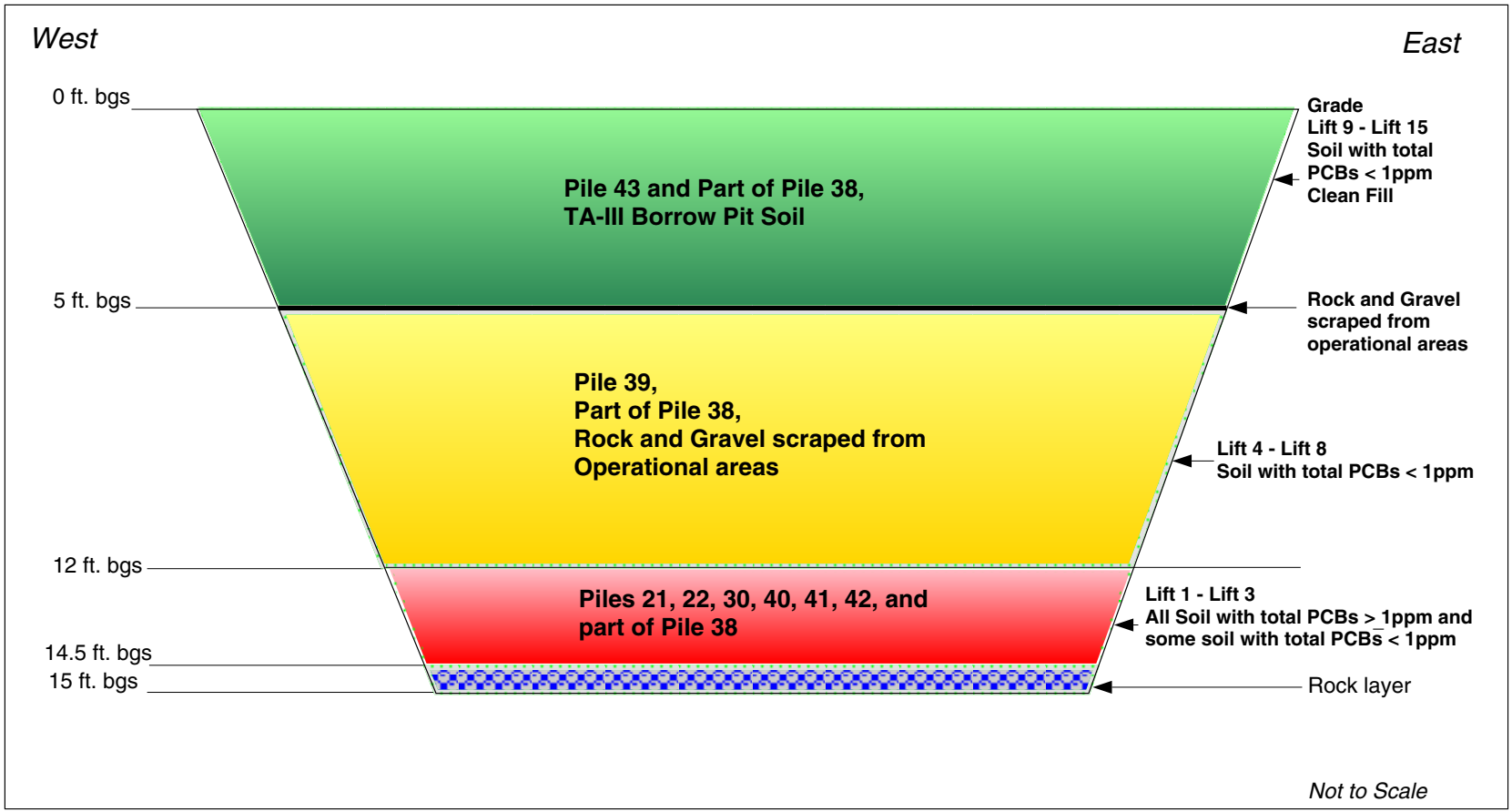

Figure 6-7
Cross-Section of SWMU 2 after Backfilling

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In July 2003, a marker layer of rock was placed on the floor of the excavation at approximately 16 feet bgs. To reiterate, this marker layer was covered by approximately 8 inches of soil. A compaction test was not performed on this initial layer because the instrument was calibrated for 12-inch lifts of soil. Subsequent layers of soil were placed in approximately 12-inch loose lifts while water was applied for dust suppression and to achieve the specified moisture content. These lifts were compacted in place by the heavy equipment used to haul and move the soil. In areas of particular concern, additional compaction was achieved using a sheepsfoot roller.

Nuclear gauge measurements for density and moisture content were collected at four locations for each lift. These measurements were taken within each quadrant in the excavation and randomly spaced to represent the lift (i.e., measurements were not right next to each other for an individual lift). A nuclear gauge instrument (i.e., density probe) manufactured by California Pacific Nuclear International, Model M-3, was used to measure in-place density (wet and dry) and moisture. Calculated results for percent compaction and percent moisture are listed in Table 6-5.

6.3 Post-Backfill Activities

Post-backfill activities were performed from September 29, 2003, through April 5, 2004, as described in Table 6-1. The post-backfill activities included site grading, verification sampling and analysis, waste disposal, and final radiological inspection. The following sections describe these activities in further detail.

6.3.1 Site Grading

The surface of the backfilled excavation and areas within the operational boundary of the site were graded to conform to pre-excavation contours of the local area. The restored ground surface for SWMU 2 varied from approximately 5,416 to 5,419 feet amsl. The grading ensures proper surface-water drainage across the area to the southwest. Subsidence is not anticipated to occur based upon the fact that no volumetrically significant buried debris, organic material, or void spaces exist, combined with the engineered properties of the mechanically screened fill materials used for backfilling. Disturbed portions of the site were watered down to form a stable crust to minimize erosion and wind abrasion of the site surface. A mixture of water and magnesium chloride was applied to the site haul roads to further stabilize these areas. As documented in the Surface Soil Disturbance Permit approved by the City of Albuquerque, revegetation of the site by the ER Project is not required. Figure 6-8 shows the excavation after final site grading.

6.3.2 Verification Sampling and Analysis

In October and November 2003, verification samples were collected from 72 locations in the areas where the excavated soil had been stockpiled. A maximum grid spacing of 100 feet was used for the areas once covered by the large soil piles stored east of the TA-II fence. A denser grid spacing of 20 to 30 feet was used in areas once covered by the smaller piles located inside the TA-II fence. These sample locations were selected to ensure that all PCB-contaminated soil had been removed. After consultation with the NMED on September 15, 2003, it was agreed that samples collected at these locations would be adequate to characterize the concentration of metals remaining on the surface. The verification sample locations, which were previously

Table 6-5
SWMU 2 Compaction Test Results

Test Date	Lift	Approximate Depth (bgs)	Density Probe	Location	Wet Density (pcf)	Moisture (pcf)	Dry Density (pcf)	% Compaction	% Moisture
08-05-03	1	14 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	116.0	9.8	106.2	83.4	9.2
				Quadrant 2	115.0	11.0	104.0	81.6	10.6
				Quadrant 3	117.6	10.4	107.2	84.1	9.7
				Quadrant 4	123.0	11.6	111.4	87.4	10.4
08-06-03	2	13 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	114.6	10.3	104.3	81.9	9.9
				Quadrant 2	120.0	11.3	108.7	85.3	10.4
				Quadrant 3	119.0	11.7	107.3	84.2	10.9
				Quadrant 4	131.0	12.7	118.3	92.9	10.7
08-07-03	3	12 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	133.0	11.2	121.8	95.6	9.2
				Quadrant 2	129.0	10.7	118.3	92.9	9.0
				Quadrant 3	126.0	7.1	118.9	93.3	6.0
				Quadrant 4	128.0	7.9	120.2	94.3	6.5
08-15-03	4	11 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	123.1	9.7	113.4	89.0	8.6
				Quadrant 2	128.5	10.7	117.8	92.5	9.1
				Quadrant 3	133.5	11.5	122.0	95.8	9.4
				Quadrant 4	130.6	9.4	121.2	95.1	7.8
08-19-03	5	10 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	130.2	8.9	121.3	95.2	7.3
				Quadrant 2	125.3	9.4	115.9	91.0	8.1
				Quadrant 3	133.2	11.6	121.6	95.4	9.5
				Quadrant 4	130.6	11.5	119.1	93.5	9.7
08-20-03	6	9 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	130.0	9.3	120.7	94.7	7.7
				Quadrant 2	139.1	14.3	124.8	98.0	11.5
				Quadrant 3	131.8	10.5	121.3	95.2	8.7
				Quadrant 4	134.7	10.2	124.5	97.7	8.2
08-22-03	7	8 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	130.7	10.0	120.7	94.7	8.3
				Quadrant 2	123.2	9.4	113.8	89.3	8.3
				Quadrant 3	134.5	10.7	123.8	97.2	8.6
				Quadrant 4	127.0	10.9	116.1	91.1	9.4

Refer to footnotes at end of table.

Table 6-5 (Continued)
SWMU 2 Compaction Test Results

Test Date	Lift	Approximate Depth (bgs)	Density Probe	Location	Wet Density (pcf)	Moisture (pcf)	Dry Density (pcf)	% Compaction	% Moisture
08-28-03	8	7 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	122.3	9.5	112.8	88.5	8.4
				Quadrant 2	128.4	10.3	118.1	92.7	8.7
				Quadrant 3	125.3	11.2	114.1	89.6	9.8
				Quadrant 4	121.3	8.7	112.6	88.4	7.7
09-03-03	9	6 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	127.8	8.8	119.0	93.4	7.4
				Quadrant 2	123.8	6.6	117.2	92.0	5.6
				Quadrant 3	129.2	7.4	121.8	95.6	6.1
				Quadrant 4	127.4	7.4	120.0	94.2	6.2
				Northwest End of Excavation	133.2	11.5	121.7	95.5	9.4
09-05-03	10	5 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	129.4	12.8	116.6	91.5	11.0
				Quadrant 2	133.9	13.0	120.9	94.9	10.8
				Quadrant 3	124.4	9.6	114.8	90.1	8.4
				Quadrant 4	128.8	12.2	116.6	91.5	10.5
09-09-03	11	4 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	120.5	12.5	108.0	84.8	11.6
				Quadrant 2	136.0	9.3	126.7	99.5	7.3
				Quadrant 3	121.9	9.1	112.8	88.5	8.1
				Quadrant 4	123.8	11.6	112.2	88.1	10.3
09-11-03	12	3 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	129.9	14.8	115.1	90.3	12.9
				Quadrant 2	130.2	12.8	117.4	92.2	10.9
				Quadrant 3	130.7	14.8	115.9	91.0	12.8
				Quadrant 4	116.5	10.4	106.1	83.3	9.8
09-15-03	13	2 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	132.9	12.4	120.5	94.6	10.3
				Quadrant 2	132.9	12.4	120.5	94.6	10.3
				Quadrant 3	130.3	9.5	120.8	94.8	7.9
				Quadrant 4	130.3	12.9	117.4	92.2	11.0
09-17-03	14	1 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	133.6	9.7	123.9	97.3	7.8
				Quadrant 2	126.7	12.4	114.3	89.7	10.8
				Quadrant 3	126.0	9.0	117.0	91.8	7.7
				Quadrant 4	130.0	9.8	120.2	94.3	8.2

Refer to footnotes at end of table.

Table 6-5 (Concluded)
SWMU 2 Compaction Test Results

Test Date	Lift	Approximate Depth (bgs)	Density Probe	Location	Wet Density (pcf)	Moisture (pcf)	Dry Density (pcf)	% Compaction	% Moisture
07-11-03	15	0 ft	CPN International, Model M-3, S/N M341002304	Quadrant 1	132.5	10.8	121.7	95.5	8.9
				Quadrant 2	124.1	12.3	111.8	87.8	11.0
				Quadrant 3	128.8	12.2	116.6	91.5	10.5
				Quadrant 4	123.2	11.2	112.0	87.9	10.0

bgs = Below ground surface.
CPN = California Pacific Nuclear.
ft = Foot (feet).
pcf = Pounds per cubic foot.
S/N = Serial Number.
SWMU = Solid Waste Management Unit.

Figure 6-8
Classified Waste Landfill Excavation After Final Site Grading.
View to the Southeast. September 29, 2003

identified in the SWMU 2 NFA proposal (SNL/NM September 2001) and the approval request for risk-based disposal of PCBs in soil at SWMU 2 (SNL/NM August 2002), are shown in Figure 6-9.

The analytical results for verification samples are discussed in Section 4.6. These results confirmed that the soil with PCB concentrations of greater than 1 ppm had been removed except at Locations 34 and 69 (Table A-21). Soil from Location 34 contained 1.8 mg/kg of Aroclor-1254; Location 69 had soil with 2.1 mg/kg of Aroclor-1254. All other locations had total PCB concentrations of less than 1 mg/kg. In February 2004, 6 to 8 inches of soil within an approximate area of 20 by 20 feet was removed from both of the two PCB-contaminated locations (34 and 69). Additional verification samples were collected as follows: Locations 34 and 69, located in the center of the areas where the PCB-contaminated soil had been removed, were resampled. Locations 73 and 74 also were sampled at the surface just outside the area where soil had been removed around Location 69; Locations 75 and 76 also were sampled at the surface just outside the area where soil had been removed around Location 34. The analytical results from these samples indicated that the PCB-contaminated soil around Location 34 had been removed. However, additional soil needed to be removed from around Location 76 because this soil contained 2.0 ppm of Aroclor-1254. Therefore, 6 to 8 inches of soil from an area (20 by 10 feet) located south of Location 76 were removed and Location 76 was resampled. Locations 77, 78, and 79 were sampled at the surface just outside the area where soil had been removed around Location 76. The analytical results from these samples showed total PCBs to be less than 1 mg/kg, indicating that all the PCB-contaminated soil had been removed.

6.3.3 Waste Disposal

During the CLWL backfill operations, waste was generated from equipment decontamination activities and from removal of soil that contained PCBs in concentrations of 1 ppm or greater. The equipment decontamination process, which is described in Chapter 11.0, generated waste that was managed in accordance with 40 CFR 761.61(a)(5)(v)(A). The disposal of the decontamination waste is discussed further in Section 12.1.

As discussed in Section 6.3.2, the original verification soil samples from Locations 34, 69, and 76 contained PCBs in concentrations of 1 ppm or greater. The PCB-contaminated soil was removed from the site and disposed of at a regulated landfill (Section 12.2).

6.3.4 Final Radiological Inspection

From January 27 to February 3, 2004, Environmental Restoration Group, Inc. performed a walkover gamma survey of the CLWL (ERG April 2004). The purpose of the survey was to verify that soil containing radionuclide contamination had been removed from the surface of the site so that radiological restrictions could be removed from nonoperational areas of SWMU 2.

The survey was conducted using three Ludlum Model 44-20 sodium iodide high-energy gamma detectors and Ludlum Model 2221 digital ratemeter/scalers. Each radiological instrument was coupled to a Trimble Pro XRS GPS and data logger that recorded the x and y coordinates and associated count rate at two-second intervals.

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Figure 6-9
Verification Soil Sample Locations
Following Soil Pile Removal

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

840857.04150000 A3

Sixteen off-site reference areas were surveyed to establish the background count rates for the detectors. The gamma count rates established from these 16 locations had a mean of 29,400 counts per minute (CPM) with a standard deviation of 2,100 CPM. Count rates measured at the CLWL, which encompassed the area of the excavation, were under 38,220 CPM. Because this was less than 1.3 times the background count, the area of the survey was considered to be clean of radiological constituents and no corrective action was deemed necessary.

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7.0 BEST MANAGEMENT PRACTICES

The following Best Management Practices were used during backfill operations:

- Construction and routine maintenance of an earthen berm (approximately 1.5 feet in height) around the outer excavation perimeter to control surface water
- Application of water to soil piles, haul roads, and other operational areas to control fugitive dust emissions, especially during high wind events
- Reduction of process rates for soil screening and heavy equipment operation to control fugitive dust emissions during high wind events

Although occasional rain and thunderstorms occurred during the backfill operations, the severity of the storms did not warrant the use of additional surface-water controls. Due to the drought conditions, it was also deemed unnecessary to construct earthen berms across the equipment access ramps into the excavation at the end of each shift.

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8.0 CONSTRUCTION QUALITY CONTROL

During the backfill and compaction effort, field activities and decisions were documented in ER Logbook Nos. 091, 092, and 094. Information documented in these logbooks includes, but is not limited to:

- Daily weather conditions, including temperature and precipitation events
- Daily work activities including sample collection, soil pile management, and backfill material placement
- Visual observations of conditions that affected the backfilling operations, such as excessively wet soil and high wind events
- Spreading and distribution of the rocks on the excavation bottom
- Lifts completed in each area, the depth bgs, and the origin of the backfill material
- Nuclear gauge measurements for density and moisture content for each lift and approximate locations
- Problems encountered, such as heavy equipment breakdowns, and corrective actions taken

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9.0 HEALTH AND SAFETY

Daily planning and safety meetings were conducted prior to beginning work activities. These meetings discussed tasks planned for the day, personal protective equipment (PPE) requirements, analytical results of monitoring samples, and other operational and safety issues. The Site Safety Officer performed daily excavation inspections and periodically monitored the air for COCs using personnel breathing zone monitors, combustible gas indicators, and PIDs. No constituents were detected in concentrations above action levels.

Backfill operations at the CLWL were conducted in accordance with the "Site Health and Safety Plan, Technical Area II Remediation Project, Classified Waste Landfill, Technical Area II, SNL/NM, Revision 1" (SNL/NM December 1998). Specific health and safety issues for the SWMU 2 backfilling operations were addressed in Change Control #23. This change added Task 4.21, "Backfill of the Technical Area-II Remediation Project Classified Waste Landfill (CLWL)" to the plan and was approved on March 26, 2003.

Change Control #25, approved on August 28, 2003, was also implemented while backfill operations were in process. This change required an excavation permit and the identification of buried utilities prior to the start of any new tasks that would disturb the soil. As required by this change, the buried electrical, water, and gas lines were located near the large Sprung® structure, small Sprung® structure, and haul roads on August 22 and August 26, 2004. All communication lines were determined to be overhead. Excavation Permit No. 0308-456 was issued on August 26, 2003, allowing the rock and gravel to be scraped from the operational areas. The Site Safety Officer briefed the backfill personnel on August 28, 2003, and identified the utility lines and associated hazards.

The CLWL was managed as an SNL/NM Radioactive Materials Management Area. As such, the backfill and sampling activities were conducted in accordance with Radiological Work Permit 2034. The Radiological Control Technician (RCT) routinely surveyed work areas for contamination. All equipment, sample containers, and other materials leaving the CLWL were surveyed and released by the RCT prior to going off site.

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10.0 CONCEPTUAL SITE MODEL

A Conceptual Site Model (CSM) was developed for the residual COCs identified in both the excavated soil piles and the VCM excavation samples. The CSM is a schematic representation of the chemical source areas, chemical release mechanisms, environmental transport media, potential exposure routes, and potential receptors (Figure 10-1). The purpose of the CSM is to represent chemical sources and exposure pathways that may result in human health/ecological risks and to aid in identifying remediation alternatives that target significant contaminant sources and exposure pathways. This CSM is the basis for the risk assessment required by 40 CFR 761.61(c). The following sections summarize the nature and extent of contamination and the environmental fate of the COCs.

10.1 Nature and Extent of Contamination

The potential COCs at SWMU 2 included metals, VOCs, SVOCs, HE compounds, PCBs, and radionuclides resulting from the disposal of classified materials at the site. Metal and radionuclide COCs present were determined by comparing sample results to background concentrations established for the North Area Supergroup (Dinwiddie September 1997).

Metals or radionuclides found to exceed background levels in any sample were considered to be potential COCs for the site. Metal COCs included the eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus beryllium, nickel, and uranium. The VOCs included acetone, ethylbenzene, 2-hexanone, methylene chloride, toluene, trichlorethene, and xylene. The SVOCs included anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, butylbenzyl phthalate, 2-chlorophenol, di-n-butylphthalate, diphenylamine, bis(2-ethylhexyl) phthalate, fluoranthene, pentachlorophenol, phenanthrene, phenol, and pyrene. Resampling of the excavated soil piles confirmed the presence of low concentrations of PCBs. Radionuclides included cesium-137, thorium-232, uranium-235, uranium-238, and tritium.

10.2 Environmental Fate

The primary source for COCs was the disposal of classified materials (primarily metal items and electrical components) in the landfill. Based upon the data concerning the nature and extent of contamination at the site (Section 10.1), the excavation and excavated soil contained residual metals, VOCs, SVOCs, PCBs, and radionuclides.

Because the VCM removed the primary contaminant source (weapon components and other material), only secondary sources of COCs remained in the form of residual metals, VOCs, SVOCs, PCBs, and radionuclides in the subsurface of the excavation and pits, as well as in the excavated soil that was used as backfill. Because the backfilled excavation was covered with at least 5 feet (1.5 meters) of clean fill soil, the secondary release mechanisms at SWMU 2 include dissolution of COCs and percolation through the soil, direct contact with soil (radionuclides only), VOC vapor emanations, dust emissions, and uptake of COCs by biota (Figure 10-1).

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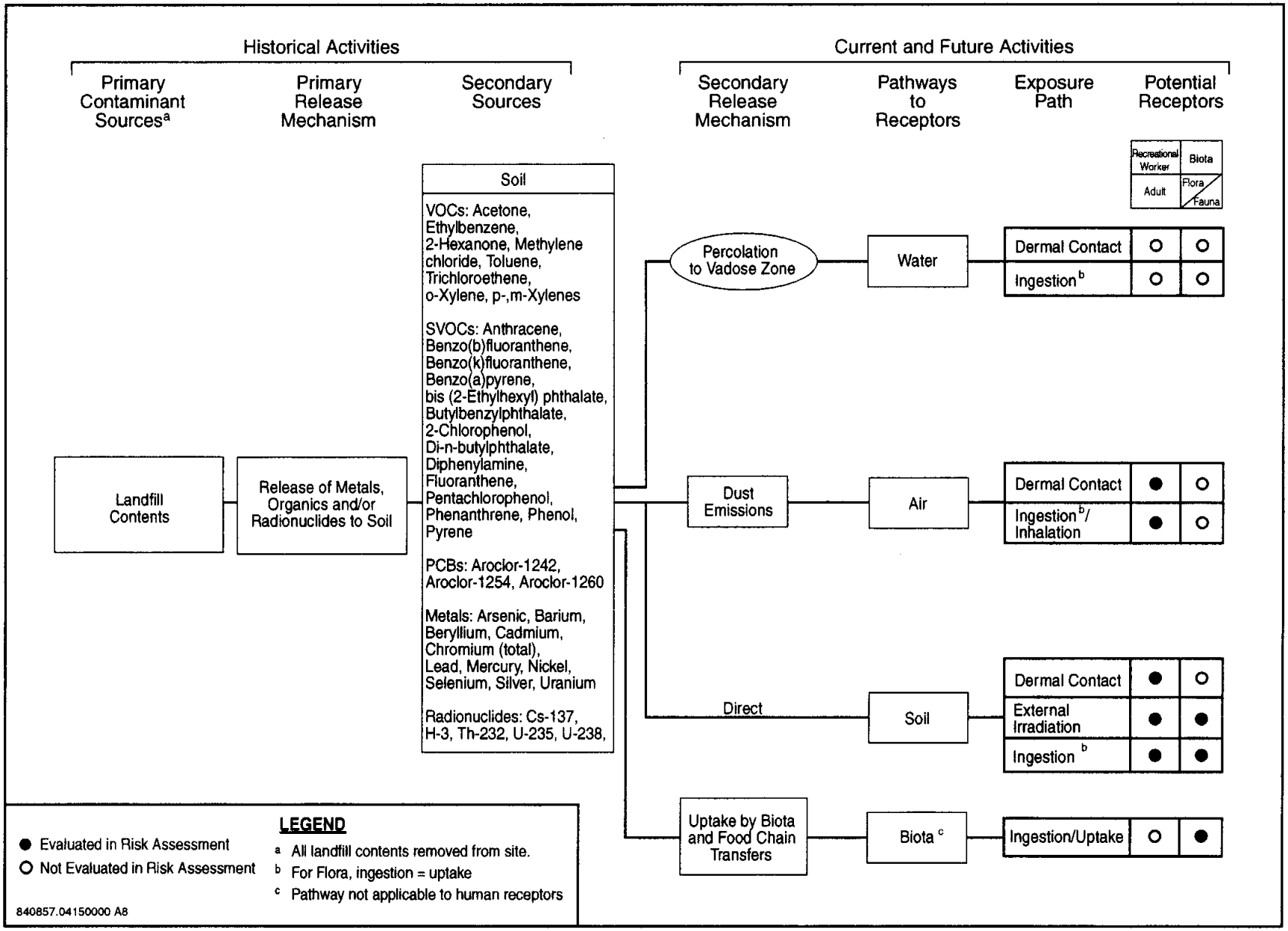

Figure 10-1

Conceptual Site Model Flow Diagram for SWMU 2, Classified Waste Landfill

Section V of Appendix B discusses the fate and transport of COCs at SWMU 2. The primary releases of COCs at SWMU 2 were to the subsurface soil resulting from buried materials. Subsequent excavation of this site, removal of the landfill contents, and reburial of excavated soil has resulted in COCs being confined to the subsurface soil with a 5-foot layer of clean fill above. Therefore, the COCs in the soil are not exposed to surficial transport mechanisms of wind, surface water, and biota at this site.

The current and designated future land use for SWMU 2 is industrial (DOE et al. September 1995). Therefore, the potential human receptor at the site is an industrial worker. For all applicable pathways, the exposure routes for the industrial worker include dermal contact, external irradiation from soil, and ingestion/inhalation of air. Because of the depth of the clean soil layer for the backfilled excavation, wildlife is considered the only potential ecological receptor at the site. Wildlife exposure can result from the ingestion of COCs through food chain transfers, external irradiation, and the incidental ingestion of soil from the site. Section V of Appendix B discusses the exposure routes and potential receptors at SWMU 2.

10.3 Site Assessments

The site assessment process includes risk assessments for both human health and ecological risk. This section briefly summarizes the SWMU 2 assessment results.

10.3.1 Summary

The site assessment concludes that SWMU 2 presents no potential to adversely affect either human health or ecological resources under an industrial land-use scenario. After considering the uncertainties associated with the available data and the modeling assumptions, ecological risks associated with SWMU 2 were found to be low. Section 10.3.2 describes the human health and ecological risk assessments, which are contained in Appendix B.

10.3.2 Risk Assessments

The site assessment process includes risk assessments followed by baseline risk assessments (as required) for both human health and ecological risk. Appendix B provides a complete discussion of the risk assessment process, results, and uncertainties. This risk assessment evaluated organic constituents, as well as metals and radionuclides, detected above either background levels and/or MDA values. Although SWMU 2 has been recommended for industrial land use (DOE et al. September 1995), the risk assessment calculated risk for both residential and industrial land-use scenarios. The residential land-use scenario for this site is presented to provide perspective on the potential risk to human health under the more restrictive land-use scenario.

Table 10-1 summarizes the soil samples associated with the data tables provided in Appendix A. These analytical results represent the data set used for the risk assessment based upon the actual placement of backfill materials in the SWMU 2 excavation. The data set includes the results of analyses performed on soil samples collected from the SWMU 2 excavation and from samples collected from the TA-III borrow pit soil. The data for soil that was

Table 10-1
Summary of Soil Samples Associated with the Appendix A Data Tables

Soil Sample	Placement in SWMU 2 Excavation	Table of Analytical Results						
		Metals	PCB	VOC	SVOC	Alpha & Beta	Gamma	Tritium
Soil Pile 38	0 to 5 ft bgs	A-1	A-2	A-3	A-4	A-5	A-6	A-7
Soil Pile 39		A-15	A-16	NR	NR	A-17	A-18	A-19
Soil Pile 43		A-1	A-2	A-3	A-4	A-5	A-6	A-7
Verification Samples from Sidewalls of Excavation		A-1	A-2	NR	NR	NR	A-6	A-7
Verification Samples from Soil Pile Storage Areas		A-20	A-21	NR	NR	NR	NA	NA
TA-III Borrow Pit		A-22	A-23	A-24	A-25	NR	A-26	A-27
Soil Pile 21	5 ft to Depth	A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 22		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 30		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 35		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 36		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 38		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 40		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 41		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Soil Pile 42		A-8	A-9	A-10	A-11	A-12	A-13	A-14
Verification Samples from Bottom and Sidewalls of Excavation		A-8	A-9	NR	NR	NR	A-13	A-14

Note: The soil piles are identified by consolidated soil pile number. The associated VCM soil pile numbers are identified in Table 6-2.
bgs = Below ground surface.
ft = Foot (feet).
NA = Not applicable.
NR = Not required.
PCB = Polychlorinated biphenyl.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
VCM = Voluntary Corrective Measure.
VOC = Volatile organic compound.

placed in the 0- to 5-foot-bgs interval are identified separately from the data associated with the soil that was placed at a depth of 5 feet bgs or greater. The data for the 0- to 5-foot interval were used in the ecological risk assessment, while the entire data set was used for the human health risk assessment.

It should be noted that the analyses for the metals, VOC, SVOC, and radiological constituents resulted in the excavated soil being placed in either potentially uncontaminated soil piles located outside the TA-II fence or in potentially contaminated soil piles located within the TA-II boundary. Because the traceability of specific soil samples to the various soil piles was not always maintained, the risk assessments conservatively assume that the excavated soil was placed in the 0- to 5-foot interval unless documentation indicates that the soil was included in the potentially contaminated piles that were placed below 5 feet.

10.3.2.1 Human Health

Because COCs are present at SWMU 2 in concentrations or activities greater than background screening values, it was necessary to perform a human health risk assessment analysis, which provides a quantitative evaluation of the potential adverse human health effects caused by constituents in the site soil. A detailed discussion of the human health risk assessment is provided in Section VI of Appendix B. This subsection summarizes the results of the human health risk assessment.

The total and incremental hazard index (HI) and excess cancer risk values were calculated for the nonradiological COCs. The incremental risk is determined by subtracting risk associated with background from potential COC risk. For the radiological COCs, the incremental total effective dose equivalent (TEDE) and incremental excess cancer risk were calculated.

The HI calculated for the COCs at SWMU 2 is 3.17 for the industrial land-use scenario, which is greater than the numerical standard of 1.0 suggested by risk assessment guidance (EPA 1989). The incremental HI risk, determined by subtracting risk associated with background from potential nonradiological COC risk (without rounding), is 3.14. The excess cancer risk for SWMU 2 COCs is 6E-6 for an industrial land-use scenario. NMED guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (Bearzi January 2001); thus the excess cancer risk for this site is below the suggested acceptable risk value. The incremental excess cancer risk is 3.26E-6. Both the total and incremental excess cancer risk are below NMED guidelines.

Although the total and incremental HI values were above the NMED guidelines, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site has been adequately characterized, average concentrations are more representative of actual site conditions. When the 95% upper confidence limit (UCL) of the mean concentrations for the COCs with significant risk are used in place of their respective maximum concentrations, the total and incremental HIs are reduced to 0.22 and 0.22, respectively. Both values are within NMED guidelines considering an industrial land-use scenario.

The HI calculated for the COCs at SWMU 2 is 40.1 for the residential land-use scenario, which is greater than the numerical standard of 1.0 suggested by risk assessment guidance (EPA 1989). The incremental HI risk, determined by subtracting risk associated with background from potential nonradiological COC risk (without rounding), is 39.7. The excess cancer risk for

SWMU 2 COCs is 2E-5 for a residential land-use scenario. NMED guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (Bearzi January 2001); thus the excess cancer risk for this site is above the suggested acceptable risk value. The incremental excess cancer risk is 1.24E-5.

Although the total and incremental HI and excess cancer risk values were above the NMED guidelines, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. When the 95% UCL of the mean concentrations for the COCs with significant risk are used in place of their respective maximum concentrations, the total and incremental HIs are reduced to 2.56 and 2.49, respectively; the total and incremental excess cancer risk values are reduced to 2E-6 and 1.87E-6, respectively. The total and incremental HIs are above the NMED guidelines. The total and incremental excess cancer risk values are below NMED guidelines considering a residential land-use scenario.

For the radiological COCs, four of the constituents (cesium-137, uranium-235, uranium-238, and tritium) also had MDA values greater than the corresponding background values. The incremental TEDE and corresponding estimated cancer risk from radiological COCs are much lower than the EPA guidance values; the estimated TEDE is 1.2E-2 millirem (mrem)/yr for the industrial land-use scenario. This value is much lower than the EPA's numerical guidance of 15 mrem/yr (EPA 1997a). The corresponding incremental estimated cancer risk value is 1.7E-7 for the industrial land-use scenario. Furthermore, the incremental TEDE for the residential land-use scenario that results from a complete loss of institutional controls is 1.1E+0 mrem/yr with an associated risk of 1.6E-5. The guideline for this scenario is 75 mrem/yr (SNL/NM February 1998c). Therefore, SWMU 2 is eligible for unrestricted radiological release.

PCBs are eliminated from further consideration in the human health risk assessment according to the TSCA screening procedure. The requirements of 40 CFR 761 state that high occupancy areas where bulk PCB remediation waste remains at greater than 1 ppm and less than or equal to 10 ppm shall be covered with a cap meeting certain specifications. The maximum concentration of total PCBs contained in the SWMU 2 soil placed below 5 feet was 5.58 ppm. The EPA approval for risk-based disposal of the PCB-contaminated soil at the CLWL stipulates that the uppermost 5 feet of backfill, which serves as an overlying layer, will be clean fill soil (Edlund June 2003). This requirement has been met because the maximum concentration of total PCBs contained in the soil placed in the 0- to 5-foot-bgs interval is less than 1 ppm.

The nonradiological and radiological carcinogenic risks are tabulated and summed in Table 10-2.

Table 10-2
Summation of Nonradiological and Radiological Risks from SWMU 2

Scenario	Nonradiological Risk	Radiological Risk	Total Risk
Industrial	3.26E-6	1.7E-7	3.4E-6
Residential	1.87E-6[a]	1.6E-5	1.8E-5

[a]Incremental excess cancer risk based upon UCL of the mean concentration for significant risk drivers.
SWMU = Solid Waste Management Unit.
UCL = Upper confidence limit.

Uncertainties associated with the calculations are considered small relative to the conservatism of the risk assessment analysis. Therefore, it is concluded that this site poses insignificant risk to human health under the industrial land-use scenario.

10.3.2.2 Ecological

An ecological risk assessment that corresponds with the screening procedures in the EPA's Ecological Risk Assessment Guidance for Superfund (EPA 1997b) was performed as set forth by the NMED Risk-Based Decision Tree in the "RPMP [RCRA Permits Management Program] Document Requirement Guide" (NMED March 1998).

Based upon the uncertainty analysis, the potential for ecological risks at SWMU 2 are generally expected to be low. Hazard quotients (HQs) greater than unity were initially predicted; however, closer examination of the exposure assumptions reveal an overestimation of risk primarily attributed to conservative toxicity benchmarks; the use of maximum concentrations, maximum bioavailability, and maximum area use to estimate exposure; and the contribution of background risk. The incorporation of more realistic assumptions in the estimation of ecological risk results in predictions of potential risk that are low and within the acceptable range of numerical guidance.

Ecological risks associated with SWMU 2 were estimated through a risk assessment that incorporates site-specific information when available. Overall, risks to ecological receptors are expected to be low. Initially predicted risks associated with exposure to constituents of potential ecological concern (COPECs) were based upon calculations using maximum values. Evaluation of these predicted risks based upon the 95% UCL concentrations of the COPECs results in significant reductions in predicted risk. In addition, for several COPECs (i.e., lead, nickel, selenium, bis[2-ethylhexyl] phthalate, Aroclor-1242, Aroclor-1260, and pentachlorophenol), the 95% UCL concentrations result in the elimination of HQs exceeding unity. All remaining HQs were either low (less than or equal to 5.4) or near or within the range of background risk (e.g., arsenic, barium, and total chromium). HQs for plants from exposures to total chromium and mercury are probably overestimated due to uncertainties associated with the available toxicity benchmarks and assumptions of high bioavailability. HQs for the burrowing owl are overestimated as a result of the assumption of 100-percent area use by this receptor, and those for the omnivorous and insectivorous deer mice are likely overestimated due to the conservative assumptions of dietary composition. Based upon this final analysis, ecological risks associated with the CLWL are expected to be low.

10.4 Surface-Water Assessment

A preliminary Surface-Water Assessment was conducted at SWMU 2 using the surface-water assessment guidance developed jointly by Los Alamos National Laboratory and the NMED Surface Water Quality Bureau (LANL August 1998). Because the area surrounding SWMU 2 is flat and the site is more than 1,400 feet from, and approximately 60 feet elevated above, the active Tijeras Arroyo channel, the erosion potential is expected to be very low.

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11.0 EQUIPMENT DECONTAMINATION

On June 12, 2003, EPA Region 6 accepted an alternative decontamination procedure for equipment pursuant to 40 CFR 761.79(h) (Edlund June 2003). Equipment that came into contact with soil that potentially contained PCB concentrations greater than or equal to 1 ppm were subjected to a dry decontamination process. Equipment that was exposed to soil with PCB concentrations less than 1 ppm did not require decontamination. Backfill methods were selected that minimized the pieces of equipment requiring decontamination and included a density probe, excavator, compactor, dump truck, dozer, loader, and skid steer. Details of the equipment decontamination activities are provided in Appendix C. Table C-1 in Appendix C provides a schedule of the SWMU 2 equipment decontamination activities.

The dry decontamination process involved scraping, brushing, vacuuming, and wiping the equipment to remove visible traces of soil. Tools used to accomplish the equipment decontamination included a vacuum cleaner, hammers, chisels, wire brushes, brooms, rags, paper towels, and other miscellaneous hand tools. Liquid PCBs were not a source of contamination at this site, and it was not necessary to use any solvents to successfully decontaminate the equipment.

Equipment decontamination was conducted on a pad located inside a Sprung® Instant Structure to protect against direct release of PCBs to the environment. The 15- by 52-foot decontamination pad was constructed of two layers of 3/16-inch felt covered by canvas tarps. The decontamination pad is shown in Figure C-1 (Appendix C). The soil removed from the equipment during the decontamination was collected on the decontamination pad and transferred into 55-gallon drums.

Pursuant to the disposal and decontamination conditions stipulated in the EPA approval letter, measures were taken to protect the decontamination personnel against dermal contact or inhalation of PCBs or materials containing PCBs. Persons participating in the decontamination activities wore modified Level D PPE that included coveralls, safety glasses, two pairs of nitrile gloves and rubber boot covers. Respirators were not deemed necessary based upon previous monitoring data from the site remediation activities. However, to minimize the possibility of inhaling contaminants, hand sprayers containing water were used to mist the area being cleaned. A photograph of personnel decontaminating the excavator is provided in Figure C-2 (Appendix C).

Breathing zone monitors were initially used to detect any airborne PCBs or heavy metals resulting from the decontamination activities. Results from the monitoring events confirm that airborne PCB levels were below the minimum detection level of 5.6 E-06 mg/cubic meter. Detectable levels of heavy metals were all below the action levels for personnel safety.

Confirmatory samples of the decontaminated equipment were collected and analyzed in accordance with 40 CFR 761.79(f) – Sampling and Recordkeeping and 40 CFR 761.123 – Standard Wipe Test. Sample locations were selected as specified in Subpart P of 40 CFR 761.306 – Sampling 1-Meter Square Surfaces by Random Selection of Halves. A coin toss was used to select the half, with heads representing right or up and tails representing left or down. Table C-2 in Appendix C summarizes the equipment that was decontaminated, the dates of the decontamination and sampling events, the number of samples collected, and the analysis request/chain of custody associated with the samples from each piece of equipment.

Tables C-3 through C-9 provide detailed sampling information for each piece of decontaminated equipment. Included in these tables is a description of the surfaces sampled, the calculations used to determine the number of samples required for each surface, the division of each meter section into halves, and the surface area of each PCB wipe area. The areas sampled were selected because they were the surfaces mostly likely to accumulate PCB-contaminated soil. The bottom of the density probe was not sampled to avoid unnecessarily exposing personnel to a radiation source. The bottom of the probe is a smooth surface and had no noticeable accumulation of soil. Figures C-3 and C-4 (Appendix C) show the compactor and dump truck bed, respectively, and provide examples of how the equipment surfaces were divided to determine the sampling locations.

The PCB wipes were shipped off site and analyzed at STL and GEL in accordance with EPA SW-846 (EPA November 1986), Method 8020 (PCBs by Gas Chromatography). Table C-10 in Appendix C provides the method detection limit for each of the laboratories that analyzed the PCB wipes.

Prior to sending the decontaminated equipment off site or returning it to service, the analytical results for the PCB wipes were evaluated to ensure that all results were less than 10 micrograms (μg)/100 square centimeters (cm^2); this was the requirement stated in the EPA disposal and decontamination conditions for determining that the equipment was clean (Edlund June 2003). No detectable concentrations of PCBs were found on the wipe samples with one exception. Aroclor-1254 was detected in Sample 062160-00-003 at a concentration of 0.727 μg/100 cm^2 (1.1 μg/wipe). This sample was collected from the right front tire of the loader. In addition, all equipment was surveyed for radiological contamination and released by the RCT prior to leaving the site.

12.0 WASTE CHARACTERIZATION AND DISPOSAL

Waste was generated from two sources during the CLWL backfill operations: 1) equipment decontamination, and 2) removal of soil containing PCBs in concentrations of 1 ppm or greater. The following sections discuss the characterization and disposal of these waste items.

12.1 Waste Generated from Equipment Decontamination

Equipment that came into contact with soil that potentially contained PCB concentrations greater than or equal to 1 ppm were decontaminated as discussed in Chapter 11.0. Only solid waste was produced from the equipment decontamination efforts; there were no water discharges or air emissions that contained PCBs, nor was it necessary to use solvents to successfully decontaminate the equipment.

During the decontamination efforts, soil was collected on the decontamination pad and transferred into 55-gallon drums. Soft waste, such as gloves, disposable coveralls, rags, tape, and paper towels, were also collected in 55-gallon drums. After the equipment decontamination efforts were completed, the hand tools and decontamination pad were packaged for disposal. The hand tools, which included brushes, scrapers, hammers, chisels, and a vacuum cleaner, were placed into a 55-gallon drum. The decontamination pad, which was constructed of a felt underlayer covered by canvas tarp, was dismantled and placed into 150-gallon plastic bins.

The RCT surveyed the outside of the waste containers and released them for movement to the SNL/NM Radioactive and Mixed Waste Management Facility. The waste materials were analyzed for tritium, gross alpha/beta activity, and low-level gamma (Canberra Q^2 Gamma Spectroscopy Drum Counter System). The results of these analyses are provided in Appendix C. Table C-1 summarizes the characterization performed for the equipment decontamination waste. The concentrations of metals, PCBs, and other organic compounds were assumed to be less than or equal to the concentrations detected in the soil excavated from the site. The decontamination waste was determined to be nonregulated as the data indicated no constituents above the regulated levels and no radiological activity above background.

The equipment decontamination waste and residues were managed in accordance with 40 CFR 761.79(g)(6), referencing 761.61(a)(5)(v)(A). The soft waste, tools, and decontamination pad materials were transferred to the SNL/NM Solid Waste Transfer Facility for final disposal at the Rio Rancho Landfill. The three drums containing soil were stored in a waste accumulation area until transferred to the SNL/NM Hazardous Waste Management Facility (HWMF) for final disposal at the Rio Rancho Landfill. An inventory of these wastes is provided in Appendix D, Table D-2.

12.2 PCB-Contaminated Soil

As discussed in Section 6.3.2, verification samples were collected in the areas where the excavated soil had been piled. Two areas, Sample Locations 34 and 69, were identified as containing soil with PCB concentrations greater than or equal to 1 ppm. On February 10, 2004, approximately 30 cy of PCB-contaminated soil were removed using a skid steer loader with a bucket attachment and placed into two lined, roll-off containers. The areas where the soil had

been removed were sampled for PCBs on February 11, 2004. The analysis detected Aroclor-1254 at a concentration of 2.0 ppm at Location 76. Approximately 15 cy of PCB-contaminated soil were removed from this area on February 26, 2004, and additional confirmatory samples were collected on the following day. The soil was removed using the same skid steer loader and placed into a third lined, roll-off container. The results from these analyses indicated that the PCB-contaminated soil had been removed.

The SNL/NM HWMF removed the three roll-off containers from the site on March 2, 2004 (Waste Description and Disposal Request Nos. 3013287, 3013289, and 2013592) for disposal at the Rio Rancho Landfill.

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Appendix A

APPENDIX A
Analytical Results for Characterization Samples for SWMU 2

LIST OF TABLES

Table

LIST OF TABLES (Concluded)

Table

Table A-1
Summary of Metals Analytical Results
June 2003 and March 1998–August 2000
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
600003	TA2-2-BORROW-1	NA	**4.6**	**210**	0.45	0.16	9.9	8.2	ND (0.041)	9.1	0.54 J (1.2)	ND (0.041)	NR
600003	TA2-2-BORROW-2	NA	**4.8**	170	0.45	0.28	8.8	**22**	ND (0.041)	7.5	0.55 J (1.2)	0.08 J (0.16)	NR
600004	TA2-2-ACF1-0001-18-S	18	NR	102	0.277 J (0.5)	ND (0.0104)	7.19	2.28	ND (0.0173)	0.258 J (0.5)	NR	NR	NR
600005	TA2-2-ACF1-0001-18-S	18	NR	16	0.22	0.09 J (0.15)	2.9	3.8	ND (0.037)	3.8	NR	NR	NR
600007	TA2-2-ACF2-0001-15-S	15	NR	137	0.264 J (0.476)	0.218 J (0.476)	6.89	3.75	ND (0.0173)	4.89	NR	NR	NR
600008	TA2-2-ACF2-0001-15-S	15	NR	17	0.15	0.049 J (0.16)	3.4	1.5	ND (0.04)	3.1	NR	NR	NR
600010	TA2-2-ACF3-0001-12-S	12	NR	115	0.0509 J (0.463)	ND (0.0104)	4.18	3.86	0.0451	4.94	NR	NR	NR
600012	TA2-2-ACF3-0001-12-S	12	NR	170	0.45	0.16	11	6.5	ND (0.04)	8	NR	NR	NR
600039	TA2-2-ACF3-0001-SL1-SP	NA	NR	160	0.48	**3.2**	12	8.6	ND (0.04)	21	NR	NR	NR
600039	TA2-2-ACF3-0001-SL1-SU	NA	NR	99	0.34	NR	9.4	6.6	ND (0.04)	9	NR	NR	NR
600039	TA2-2-ACF3-0001-SL!-SU	NA	NR	NR	NR	**1.3**	NR	NR	NR	NR	NR	NR	NR
600039	TA2-2-ACF4-0001-SL1-SP	NA	NR	140	0.43	**10**	**61**	**14**	**0.24**	17	NR	NR	NR
600039	TA2-2-ACF4-0001-SL1-SU	NA	NR	180	0.44	**12**	**37**	**17**	**0.18**	15	NR	NR	NR
600041	TA2-2-ACF4-0001-12-S	12	NR	121	0.126 J (0.459)	**2.1**	9.98	4.27	ND (0.0173)	8.78	NR	NR	NR
600043	TA2-2-ACF4-0001-12-S	12	NR	190	0.65	**1.8**	**22**	4.5	ND (0.04)	7.2	NR	NR	NR
600046	TA2-2-ACF1-0001-SL2-S		NR	130	0.54 J (0.57)	**6**	**22**	11	**0.25 J (0.83)**	16	NR	NR	NR
600046	TA2-2-PTW1-0001-10-S	10	NR	170	0.44	0.22	8.3	3.6	ND (0.038)	6	NR	NR	NR
600047	TA2-2-PTW1-0001-10-S	10	NR	**262**	0.308 J (0.463)	0.0978 J (0.463)	5.13	3.22	ND (0.0173)	5.72	NR	NR	NR
600048	TA2-2-ACF4-0001-SL5-S	NA	NR	160	0.64	**27**	**34**	**17**	**0.29**	**33**	NR	NR	NR
600061	TA2-2-PW12-0001-SL7-S	NA	NR	180	0.42	**4.1**	11	**15**	**0.64**	11	NR	NR	NR
600061	TA2-2-PW12-0001-SL8-S	NA	NR	120	0.38	**4.3**	12	6.6	**0.88**	12	NR	NR	NR
600062	TA2-2-PTW2-0001-12-S	12	NR	**479**	0.336 J (0.485)	**5.14**	6.98	4.09	0.0233 J (0.0301)	16.8	NR	NR	NR
600064	TA2-2-PTW2-0001-12-S	12	NR	**290 E**	0.42	**3.3**	8.4	5.4	**0.1 J (0.16)**	8.8	NR	NR	NR
600066	TA2-2-ACF2-0001-SL4-S		3	190	0.43	**1.1**	10	8.6	**0.21**	13	NR	ND (0.041)	NR
600066	TA2-2-PTW3-0001-12-S	12	3.3	180	0.3	0.082 J (0.16)	5.8	3.8	0.049 J (0.16)	5.6	NR	ND (0.04)	NR
600067	TA2-2-PTW3-0001-12-S	12	3.12	**264**	0.276 J (0.467)	0.0553 J (0.467)	5.4	3.23	ND (0.0173)	4.46	NR	0.248 J (0.467)	NR
600069	TA2-2-PTW3-0001-SL4-S	NA	2.8	190	0.33	**15**	11	8.1	**5.9 E**	14	0.39 J (1.2)	**3**	NR
600071	TA2-2-OVER-0001-SL2-S	NA	2.9	110	0.41	0.44	9.7	6.6	**0.35**	8.4	0.4 J (1.2)	0.081 J (0.16)	NR
600072	TA2-2-PTW4-0001-15-S	15	3.83	170	0.258 J (0.472)	0.143 J (0.472)	7.71	6.26	ND (0.0173)	8.98	ND (0.07)	ND (0.031)	NR
600074	TA2-2-PTW4-0001-15-S	15	4.1	96	0.46	0.13 J (0.16)	8.8	6.6	0.08 J (0.16)	9.1	0.42 J (1.2)	ND (0.041)	NR
600076	TA2-2-PTW4-SL14-000-S	NA	2.7	190	0.38	**19**	10	**14**	**1.1**	**28**	0.42 J (1.2)	0.88	NR
600081	TA2-2-OVW4-0001-SL5-S	NA	2.8	190	0.4	**2.2**	11	8.3	**0.34**	11	0.33 J (1.2)	0.35	NR
600083	TA2-2-OVW4-0001-SL8-S	NA	3.4	160	0.45	0.56	11	6.6	**0.15 J (0.17)**	9.6	0.62 J (1.3)	0.19	NR
600083	TA2-2-SLPE-0001-SL3-S	NA	2.6	200	0.36	0.15 J (0.16)	7.5	5	ND (0.041)	7.3	0.54 J (1.2)	0.045 J (0.16)	NR
600083	TA2-2-SLPE-0001-SL9-S	NA	2.8	140	0.38	0.13 J (0.17)	8.6	6.2	ND (0.042)	7.7	0.48 J (1.3)	ND (0.042)	NR
600083	TA2-2-SLPE-SL14-000-S	NA	2.7	140	0.35	0.68	8.4	5.4	ND (0.043)	7.3	0.56 J (1.3)	0.21	NR
600085	TA2-2-TRE1-SL06-000-S	NA	2.4	170	0.39	**1.2**	12	5.2	0.047 J (0.16)	8	0.44 J (1.2)	0.54	NR
600085	TA2-2-TRE1-SL13-000-S	NA	2.8	150	0.42	**1.5**	10	7.7	0.056 J (0.15)	8.1	0.43 J (1.2)	0.069 J (0.15)	NR
600087	TA2-2-TRE2-SL07-000-S	NA	3	180	0.51	**1.2**	9.8	6.2	0.041 J (0.16)	7.9	0.54 J (1.2)	0.07 J (0.16)	NR
600277	TA2-2-SLPE-SL16-000-S	NA	2 J (2.5)	77	0.31	0.12 J (0.17)	5.5	3.4	ND (0.042)	5.4	0.46 J (1.3)	ND (0.042)	NR
600277	TA2-2-SLPE-SL19-000-S	NA	2.8	160	0.39	0.14 J (0.15)	10	7	ND (0.038)	7.5	0.58 J (1.1)	ND (0.038)	NR
600277	TA2-2-SLPE-SL22-000-S	NA	2.7	120	0.35	0.12 J (0.16)	9.2	4.8	ND (0.039)	7.6	0.38 J (1.2)	ND (0.039)	NR
600277	TA2-2-SLPE-SL23-000-S	NA	2.6	160	0.28	0.1 J (0.15)	7.8	4	ND (0.038)	5.9	0.58 J (1.1)	ND (0.038)	NR
600277	TA2-2-SLPE-SL32-000-S	NA	1.7 J (2.4)	86	0.31	0.087 J (0.16)	5.5	3.8	ND (0.041)	4.8	0.37 J (1.2)	ND (0.041)	NR
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-1 (Continued)
Summary of Metals Analytical Results
June 2003 and March 1998–August 2000
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
600277	TA2-2-SLPE-SL34-000-S	NA	2.1 J (2.5)	88	0.26	0.095 J (0.17)	8.5	4.1	ND (0.042)	6.3	0.44 J (1.2)	ND (0.042)	NR
600279	TA2-2-TRE3-SL07-000-S	NA	2.9	**210**	0.34	**2.5**	**14**	6.8	0.073 J (0.16)	10	0.42 J (1.2)	ND (0.041)	NR
600279	TA2-2-TRE4-SL10-000-S	NA	3.7	**220**	0.37	0.75	9.8	6	ND (0.04)	7.4	0.63 J (1.2)	ND (0.04)	NR
600281	TA2-2-OVTE-SL03-000-S	NA	1.8 J (2.5)	120	0.29	0.086 J (0.17)	5.9	3.8	ND (0.042)	5	0.4 J (1.2)	ND (0.042)	NR
600281	TA2-2-OVTE-SL08-000-S	NA	2.5	120	0.42	0.64	6.7	5	ND (0.04)	6.8	0.46 J (1.2)	ND (0.04)	NR
600285	TA2-2-OVTE-SL11-000-DUP	NA	2.6	140	0.32	0.11 J (0.16)	5.3	4.3	ND (0.041)	7	**1 J (1.2)**	ND (0.041)	NR
600285	TA2-2-OVTE-SL11-000-S	NA	3.8	140	0.39	0.14 J (0.17)	7.6	5.4	ND (0.043)	7.6	0.85 J (1.3)	ND (0.043)	NR
600285	TA2-2-TRE5-SL08-000-S	NA	3	200	0.3	0.89	5.9	4.6	0.056 J (0.17)	6.6	0.72 J (1.2)	ND (0.042)	NR
600285	TA2-2-TRE5-SL17-000-S	NA	2.7	200	0.34	0.81	7.7	5.1	0.039 J (0.15)	7.4	0.65 J (1.2)	ND (0.038)	NR
600288	TA2-2-TRE6-SL09-000-S	NA	3.58	**216**	0.384 J (0.467)	**0.996**	8.02	5.67	0.0244 J (0.0319)	8.44	ND (0.07)	0.36 J (0.467)	NR
600290	TA2-2-TRE6-SL09-000-S	NA	3.1	**230**	0.41	**1.3**	11	6.5	ND (0.041)	8.3	0.75 J (1.2)	ND (0.041)	NR
600290	TA2-2-TRE6-SL22-000-DUP	NA	3.4	150	0.38	**0.95**	9.8	5.7	0.073 J (0.17)	7.4	0.77 J (1.3)	ND (0.044)	NR
600290	TA2-2-TRE6-SL22-000-S	NA	2.6	200	0.41	0.88	9.6	5.3	ND (0.04)	7.6	0.91 J (1.2)	0.057 J (0.16)	NR
600292	TA2-2-OVA5-SL05-000-S	NA	2.6	160	0.41	0.14 J (0.15)	9.1	4.8	ND (0.037)	7.2	0.82 J (1.1)	ND (0.037)	NR
600292	TA2-2-OVA5-SL11-000-S	NA	3.2	160	0.38	0.12 J (0.16)	8.8	4.8	ND (0.039)	7	0.77 J (1.2)	ND (0.039)	NR
600292	TA2-2-OVA5-SL13-000-S	NA	2.7	170	0.33	0.094 J (0.16)	9.2	4.4	ND (0.041)	6.8	0.61 J (1.2)	ND (0.041)	NR
600296	TA2-2-TRE7-SL08-000-S	NA	3.1	170	0.4	0.82	6	4.7	0.04 J (0.16)	6.7	0.64 J (1.2)	ND (0.039)	NR
600296	TA2-2-TRE7-SL13-000-S	NA	4	**250**	0.37	**1.9**	7	5.7	0.043 J (0.17)	7.8	0.82 J (1.3)	0.045 J (0.17)	NR
600296	TA2-2-TRE7-SL25-000-S	NA	3.4	**210**	0.35	0.86	6.8	5.7	0.05 J (0.17)	7.7	0.63 J (1.3)	ND (0.042)	NR
600299	TA2-2-TRE7-SL37-000-S	NA	2.9	170	0.35	0.46	7.7	7.3	ND (0.043)	6.9	0.55 J (1.3)	0.38	0.94
600299	TA2-2-TRE7-SL49-000-S	NA	2.4 J (2.6)	120	0.26	0.32	4.7	3.9	ND (0.042)	5.4	0.44 J (1.3)	ND (0.042)	0.77
600299	TA2-2-TRE7-SL55-000-S	NA	2.9	160	0.36	0.64	5.7	4.8	ND (0.042)	6.1	0.48 J (1.3)	0.06 J (0.17)	0.71
600301	TA2-2-TRE8-SL01-000-S	NA	3.4	**220**	0.37	0.43	7.5	5.6	ND (0.044)	7.8	0.54 J (1.3)	ND (0.044)	0.92
600301	TA2-2-TRE8-SL14-000-S	NA	3.2	180	0.31	0.24	6.1	4.7	ND (0.041)	6.5	0.46 J (1.2)	0.05 J (0.16)	0.79
600303	TA2-2-TRE8-SL07-000-S	NA	3.8	**210**	0.41	0.43	9.5	5.8	0.048 J (0.17)	7.9	0.55 J (1.2)	ND (0.042)	1.62
600303	TA2-2-TRE8-SL21-000-S	NA	3.5	**220**	0.42	0.38	8.8	5.9	0.046 J (0.17)	7.9	0.51 J (1.3)	ND (0.043)	1.05
600303	TA2-2-TRE8-SL29-000-S	NA	3	190	0.36	0.38	8.2	4.8	0.062 J (0.15)	6.8	0.5 J (1.1)	ND (0.038)	0.94
600461	TA2-2-ACF5-SL06-000-S	NA	3.3	200	0.31	0.49	6.1	5.6	ND (0.042)	6.9	0.51 J (1.3)	ND (0.042)	0.89
600461	TA2-2-OVD1-SL01-000-S	NA	1.5 J (2.4)	110	0.25	0.074 J (0.16)	4.6	3.6	ND (0.041)	5	0.39 J (1.2)	ND (0.041)	0.63
600461	TA2-2-OVD2-SL02-000-S	NA	2.5	100	0.34	**2**	7.1	5.9	ND (0.038)	7.5	0.45 J (1.1)	ND (0.038)	0.79
600463	TA2-2-TRD1-SL02-000-S	NA	2.6	160	0.35	0.7	6.8	4.4	0.048 J (0.17)	6.2	0.5 J (1.3)	ND (0.043)	0.76
600463	TA2-2-TRD1-SL06-000-S	NA	2.4 J (2.5)	**230**	0.3	**1.6**	7.1	4.6	ND (0.042)	6.7	0.48 J (1.3)	ND (0.042)	1.13
600463	TA2-2-TRD1-SL09-000-S	NA	3.1	170	0.37	0.87	7.4	6.7	0.079 J (0.15)	7	0.49 J (1.2)	ND (0.039)	0.77
600463	TA2-2-TRD1-SL12-000-S	NA	2.6	160	0.26	0.59	6.9	4.4	0.05 J (0.17)	6.6	0.54 J (1.3)	ND (0.042)	0.68
600465	TA2-2-OVD3-SL01-000-S	NA	2 J (2.4)	110	0.39	0.13 J (0.16)	11	5.2	ND (0.041)	8.7	0.43 J (1.2)	ND (0.041)	0.75
600465	TA2-2-TRD2-SL01-000-S	NA	3.1	200	0.36	**1.2**	12	7.5	0.048 J (0.16)	8.6	0.57 J (1.2)	ND (0.04)	0.89
600465	TA2-2-TRD2-SL05-000-S	NA	3	190	0.4	0.85	12	5.6	0.048 J (0.17)	7.5	0.5 J (1.3)	ND (0.043)	0.87
600467	TA2-2-TRD3-SL03-000-S	NA	3.3	**220**	0.4	0.88	**13**	5.4	0.076 J (0.17)	8.5	0.61 J (1.2)	ND (0.042)	**2.4**
600467	TA2-2-TRD3-SL06-000-S	NA	2.9	170	0.44	**12**	8.1	4.7	0.054 J (0.16)	8.5	0.53 J (1.2)	ND (0.041)	0.87
600467	TA2-2-TRD3-SL12-000-S	NA	3.2	190	0.4	**3.6**	11	5.9	0.076 J (0.17)	9.4	0.43 J (1.3)	**2.2**	0.94
600470	TA2-2-TRD4-SL03-000-DUP	NA	3.4	**220**	0.51	**1.1**	7.4	5.2	0.056 J (0.17)	7.4	0.58 J (1.2)	ND (0.042)	0.84
600470	TA2-2-TRD4-SL03-000-S	NA	3.2	190	0.37	0.66	7.5	5.7	0.061 J (0.16)	7.4	0.6 J (1.2)	0.13 J (0.16)	0.94
600470	TA2-2-TRD4-SL07-000-S	NA	3.3	**230**	0.33	0.79	7.3	4.8	**0.15 J (0.17)**	7.7	0.51 J (1.3)	0.044 J (0.17)	0.8
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-1 (Continued)
Summary of Metals Analytical Results
June 2003 and March 1998–August 2000
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
600470	TA2-2-TRD4-SL14-000-S	NA	3	200	0.33	0.88	7.2	5.4	0.046 J (0.16)	7.7	0.47 J (1.2)	0.054 J (0.16)	0.99
600470	TA2-2-TRD5-SL05-000-DUP	NA	3.1	160	0.3	0.54	5.9	5.5	ND (0.045)	9.2	0.38 J (1.3)	ND (0.045)	0.86
600470	TA2-2-TRD5-SL05-000-S	NA	2.5	140	0.3	0.43	5.1	4.5	**0.14 J (0.16)**	6.7	0.4 J (1.2)	ND (0.041)	0.61
600474	TA2-2-OVD4-SL03-000-S	NA	2.5	160	0.38	0.16 J (0.17)	10	6.2	ND (0.042)	8.8	0.52 J (1.3)	ND (0.042)	0.69
600474	TA2-2-TRD6-SL03-000-S	NA	3.5	**240**	0.39	**1.9**	8.2	6.4	**0.21**	7.7	0.59 J (1.3)	0.089 J (0.17)	0.95
600474	TA2-2-TRD6-SL08-000-S	NA	2.5 J (2.6)	**210**	0.3	**0.98**	7.2	5	**0.12 J (0.18)**	6.5	0.42 J (1.3)	0.15 J (0.18)	0.81
600474	TA2-2-TRD6-SL15-000-S	NA	2.6	**210**	0.36	0.6	5.9	5	**0.14 J (0.17)**	6.5	0.52 J (1.3)	0.14 J (0.17)	0.65
600474	TA2-2-TRD6-SL19-000-S	NA	2.4 J (2.6)	**230**	0.37	0.84	8.5	5.4	**0.11 J (0.17)**	8.1	0.64 J (1.3)	0.076 J (0.17)	0.8
600474	TA2-2-TRD6-SL23-000-S	NA	2.3 J (2.4)	190	0.27	0.69	5.3	4.4	**0.11 J (0.16)**	6.5	0.41 J (1.2)	0.11 J (0.16)	0.63
600489	TA2-2-OVD7-SL02-000-S	NA	3.2	190	0.35	0.28	8.1	7	ND (0.039)	8.1	0.78 J (1.2)	ND (0.039)	0.74
600489	TA2-2-OVD8-SL02-000-S	NA	3	**220**	0.29	0.14 J (0.15)	6.6	4.8	ND (0.038)	7.2	0.54 J (1.1)	ND (0.038)	0.71
600489	TA2-2-TRD7-SL03-000-DUP	NA	3.3	**240**	0.34	**2.4**	8.9	7.1	**0.14 J (0.19)**	9.3	0.7 J (1.4)	0.063 J (0.19)	0.89
600489	TA2-2-TRD7-SL03-000-S	NA	3.6	**270**	0.32	**1.7**	7.5	9.3	**0.11 J (0.16)**	8.4	0.58 J (1.2)	0.049 J (0.16)	0.77
600489	TA2-2-TRD7-SL11-000-S	NA	3.3	**270**	0.4	**2**	8.5	7.7	**0.14 J (0.18)**	8.7	0.64 J (1.4)	0.11 J (0.18)	0.84
600489	TA2-2-TRD7-SL13-000-S	NA	3.8	180	0.36	**1.3**	9	7.2	0.073 J (0.15)	8.4	0.65 J (1.2)	0.1 J (0.15)	1.1
600489	TA2-2-TRD7-SL23-000-S	NA	3.4	**240**	0.33	**5.6**	8.9	9.2	**0.1 J (0.17)**	8.7	0.57 J (1.3)	0.058 J (0.17)	0.87
600493	TA2-2-SLPE-SL39-000-S	NA	3.4	170	0.35	0.16	7.6	5.3	ND (0.041)	8.5	0.71 J (1.2)	ND (0.041)	0.89
600493	TA2-2-SLPE-SL41-000-S	NA	3.1	180	0.31	0.18	7	4.9	ND (0.039)	7.8	0.67 J (1.2)	ND (0.039)	1.3
600502	TA2-2-TRD8-SL01-049-DUP	NA	2.9	**210**	0.39	**9.6**	**15**	10	**0.76**	13	0.71 J (1.3)	0.32	1.6
600502	TA2-2-TRD8-SL01-049-S	NA	3.1	**210**	0.37	**9.7**	9.5	**15**	**0.6**	12	0.43 J (1.2)	0.13 J (0.16)	0.84
600502	TA2-2-TRD8-SL04-000-S	NA	3.3	**620**	0.38	**7.1**	12	11	**0.85**	10	0.56 J (1.3)	0.17 J (0.17)	0.86
600502	TA2-2-TRD8-SL16-000-S	NA	2.6	190	0.38	**12**	11	7.5	**0.48**	14	0.57 J (1.3)	0.13 J (0.17)	0.9
600502	TA2-2-TRD8-SL27-000-S	NA	3	**230**	0.37	**11**	9.2	**12**	**0.69**	12	0.64 J (1.3)	0.18	0.8
600502	TA2-2-TRD8-SL33-000-S	NA	3.2	**260**	0.38	**14**	10	9	**0.7**	12	0.54 J (1.2)	0.12 J (0.16)	0.87
600502	TA2-2-TRD8-SL45-000-S	NA	3.2	**270**	0.38	**9.4**	11	8.3	**0.81**	14	0.58 J (1.3)	0.15 J (0.18)	1.1
600505	TA2-2-SLPE-SL44-000-S	NA	3.4	180	0.38	0.43	7.8	5.8	0.055 J (0.15)	8.2	0.88 J (1.2)	ND (0.038)	1.2
600505	TA2-2-TRC9-SL01-000-S	NA	2.8	**210**	0.37	**6.6**	8.7	9.3	**0.42**	21	0.69 J (1.1)	0.98	0.96
600505	TA2-2-TRC9-SL05-000-S	NA	2.6	170	0.33	**6.2**	**18**	**28**	**0.5**	**28**	0.67 J (1.3)	0.95	0.67
600505	TA2-2-TRC9-SL19-000-S	NA	3.2	**290**	0.38	**3.2**	8.7	7.2	**0.56**	11	0.71 J (1.3)	0.31	0.88
600506	TA2-2-TRC9-SL01-000-SP	NA	3.46	**205**	0.33 J (0.481)	**5.18**	10.3	8.46	**0.378**	8.88	ND (0.135)	0.627	0.833
601134	TA2-2-TRC9-SL24-000-S	NA	3.4	**210**	0.38	**3.5**	**13**	10	**0.46**	13	0.6 J (1.2)	0.38	1.5
601134	TA2-2-TRC9-SL42-000-S	NA	3.5	**230**	0.37	**2**	8.9	8.6	**0.33**	9.8	0.61 J (1.2)	0.11 J (0.16)	1.1
601134	TA2-2-TRC9-SL57-000-S	NA	3.2	190	0.34	**1.9**	8.6	7.3	**0.37**	8.8	0.64 J (1.3)	0.18	0.85
601134	TA2-2-TRC9-SL71-000-S	NA	2.9	190	0.28	**3.8**	7.3	6.1	**0.3**	8.6	0.56 J (1.3)	0.38	0.72
601143	TA2-2-TRC7-SL01-000-S	NA	2.2 J (2.4)	180	0.32	**4.1**	8.2	6.5	**0.65**	11	0.71 J (1.2)	0.88	0.74
601143	TA2-2-TRC7-SL21-000-S	NA	3.3	200	0.39	**1.8**	11	7.1	**0.27**	15	0.86 J (1.1)	0.31	0.99
601143	TA2-2-TRC8-SL04-000-S	NA	2.9	170	0.34	**7.8**	9.6	11	**0.81**	19	0.91 J (1.3)	**2.3**	0.76
601143	TA2-2-TRC8-SL11-000-S	NA	3.4	**280**	0.39	**8.6**	12	**15**	**0.92**	24	**1.1 J (1.3)**	**3.3**	0.94
601143	TA2-2-TRC8-SL17-000-S	NA	3.7	180	0.37	**10**	10	9.9	**1.8**	23	0.84 J (1.2)	**2.4**	0.94
601145	TA2-2-TRC6-SL07-000-S	NA	4	**240**	0.46	**2.3**	**15**	8.2	**0.2**	12	0.88 J (1.2)	0.97	1.8
601154	TA2-2-TRC5-SL07-000-S	NA	4	**210**	0.4	**2.1**	12	7.7	**0.4**	10	0.9 J (1.2)	0.39	1.5
601596	TA2-2-TRC3-SL04-000-S	NA	2.8	**250**	0.39	**1.4**	6	5.5	**2.7**	7	0.62 J (1.2)	0.055 J (0.16)	0.55
601596	TA2-2-TRC4-SL08-000-S	NA	2.2 J (2.3)	180	0.29	0.59	5.9	**21**	**0.21**	6.1	0.46 J (1.2)	0.049 J (0.16)	0.62
601601	TA2-2-TRC3-SL12-000-S	NA	3.5	**220**	0.49	**3.1**	10	8.9	**0.4**	12	0.68 J (1.1)	0.39	0.94
601603	TA2-2-TRC2-SL02-000-S	NA	3.1	**200**	0.5	**2**	9.1	7.1	ND (0.042)	8.1	0.62 J (1.3)	0.096 J (0.17)	1.2
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-1 (Continued)
Summary of Metals Analytical Results
June 2003 and March 1998–August 2000
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
601605	TA2-2-TRC1-SL06-000-S	NA	3.4	**220**	0.42	**1.7**	8.2	6.6	ND (0.043)	8	0.56 J (1.3)	0.2	1
601607	TA2-2-TRB1-SL03-000-S	NA	3.8	**240**	0.47	**1.6**	11	8	**23**	9.3	0.64 J (1.3)	0.12 J (0.17)	1.2
601726	TA2-2-OVB1-SL01-000-S	NA	3	140	0.48	0.27	12	7.1	ND (0.042)	8	0.65 J (1.3)	ND (0.042)	1.3
601731	TA2-2-TRB3-SL01-000-S	NA	3.7	**270**	0.5	**2.1**	**16**	5.8	**0.11 J (0.16)**	12	0.74 J (1.2)	0.043 J (0.16)	0.92
602082	TA2-2-TRA3-SL02-000-S	NA	2.1 J (2.2)	150	0.39	**3.9**	12	5.6	**0.32**	9.1	0.86 J (1.1)	0.05 J (0.15)	1.1
602088	TA2-2-TRA3-SL07-000-S	NA	2.6	**220**	0.47	**11**	**16**	7.6	**0.64**	12	**1.4**	0.14 J (0.16)	1.2
602093	TA2-2-OVA2-SL01-000-S	NA	2.6	190	0.38	0.59	6.8	4.8	**0.21**	12	0.99 J (1.2)	ND (0.04)	0.93
602093	TA2-2-OVA3-SL01-000-S	NA	2.8	160	0.4	0.34	7.2	4.8	**0.13 J (0.16)**	8.3	0.72 J (1.2)	ND (0.039)	0.76
602093	TA2-2-TRA2-SL06-000-S	NA	2.6	**210**	0.41	**5.9**	9.9	7.1	**1.1**	10	**1.2**	0.14 J (0.15)	0.92
602099	TA2-2-FILL-DIRT-1/2-S	NA	2.4	160	0.43	**1.5**	7.7	5.9	**0.36**	11	0.93 J (1.2)	0.05 J (0.16)	0.73
602099	TA2-2-FILL-DIRT-2/2-S	NA	3.1	160	0.44	**2**	8.6	6.5	**4.7**	12	0.93 J (1.2)	0.35	1.1
602099	TA2-2-TRA1-SL01-000-S	NA	1.4 J (2.5)	98	0.31	**2.4**	5	**100**	**0.9**	7.6	**1.1 J (1.2)**	ND (0.042)	**4.5**
602591	TA2-2-OVA1-SL06-000-S	NA	2 J (2.3)	180	0.43	0.39	7.8	8.3	0.093 J (0.15)	11	0.87 J (1.2)	ND (0.038)	1.3
602591	TA2-2-OVT2-P12-SL1-S	NA	2.5	190	0.49	0.56	7.5	3.7	0.06 J (0.17)	9.8	0.92 J (1.2)	0.052 J (0.17)	0.7
602591	TA2-2-OVT3-P10-SL1-S	NA	2.2 J (2.5)	130	0.51	0.46	**16**	5.1	0.048 J (0.17)	11	**1 J (1.3)**	0.055 J (0.17)	1.2
602597	TA2-2-TR3-P10-SL1-S	NA	2.5 J (2.5)	120	0.55	**2**	10	6	**0.45**	11	0.96 J (1.3)	0.15 J (0.17)	0.94
602606	TA2-2-EAST-FNCE-001-DU	NA	3.2	**210**	0.51	**2.1**	12	7.3	**1.1**	11	**1.3**	0.29	0.87
602606	TA2-2-EAST-FNCE-001-S	NA	3	**290**	0.56	**1.8**	**13**	6.4	**1.2**	11	**1 J (1.1)**	0.4	1
602606	TA2-2-TR2-P12-SL6-DU	NA	2.9	190	0.5	**5.3**	**13**	7.3	**1**	14	**1.2**	**1.4**	1.8
602606	TA2-2-TR2-P12-SL6-S	NA	2.5	180	0.5	**5.9**	**14**	8.6	**1.1**	15	**1.1**	0.22	1.3
602607	TA2-2-TR2-EAST-FNCE-002-DU	NA	3.45	**226**	0.389 J (0.459)	**1.85**	6.71	8.02	**1.15**	12.5	ND (0.248)	**1.3**	0.918
602607	TA2-2-TR2-EAST-FNCE-002-S	NA	3.89	**242**	0.528	**1.38**	8.21	9.54	**1.29**	9	ND (0.252)	0.178 J (0.467)	0.802
602607	TA2-2-TR2-P12A-SL6-DU	NA	3.05	192	0.347 J (0.476)	**4.87**	9.06	10.3	**1.32**	11.1	ND (0.257)	0.435 J (0.476)	1.66
602607	TA2-2-TR2-P12A-SL6-S	NA	2.95	177	0.352 J (0.463)	**5.14**	11.5	8.5	**1.12**	10.4	ND (0.25)	**64**	2.17
602617	TA2-2-OV1-P6-SL1-S	NA	3.2	150	0.44	0.26	8.4	5.8	ND (0.039)	6.6	0.83 J (1.2)	0.044 J (0.16)	0.75
602617	TA2-2-TR1-P6-SL10-S	NA	2.9	200	0.58	**5.6**	11	6.6	**0.26**	8.4	0.98 J (1.2)	0.083 J (0.16)	1.1
602784	TA2-2-OVT1-P4-SL1-S	NA	2.4	110	0.3	0.28	4.7	4.3	**0.1 J (0.16)**	8.7	0.53 J (1.2)	ND (0.04)	0.58
602784	TA2-2-TR1-P4-SL1-S	NA	3	180	0.4	**5.6**	7.8	6.1	**0.8**	**230**	0.64 J (1.2)	0.11 J (0.16)	0.78
602784	TA2-2-TR1-P4-SL2-S	NA	2.7	170	0.4	**5.5**	7.8	6.2	**1.2**	**130**	0.6 J (1.2)	**6.3**	0.77
602791	TA2-2-OVT1-P2-SL1-S	NA	3.4	140	0.43	0.25	12	6.7	0.043 J (0.16)	9.2	0.99 J (1.2)	ND (0.041)	1.6
602791	TA2-2-OVT1-P3-SL1-S	NA	3.3	180	0.5	0.57	**13**	5.6	0.066 J (0.16)	9.7	0.74 J (1.2)	0.039 J (0.16)	1.2
602791	TA2-2-TR1-P3-SL2-S	NA	3.1	**210**	0.49	**19**	**20**	**12**	**2.1**	**43**	0.5 J (1.1)	0.24	1.1
602792	TA2-2-TR1-P2-SL3-S	NA	3.3	**310**	0.57	**7.5**	**16**	9.5	**1**	17	0.8 J (1.3)	0.38	1.2
602800	TA2-2-OVT1-P1-SL1-S	NA	2 J (2.3)	**290**	0.42	0.59	6.8	3.7	ND (0.038)	6.5	0.74 J (1.2)	ND (0.038)	1.1
602800	TA2-2-TR1-P2-SL7-S	NA	2.1 J (2.3)	150	0.43	**7.4**	12	8.3	**0.52**	13	0.98 J (1.2)	0.59	0.85
602921	TA2-2-OVT2-P10-SL1-S	NA	2.6	160	0.6	0.52	7.2	4.6	**0.1 J (0.15)**	10	0.56 J (1.1)	ND (0.038)	0.51
602921	TA2-2-TR2-P10-SL1-S	NA	2.2 J (2.4)	140	0.28	**9.9**	5.2	7.2	0.064 J (0.16)	9.1	0.74 J (1.2)	0.041 J (0.16)	1.3
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-1 (Continued)
Summary of Metals Analytical Results
June 2003 and March 1998–August 2000
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
602922	TA2-2-OVT2-P9-SL1-S	NA	2.3 J (2.4)	110	0.52	0.19	8.8	4.6	ND (0.04)	7	0.52 J (1.2)	ND (0.04)	0.79
602940	TA2-2-OVT2-P8-SL1-S	NA	2.7	**240**	0.58	**0.94**	11	5.8	0.092 J (0.15)	8.7	0.84 J (1.2)	ND (0.038)	1.1
602940	TA2-2-TR2-P8-SL1-S	NA	3.3	130	0.47	0.59	**70**	**170**	**1.4**	7.2	0.79 J (1.2)	0.2	0.57
602967	TA2-2-OVT2-P6-SL1-S	NA	3.6	170	0.48	0.22	12	6.4	**0.1 J (0.16)**	9.7	0.9 J (1.2)	ND (0.041)	0.89
602967	TA2-2-OVT2-P7-SL1-S	NA	2.4	180	0.3	0.43	7.8	4.2	ND (0.04)	6.7	0.95 J (1.2)	ND (0.04)	0.77
602967	TA2-2-TR2-P9-SL1-DU	NA	3	190	0.34	**6.4**	**14**	7.6	**0.21**	9.7	**1.3**	0.14 J (0.15)	0.85
602967	TA2-2-TR2-P9-SL1-S	NA	3.2	190	0.42	**17**	**23**	**14**	**0.25**	16	0.88 J (1.1)	**1.8**	1.4
602968	TA2-2-OVT2-P5/1-SL1-S	NA	3.6	170	0.43	0.5	10	6.7	**0.14 J (0.17)**	10	0.64 J (1.2)	ND (0.042)	1
602968	TA2-2-TR2-P7-SL1-S	NA	2.6	**380**	0.36	**2.5**	10	9.6	**0.3**	9.4	0.74 J (1.1)	0.11 J (0.15)	0.89
602968	TA2-2-TR2-P8-SL1-DU	NA	3.9	170	0.48	**10**	**19**	9.7	**0.58**	17	0.92 J (1.2)	0.35	1
602968	TA2-2-TR2-P8-SL1-S	NA	3.6	190	0.48	**3.8**	**21**	**14**	**0.79**	12	0.78 J (1.2)	0.26	1
602968	TA2-2-TR2-P9-SL2-S	NA	3.1	160	0.37	**14**	**16**	8.3	**2**	23	0.65 J (1.2)	0.36	0.78
602970	TA2-2-TR2-P6-SL4-S	NA	2.8	**210**	0.38	**7.6**	**34**	11	**6.6**	14	**1.2**	0.18	0.98
603057	TA2-2-OVT3-P2/3-SL1-DU	NA	4.1	**220**	0.54	**1**	9.3	6.6	**0.22**	12	0.77 J (1.2)	0.063 J (0.16)	1.3
603057	TA2-2-OVT3-P2/3-SL1-S	NA	3.3	130	0.48	0.51	11	5.9	**0.15 J (0.16)**	8.6	0.6 J (1.2)	ND (0.039)	0.84
603057	TA2-2-OVT3-P456-SL1-S	NA	3.5	**230**	0.52	0.48	9.5	6.7	**0.12 J (0.16)**	8.8	0.61 J (1.2)	ND (0.041)	1.1
603057	TA2-2-TR2-P2/1-SL1-DU	NA	3.5	170	0.49	**7.6**	**20**	**32**	**0.68**	16	0.73 J (1.1)	0.18	1.5
603057	TA2-2-TR2-P2/1-SL1-S	NA	3.1	170	0.37	**7.1**	**14**	**26**	**0.71**	10	0.42 J (1.2)	0.18	0.84
603057	TA2-2-TR2-P2/1-SL4-S	NA	3.9	**270**	0.45	**5.2**	**26**	**42**	**1.2**	12	0.76 J (1.2)	0.26	1.4
603057	TA2-2-TR3-P2/3-SL2-S	NA	3.1	200	0.36	**3.1**	9.5	**9.3**	**1.9**	10	0.52 J (1.2)	0.43	0.87
603057	TA2-2-TR3-P2/3-SL3-S	NA	3.9	190	0.33	**3.3**	**15**	**20**	**0.81**	9.9	0.44 J (1.2)	0.28	1
603068	TA2-2-OVT3-P789-SL1-S	NA	3.7	200	0.55	**1**	**14**	7.3	**0.21**	11	0.5 J (1.2)	0.057 J (0.16)	1.1
603068	TA2-2-OVT3-P789-SL2-DU	NA	3.5	**310**	0.46	**7.1**	**15**	**12**	**2.2**	12	0.46 J (1.1)	0.6	1.2
603068	TA2-2-OVT3-P789-SL2-S	NA	3.2	160	0.41	0.39	8.4	5.7	**0.13 J (0.16)**	9.3	0.43 J (1.2)	0.044 J (0.16)	1.2
603196	TA2-2-CYLI-NDER-BRM-S	NA	3.58	**228**	0.371 J (0.5)	**5.85**	9.25	**12**	**0.986**	10.7	0.399 J (0.5)	0.415 J (0.5)	0.922
603197	TA2-2-CYLI-NDER-BRM-S	NA	3	160	0.48	**5.2**	12	11	**0.94**	12	0.85 J (1.2)	0.36	0.99
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	NA	2.24	184	0.239 J (0.5)	0.106 J (0.5)	4.85	3.44	0.0156	4.97	ND (0.146)	ND (0.101)	1.24
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	NA	2.35	119	0.28 J (0.481)	ND (0.0382)	6.66	5.87	0.0315	6.63	0.298 J (0.481)	0.223 J (0.481)	1.22
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	NA	2.48	131	0.261 J (0.472)	ND (0.0382)	7.31	5.68	0.0109	6.8	ND (0.146)	ND (0.101)	1.47
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	NA	3.36	157	0.383 J (0.481)	ND (0.0382)	8.62	6.13	0.00861 J (0.00987)	7.67	ND (0.146)	0.209 J (0.481)	1.66
603358	TA2-2-FINAL-SDW-370N-4000E-1.0	NA	2.91	143	0.304 J (0.463)	0.539	7.04	5.77	**0.369**	6.47	0.298 J (0.463)	0.205 J (0.463)	1.43
603358	TA2-2-FINAL-SDW-375N-4050E-1.0	NA	1.99	140	0.256 J (0.5)	ND (0.0382)	6.42	6.61	0.0631	6.84	0.381 J (0.5)	0.22 J (0.5)	1.3
603358	TA2-2-FINAL-SDW-375N-4050E-1.0	NA	2.34	129	0.241 J (0.481)	ND (0.0382)	6.95	6.69	0.0111	5.82	ND (0.146)	ND (0.101)	1.37
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	NA	2.7	164	0.36 J (0.495)	ND (0.0382)	7.24	5.49	0.0319	7.6	ND (0.146)	0.202 J (0.495)	0.995
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-1 (Concluded)
Summary of Metals Analytical Results
June 2003 and March 1998–August 2000
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	NA	2.6	110	0.263 J (0.472)	ND (0.0382)	6.18	4.2	0.0736	5.6	0.469 J (0.472)	ND (0.101)	1.4
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	NA	3.05	131	0.258 J (0.5)	ND (0.0382)	5.41	4.82	0.0612	5.16	0.437 J (0.5)	ND (0.101)	1.18
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	NA	3.24	**257**	0.264 J (0.49)	ND (0.0382)	5.48	4.32	ND (0.00455)	4.93	0.332 J (0.49)	ND (0.101)	0.864
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	NA	**5.86**	113	0.26 J (0.476)	ND (0.0382)	5.67	7.21	0.0381	6.02	ND (0.146)	0.199 J (0.476)	0.977
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	NA	3.46	**228**	0.321 J (0.463)	ND (0.0382)	7.13	4.53	0.0138	6.95	0.318 J (0.463)	ND (0.101)	1.14
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	NA	3.34	122	0.352 J (0.476)	ND (0.0382)	7.81	5.4	0.00979	8.06	0.769	ND (0.101)	1.37
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	NA	3.17	**202**	0.334 J (0.476)	ND (0.0382)	7.42	4.71	0.0724	6.63	0.598	ND (0.101)	0.889
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	NA	3.21	165	0.344 J (0.485)	ND (0.0382)	6.85	4.1	0.0682	6.22	0.297 J (0.485)	ND (0.101)	0.799
603360	TA2-2-FINAL-SDW-450N-3770E-D	NA	3.73	182	0.326 J (0.463)	ND (0.0382)	6.03	3.85	0.0407	5.28	ND (0.146)	ND (0.101)	1.03
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	NA	3.89	**363**	0.437 J (0.495)	ND (0.0382)	9.42	4.86	**0.169**	8.36	0.546	ND (0.101)	0.946
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3
Quality Assurance/Quality Control Samples (mg/L)													
600059	TA2-2-PTW1-EB		NR	ND (0.00033)	ND (0.00022)	ND (0.00021)	ND (0.00073)	ND (0.00068)	ND (0.0001)	ND (0.00227)	NR	NR	NR
600283	TA2-2-TRE5-001-EB	NA	ND (0.00293)	0.00118 J (0.005)	ND (0.00022)	0.00041 J (0.005)	0.00226 J (0.005)	ND (0.00068)	ND (0.0001)	ND (0.00227)	0.00226 J (0.005)	0.00274 J (0.005)	NR
600459	TA2-2-TRD1-0006-EB	NA	ND (0.00293)	0.00102 J (0.005)	ND (0.00022)	ND (0.00021)	ND (0.00073)	ND (0.00068)	ND (0.0001)	ND (0.00227)	ND (0.0014)	ND (0.00062)	0.00004 J (0.002)
600472	TA2-2-TRD6-0015-EB	NA	ND (0.00293)	0.00309 J (0.005)	ND (0.00022)	0.00036 J (0.005)	0.00151 J (0.005)	ND (0.00068)	ND (0.0001)	ND (0.00227)	ND (0.0014)	ND (0.00062)	NR
600494	TA2-2-TRD8-0025-EB	NA	ND (0.00451)	0.0009 J (0.005)	ND (0.00026)	0.00046 J (0.005)	0.00075 J (0.005)	ND (0.00159)	ND (0.00004)	ND (0.00129)	ND (0.00271)	ND (0.00073)	0.00013 J (0.002)
601139	TA2-2-TRC7-0003-000-EB	NA	ND (0.00451)	0.00101 J (0.005)	ND (0.00026)	ND (0.00044)	0.00066 J (0.005)	ND (0.00159)	0.00021	ND (0.00129)	ND (0.00271)	0.00982	ND (0.00003)

Note: Values in **bold** exceed background soil concentrations.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.

ACF = American Car & Foundry.
bgs = Below ground surface.
D = Duplicate.
DU = Duplicate sample.
DUP = Duplicate sample.
E = Value exceeds the calibrated range of the analytical instrument.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
NR = Not reported.
OVA = Organic vapor analyzer.
OVER = Overburden soil sample.
OVT = Overburden soil from Trench.
P = Laboratory precision measurements for the laboratory control sample and duplicate do not meet acceptance criteria.
PW = Western Pit.
S = Soil sample.
SL = Slope.
SLPE = Overburden soil from a graded slope excavated over Trench E.
SP = Soil pile.
SU = Soil.
SWMU = Solid Waste Management Unit.
TR = Trench.
TRA = Trench A.
TRB = Trench B.
TRC = Trench C.
TRD = Trench D.
TRE = Trench E.

Table A-2
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
604554	TA2-2-33-PUCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0072**	ND (0.00142)
604554	TA2-2-34-PUCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	ND (0.00136)	ND (0.00142)
604554	TA2-2-34-PUCS-002-DU	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0018 J (0.00333)**	ND (0.00142)
604554	TA2-2-34-PUCS-002-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	ND (0.00136)	ND (0.00142)
604554	TA2-2-34-PUCS-003-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	ND (0.00136)	ND (0.00142)
604554	TA2-2-34-PUCS-004-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	ND (0.00136)	ND (0.00142)
604554	TA2-2-34-PUCS-005-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	ND (0.00136)	ND (0.00142)
604554	TA2-2-38-PUCS-005-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	ND (0.00136)	ND (0.00142)
605039	TA2-2-SDW-365N-3800E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-SDW-365N-3850E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0044 H**	ND (0.00143)
605039	TA2-2-SDW-365N-3900E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0034 H**	ND (0.000907)	**0.0107 H**	**0.00397 H**
605039	TA2-2-SDW-375N-3770E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-SDW-400N-3770E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0075 H**	ND (0.00143)
605039	TA2-2-SDW-450N-3770E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0101 H**	ND (0.00143)
605039	TA2-2-SDW-450N-3770E-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0102 H**	ND (0.00143)
605039	TA2-2-SDW-500N-3770E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-SDW-550N-3770E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-SDW-365N-3950E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-SDW-370N-4000E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0156**	ND (0.000907)	**0.0223**	**0.0069**
605041	TA2-2-SDW-375N-4050E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0043**	ND (0.000907)	**0.027**	**0.0094**
605041	TA2-2-SDW-375N-4050E-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0042**	ND (0.000907)	**0.0157**	**0.00563**
605041	TA2-2-SDW-400N-4100E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0166**	**0.0081**
605042	TA2-2-31-PUCS-001	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0135**	**0.0016 J (0.00333)**
605042	TA2-2-31-PUCS-002	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0121**	**0.0017 J (0.00333)**
605042	TA2-2-31-PUCS-003	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0218**	**0.0027 J (0.00333)**
605042	TA2-2-31-PUCS-004	NA	ND (0.00158)	ND (0.00564)	ND (0.00145)	ND (0.00334)	ND (0.00181)	**0.116**	**0.0129**
605042	TA2-2-SDW-450N-4150E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-SDW-450N-4150E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-SDW-500N-4150E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0066**	ND (0.00143)
605042	TA2-2-SDW-550N-4150E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605044	TA2-2-32-PUCS-001	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0084**	ND (0.00143)
605044	TA2-2-32-PUCS-002	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0062**	ND (0.00143)
605044	TA2-2-32-PUCS-003	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0111**	ND (0.00143)
605044	TA2-2-32-PUCS-004	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0197**	ND (0.00143)
605044	TA2-2-33-PUCS-001	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0071**	ND (0.00143)
605044	TA2-2-33-PUCS-002	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0085**	ND (0.00143)
605044	TA2-2-33-PUCS-003	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0488**	ND (0.00143)
605044	TA2-2-33-PUCS-004	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0129**	ND (0.00143)
605044	TA2-2-33-PUCS-004-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0115**	ND (0.00143)
605044	TA2-2-34-PUCS-027-0.0-1.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0209**	**0.0021**
605044	TA2-2-34-PUCS-027-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0101**	**0.00184 J (0.00333)**

Refer to footnotes at end of table.

Table A-2 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605044	TA2-2-37-PUCS-001	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0023 J (0.00333)**	ND (0.00143)
605044	TA2-2-37-PUCS-002	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0026 J (0.00333)**	ND (0.00143)
605044	TA2-2-37-PUCS-003	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0068**	ND (0.00143)
605044	TA2-2-37-PUCS-004	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0041**	ND (0.00143)
605044	TA2-2-37-PUCS-005	NA	**0.00079 H, J (0.00333)**	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0142 H**	**0.0023 H, J (0.00333)**
605044	TA2-2-37-PUCS-006	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0028 J (0.00333)**	ND (0.00143)
605044	TA2-2-37-PUCS-007	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0044**	ND (0.00143)
605044	TA2-2-37-PUCS-008	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0176**	**0.0021 J (0.00333)**
605044	TA2-2-37-PUCS-008-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0388**	**0.00419**
605045	TA2-2-34-PUCS-004-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0243**	**0.0076**
605045	TA2-2-34-PUCS-004-6.0-7.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0114**	**0.0037**
605045	TA2-2-34-PUCS-005-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0041**	**0.0031 J (0.00333)**
605045	TA2-2-34-PUCS-005-5.0-6.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	ND (0.0137)	ND (0.0143)
605045	TA2-2-34-PUCS-021-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0172**	**0.0072**
605045	TA2-2-34-PUCS-021-3.0-4.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0175**	**0.0114**
605045	TA2-2-34-PUCS-021-6.0-7.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0135**	**0.0053**
605045	TA2-2-34-PUCS-025-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0418**	**0.0142**
605045	TA2-2-34-PUCS-025-6.0-7.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0026 J (0.00333)**	ND (0.00143)
605045	TA2-2-34-PUCS-026-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0105**	**0.0043**
605045	TA2-2-34-PUCS-026-6.0-7.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605045	TA2-2-34-PUCS-026-6.0-7.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.003 J (0.00333)**	ND (0.00143)
605045	TA2-2-34-PUCS-028-0.0-1.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0097**	**0.0041**
605045	TA2-2-34-PUCS-028-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0069**	**0.003 J (0.00333)**
605045	TA2-2-34-PUCS-029-0.0-1.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0062**	**0.0025 J (0.00333)**
605045	TA2-2-34-PUCS-029-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0044**	**0.0021 J (0.00333)**
605045	TA2-2-34-PUCS-038-0.0-1.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0042**	**0.0019 J (0.00333)**
605045	TA2-2-34-PUCS-038-0.0-1.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0061**	**0.003 J (0.00333)**
605045	TA2-2-34-PUCS-038-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.006**	**0.0033 J (0.00333)**
605046	TA2-2-34-PUCS-003-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0178**	ND (0.00143)
605046	TA2-2-34-PUCS-003-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.005**	ND (0.000907)	**0.0032 J (0.00333)**	**0.0016 J (0.00333)**
605046	TA2-2-34-PUCS-003-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0104**	ND (0.00143)
605046	TA2-2-34-PUCS-003-4.0-5.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0193**	ND (0.00143)
605046	TA2-2-34-PUCS-003-7.0-8.0	NA	ND (0.079)	ND (0.282)	ND (0.0727)	ND (0.167)	ND (0.0907)	ND (0.137)	ND (0.143)
605046	TA2-2-34-PUCS-019-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0214**	ND (0.00143)
605046	TA2-2-34-PUCS-019-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.14**	ND (0.0143)
605046	TA2-2-34-PUCS-019-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0389**	ND (0.00143)
605046	TA2-2-34-PUCS-019-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0154**	ND (0.00143)
605046	TA2-2-34-PUCS-020-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0088**	ND (0.00143)
605046	TA2-2-34-PUCS-020-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0024 J (0.00333)**	ND (0.00143)
605046	TA2-2-34-PUCS-020-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.016**	ND (0.00143)
605046	TA2-2-34-PUCS-020-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0104**	ND (0.00143)

Refer to footnotes at end of table.

Table A-2 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605046	TA2-2-34-PUCS-022-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0052**	**0.0019 J (0.00333)**
605046	TA2-2-34-PUCS-022-6.0-7.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0042**	**0.0029 J (0.00333)**
605046	TA2-2-34-PUCS-023-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0107**	**0.0036**
605046	TA2-2-34-PUCS-023-6.0-7.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0252 J (0.00333)**	ND (0.0143)
605046	TA2-2-34-PUCS-024-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0134**	**0.0048**
605046	TA2-2-34-PUCS-024-6.0-7.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0051**	ND (0.00143)
605046	TA2-2-34-PUCS-024-6.0-7.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0038**	ND (0.00143)
605047	TA2-2-34-PUCS-014-1.0-2.0	NA	ND (0.00079)	ND (0.002	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0136**	**0.0027 J (0.00333)**
605047	TA2-2-34-PUCS-014-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0123**	**0.0032 J (0.00333)**
605047	TA2-2-34-PUCS-014-10.0-11.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0113**	**0.0026 J (0.00333)**
605047	TA2-2-34-PUCS-014-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0075**	ND (0.00143)
605047	TA2-2-34-PUCS-014-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0067**	**0.0039**
605047	TA2-2-34-PUCS-015-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0142**	ND (0.00143)
605047	TA2-2-34-PUCS-015-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0076**	ND (0.00143)
605047	TA2-2-34-PUCS-015-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0273**	**0.0062**
605047	TA2-2-34-PUCS-015-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0014 J (0.00333)**	ND (0.00143)
605047	TA2-2-34-PUCS-016-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.013**	**0.0026 J (0.00333)**
605047	TA2-2-34-PUCS-016-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0099**	ND (0.00143)
605047	TA2-2-34-PUCS-016-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0103**	**0.00243 J (0.00333)**
605047	TA2-2-34-PUCS-018-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0176**	ND (0.00143)
605047	TA2-2-34-PUCS-018-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0091**	ND (0.00143)
605047	TA2-2-34-PUCS-018-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0075**	ND (0.00143)
605047	TA2-2-34-PUCS-018-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0346**	ND (0.00143)
605047	TA2-2-34-PUCS-037-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0137**	**0.0038**
605047	TA2-2-34-PUCS-037-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0127**	ND (0.00143)
605047	TA2-2-34-PUCS-037-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0075**	ND (0.00143)
605047	TA2-2-34-PUCS-037-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.00798**	ND (0.00143)
605082	TA2-2-34-PUCS-002-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0181 J (0.00333)**	ND (0.0143)
605082	TA2-2-34-PUCS-002-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	ND (0.0137)	ND (0.0143)
605082	TA2-2-34-PUCS-002-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0174 J (0.00333)**	ND (0.0143)
605082	TA2-2-34-PUCS-002-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	ND (0.0137)	ND (0.0143)
605082	TA2-2-34-PUCS-013-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	ND (0.0137)	ND (0.0143)
605082	TA2-2-34-PUCS-013-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0057**	ND (0.00143)
605082	TA2-2-34-PUCS-016-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0089**	ND (0.00143)
605082	TA2-2-34-PUCS-017-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0085**	ND (0.00143)
605082	TA2-2-34-PUCS-017-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0059**	ND (0.000907)	**0.0055**	ND (0.00143)
605082	TA2-2-34-PUCS-017-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0056**	ND (0.00143)
605082	TA2-2-34-PUCS-017-4.0-5.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0331**	**0.011**
605082	TA2-2-34-PUCS-017-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0214 J (0.00333)**	ND (0.0143)
605082	TA2-2-34-PUCS-030-1.0-2.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0807**	ND (0.00717)
605082	TA2-2-34-PUCS-030-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0103**	**0.0037**

Refer to footnotes at end of table.

Table A-2 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605082	TA2-2-34-PUCS-030-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0118**	**0.0033 J (0.00333)**
605082	TA2-2-34-PUCS-030-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0036**	ND (0.000907)	**0.014**	**0.0072**
605082	TA2-2-34-PUCS-039-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0047**	ND (0.000907)	**0.0246**	**0.0073**
605082	TA2-2-34-PUCS-039-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0263**	**0.0119**
605082	TA2-2-34-PUCS-039-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0028 J (0.00333)**	ND (0.000907)	**0.0149**	**0.0043**
605082	TA2-2-34-PUCS-039-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0059**	ND (0.000907)	**0.0138**	**0.0056**
605083	TA2-2-34-PUCS-001-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0086**	**0.0035**
605083	TA2-2-34-PUCS-001-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0036**	**0.0022 J (0.00333)**
605083	TA2-2-34-PUCS-001-10.0-11.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0039**	**0.00277 J (0.00333)**
605083	TA2-2-34-PUCS-001-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0027 J (0.00333)**	ND (0.000907)	**0.0086**	**0.0032 J (0.00333)**
605083	TA2-2-34-PUCS-001-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.003 J (0.00333)**	ND (0.000907)	**0.0118**	**0.0041**
605083	TA2-2-34-PUCS-008-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0027 J (0.00333)**	ND (0.000907)	**0.0178**	**0.0049**
605083	TA2-2-34-PUCS-008-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0037**	ND (0.000907)	**0.0209**	**0.0061**
605083	TA2-2-34-PUCS-008-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0031 J (0.00333)**	ND (0.000907)	**0.0223**	**0.0071**
605083	TA2-2-34-PUCS-008-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0032 J (0.00333)**	ND (0.000907)	**0.0229**	**0.00683**
605083	TA2-2-34-PUCS-008-7.0-8.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0036**	ND (0.000907)	**0.0211**	**0.0199**
605083	TA2-2-34-PUCS-012-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0213**	**0.0064**
605083	TA2-2-34-PUCS-012-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0067**	ND (0.00143)
605083	TA2-2-34-PUCS-012-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0289 J (0.00333)**	ND (0.0143)
605083	TA2-2-34-PUCS-012-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0143**	**0.00457**
605083	TA2-2-34-PUCS-013-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	ND (0.0137)	ND (0.0143)
605083	TA2-2-34-PUCS-013-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.01**	**0.0038**
605084	TA2-2-34-PUCS-009-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0073**	ND (0.00143)
605084	TA2-2-34-PUCS-009-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0075**	ND (0.00143)
605084	TA2-2-34-PUCS-009-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0096**	**0.004**
605084	TA2-2-34-PUCS-009-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0089**	ND (0.00143)
605084	TA2-2-34-PUCS-010-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.008**	ND (0.000907)	**0.0027 J (0.00333)**	ND (0.00143)
605084	TA2-2-34-PUCS-010-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0139**	ND (0.000907)	**0.0025 J (0.00333)**	ND (0.00143)
605084	TA2-2-34-PUCS-010-17.0-18.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0215**	ND (0.000907)	**0.0084**	ND (0.00143)
605084	TA2-2-34-PUCS-010-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605084	TA2-2-34-PUCS-010-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0154**	ND (0.000907)	**0.0068**	**0.0036**
605084	TA2-2-34-PUCS-011-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0117**	ND (0.00143)
605084	TA2-2-34-PUCS-011-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0092**	ND (0.000907)	**0.014**	ND (0.00143)
605084	TA2-2-34-PUCS-036-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0254**	**0.005**
605084	TA2-2-34-PUCS-036-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0514**	**0.0087**
605084	TA2-2-34-PUCS-036-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0221**	**0.0044**
605084	TA2-2-34-PUCS-036-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.032**	**0.0231**
605084	TA2-2-34-PUCS-040-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0112**	**0.0042**
605084	TA2-2-34-PUCS-040-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0177**	**0.0052**
605084	TA2-2-34-PUCS-040-10.0-11.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0173**	**0.003 J (0.00333)**
605084	TA2-2-34-PUCS-040-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0106**	**0.0019 J (0.00333)**

Refer to footnotes at end of table.

Table A-2 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605084	TA2-2-34-PUCS-040-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0123**	**0.0032 J (0.00333)**
605085	TA2-2-34-PUCS-006-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.003 J (0.00333)**	ND (0.000907)	**0.0034**	ND (0.00143)
605085	TA2-2-34-PUCS-006-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0046**	ND (0.000907)	**0.0017 J (0.00333)**	ND (0.00143)
605085	TA2-2-34-PUCS-006-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0074**	**0.0029 J (0.00333)**
605085	TA2-2-34-PUCS-006-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0055**	ND (0.000907)	**0.0053**	**0.00283 J (0.00333)**
605085	TA2-2-34-PUCS-007-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605085	TA2-2-34-PUCS-007-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0045**	ND (0.00143)
605085	TA2-2-34-PUCS-007-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0036**	ND (0.00143)
605085	TA2-2-34-PUCS-007-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0099**	**0.0037**
605085	TA2-2-34-PUCS-007-7.0-8.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0073**	**0.0032 J (0.00333)**
605085	TA2-2-34-PUCS-011-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0027 J (0.00333)**	ND (0.000907)	**0.0236**	ND (0.00143)
605085	TA2-2-34-PUCS-011-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0029 J (0.00333)**	ND (0.000907)	**0.0121**	ND (0.00143)
605085	TA2-2-34-PUCS-031-12.0-13.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	ND (0.0274)	ND (0.0287)
605085	TA2-2-34-PUCS-031-17.0-18.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0448**	ND (0.0143)
605085	TA2-2-34-PUCS-031-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0023 J (0.00333)**	ND (0.000907)	**0.0247**	**0.0078**
605085	TA2-2-34-PUCS-031-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0053**	ND (0.00143)
605085	TA2-2-34-PUCS-032-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0039**	ND (0.00143)
605085	TA2-2-34-PUCS-032-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0178**	**0.0065**
605085	TA2-2-34-PUCS-032-17.0-18.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0145**	**0.0053**
605085	TA2-2-34-PUCS-032-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0173**	**0.0076**
605085	TA2-2-34-PUCS-032-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0076**	ND (0.00143)
605086	TA2-2-34-PUCS-033-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0089**	ND (0.00143)
605086	TA2-2-34-PUCS-033-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0027 J (0.00333)**	ND (0.00143)
605086	TA2-2-34-PUCS-033-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0158**	ND (0.00143)
605086	TA2-2-34-PUCS-033-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0027 J (0.00333)**	ND (0.000907)	**0.0031 J (0.00333)**	ND (0.00143)
605086	TA2-2-34-PUCS-034-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0076**	ND (0.00143)
605086	TA2-2-34-PUCS-034-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0016 J (0.00333)**	ND (0.00143)
605086	TA2-2-34-PUCS-034-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0037**	ND (0.00143)
605086	TA2-2-34-PUCS-034-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0032 J (0.00333)**	ND (0.00143)
605086	TA2-2-34-PUCS-035-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.005**	ND (0.00143)
605086	TA2-2-34-PUCS-035-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.038 H**	**0.0042 H**
605086	TA2-2-34-PUCS-035-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0448**	**0.0069**
605086	TA2-2-34-PUCS-035-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0112**	ND (0.00143)
605086	TA2-2-34-PUCS-035-7.0-8.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0127**	ND (0.00143)
605086	TA2-2-38-PUCS-036-1.0-2.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.156**	**0.0322**
605086	TA2-2-38-PUCS-036-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0596**	**0.007**
605086	TA2-2-38-PUCS-037-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0179**	ND (0.000907)	**0.0189**	ND (0.00143)
605086	TA2-2-38-PUCS-037-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0089**	ND (0.000907)	**0.018**	ND (0.00143)
605086	TA2-2-38-PUCS-038-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0238**	ND (0.000907)	**0.0406**	**0.00561**
605086	TA2-2-38-PUCS-057-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0078**	ND (0.00143)
605086	TA2-2-38-PUCS-057-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0185**	ND (0.000907)	**0.0078**	ND (0.00143)

Refer to footnotes at end of table.

Table A-2 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605087	TA2-2-38-PUCS-031-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0054**	ND (0.000907)	**0.0418**	**0.005**
605087	TA2-2-38-PUCS-031-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0307**	**0.0056**
605087	TA2-2-38-PUCS-031-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0354**	**0.0066**
605087	TA2-2-38-PUCS-031-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0347**	ND (0.00143)
605087	TA2-2-38-PUCS-032-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.114**	ND (0.00143)
605087	TA2-2-38-PUCS-032-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0027 J (0.00333)**	ND (0.000907)	**0.0319**	**0.0446**
605087	TA2-2-38-PUCS-032-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0049**	ND (0.000907)	**0.029**	**0.0033 J (0.00333)**
605087	TA2-2-38-PUCS-032-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.142**	ND (0.00717)
605087	TA2-2-38-PUCS-034-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.008**	ND (0.000907)	**0.0395**	ND (0.00143)
605087	TA2-2-38-PUCS-034-1.0-2.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0062**	ND (0.000907)	**0.0346**	ND (0.00143)
605087	TA2-2-38-PUCS-034-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0141**	ND (0.00143)
605087	TA2-2-38-PUCS-035-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0762**	ND (0.00143)
605087	TA2-2-38-PUCS-035-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.103**	ND (0.00143)
605087	TA2-2-38-PUCS-058-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0346**	**0.0044**
605087	TA2-2-38-PUCS-058-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.007**	ND (0.00143)
605088	TA2-2-38-PUCS-005-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0115**	ND (0.000907)	**0.0503**	ND (0.00143)
605088	TA2-2-38-PUCS-005-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0063**	ND (0.00143)
605088	TA2-2-38-PUCS-005-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.11**	ND (0.0143)
605088	TA2-2-38-PUCS-005-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0047**	ND (0.00143)
605088	TA2-2-38-PUCS-005-7.0-8.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0054**	ND (0.00143)
605088	TA2-2-38-PUCS-033-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0753**	ND (0.0143)
605088	TA2-2-38-PUCS-033-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0049**	ND (0.00143)
605088	TA2-2-38-PUCS-033-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.104**	ND (0.0143)
605088	TA2-2-38-PUCS-033-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0036**	ND (0.000907)	**0.0175**	**0.0073**
605090	TA2-2-38-PUCS-020-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0026 J (0.00333)**	ND (0.00143)
605090	TA2-2-38-PUCS-021-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0032 J (0.00333)**	ND (0.00143)
605090	TA2-2-38-PUCS-022-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.005**	ND (0.000907)	**0.026**	ND (0.00143)
605090	TA2-2-38-PUCS-023-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0128**	**0.0044**
605091	TA2-2-38-PUCS-003-12.0-13.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.0647**	ND (0.00717)
605091	TA2-2-38-PUCS-003-17.0-18.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.108**	ND (0.00717)
605091	TA2-2-38-PUCS-016-12.0-13.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.0958**	ND (0.00717)
605091	TA2-2-38-PUCS-016-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0076**	ND (0.00143)
605091	TA2-2-38-PUCS-017-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0163**	**0.0109**
605091	TA2-2-38-PUCS-017-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0024 J (0.00333)**	ND (0.000907)	**0.0203**	**0.0193**
605099	TA2-2-38-PUCS-002-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	NR	ND (0.000907)	NR	NR
605099	TA2-2-38-PUCS-002-12.0-13.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	NR	ND (0.000907)	NR	NR
605099	TA2-2-38-PUCS-002-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	NR	ND (0.000907)	NR	NR
605099	TA2-2-38-PUCS-010-12.0-13.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.0962**	**0.0184**
605099	TA2-2-38-PUCS-010-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0606**	**0.0101**
605099	TA2-2-38-PUCS-011-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0217**	**0.0057**
605099	TA2-2-38-PUCS-011-12.0-13.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.027**	**0.0062**

Refer to footnotes at end of table.

Table A-2 (Concluded)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605100	TA2-2-38-PUCS-011-17.0-18.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0382**	ND (4.53)	**0.144**	**0.0312**
605100	TA2-2-38-PUCS-012-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0454**	**0.0136**
605100	TA2-2-38-PUCS-012-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0525**	**0.018**
605101	TA2-2-38-PUCS-007-12.0-13.0	NA	ND (.0079)	ND (.0282)	ND (.00727)	**0.0647**	ND (.00907)	**0.122**	ND (.0143)
605101	TA2-2-38-PUCS-007-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0467**	ND (0.000907)	**0.024**	ND (0.00143)
605101	TA2-2-38-PUCS-008-12.0-13.0	NA	ND (.00158)	ND (.00564)	ND (.00145)	**0.0521 H**	ND (.00181)	**0.0264 H**	**0.0057 H, J (0.00333)**
605101	TA2-2-38-PUCS-008-17.0-18.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0975**	ND (4.53)	**0.0395**	ND (0.00717)
605101	TA2-2-38-PUCS-013-12.0-13.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0254**	ND (4.53)	**0.0349**	ND (0.00717)
605101	TA2-2-38-PUCS-013-17.0-18.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0305**	ND (4.53)	**0.0439**	ND (0.00717)
605102	TA2-2-38-PUCS-001-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0474**	**0.0114**
605102	TA2-2-38-PUCS-001-12.0-13.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0363**	**0.0125**
605102	TA2-2-38-PUCS-001-17.0-18.0	NA	ND (0.00158)	ND (0.00564)	ND (0.00145)	ND (0.00334)	ND (0.00181)	**0.0727**	**0.0161**
605102	TA2-2-38-PUCS-006-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.006**	ND (0.000907)	**0.0217**	**0.00927**
605102	TA2-2-38-PUCS-006-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0264**	**0.0133**
605102	TA2-2-38-PUCS-050-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0531**	**0.0119**
605102	TA2-2-38-PUCS-051-6.0-7.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0086**	ND (0.000907)	**0.0098**	**0.0038**
605102	TA2-2-38-PUCS-052-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0046**	**0.0022 J (0.00333)**
605102	TA2-2-38-PUCS-052-2.0-3.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0106**	**0.003 J (0.00333)**
605102	TA2-2-38-PUCS-053-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0051**	ND (0.000907)	**0.0114**	**0.0036**
605103	TA2-2-38-PUCS-045-10.0-11.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.129**	**0.016 J (0.00333)**
605103	TA2-2-38-PUCS-046-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.154**	ND (0.00907)	**0.0492**	ND (0.0143)
605103	TA2-2-38-PUCS-047-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.00597**	ND (0.000907)	**0.0156**	ND (0.00143)
605103	TA2-2-38-PUCS-055-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (4.53)	**0.141**	ND (0.00717)
605103	TA2-2-38-PUCS-056-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0142**	ND (0.000907)	**0.0297**	ND (0.00143)
605104	TA2-2-38-PUCS-039-2.0-3.0	NA	ND (0.00158)	ND (0.00564)	ND (0.00145)	**0.0035 J (0.00333)**	ND (0.00181)	**0.0495**	**0.011**
605104	TA2-2-38-PUCS-043-10.0-11.0	NA	ND (0.00158)	ND (0.00564)	ND (0.00145)	ND (0.00334)	ND (0.00181)	**0.0711**	ND (0.00287)
605104	TA2-2-38-PUCS-044-10.0-11.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0129 J (0.00333)**	ND (4.53)	**0.13**	ND (0.00717)
605104	TA2-2-38-PUCS-054-2.0-3.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.296**	**0.0395**
605104	TA2-2-38-PUCS-054-2.0-3.0-D	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.16**	0.0299 J (0.00333)
Quality Assurance/Quality Control Samples (mg/kg)									
604554	TA2-2-PUCS-EB1-S	NA	ND (0.0000175)	ND (0.0000833)	ND (0.000038)	ND (0.0000444)	ND (0.000027)	ND (0.0000251)	ND (0.0000134)

Note: Values in **bold** indicate detected PCBs.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
D = Duplicate.
DU = Duplicate sample.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
PCB = Polychlorinated biphenyl.
NR = Not reported.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-3
Summary of VOC Analytical Results
February 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			VOCs (EPA Method 8260[a]) (mg/kg)								
Record Number[b]	ER Sample ID	Sample Depth (ft)	Acetone	Ethylbenzene	2-Hexanone	Methylene chloride	Toluene	Trichloroethene	Xylene	o-Xylene	p-xylene, m-Xylene
600003	TA2-2-BORROW-1	NA	ND (0.0054)	ND (0.0022)	ND (0.0054)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0022)	ND (0.0032)
600003	TA2-2-BORROW-2	NA	ND (0.0054)	ND (0.0022)	ND (0.0054)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0022)	ND (0.0033)
600004	TA2-2-ACF1-0001-18-S	18	ND (0.002)	ND (0.001)	ND (0.002)	**0.0028 J, H (0.005)**	ND (0.001)	ND (0.001)	ND (0.002)	NR	NR
600005	TA2-2-ACF1-0001-18-S	18	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.002)	ND (0.003)
600007	TA2-2-ACF2-0001-15-S	15	**0.019**	ND (0.001)	ND (0.002)	**0.0029 J (0.005)**	ND (0.001)	ND (0.001)	ND (0.002)	NR	NR
600008	TA2-2-ACF2-0001-15-S	15	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.002)	ND (0.003)
600010	TA2-2-ACF3-0001-12-S	12	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.001)	**0.001 J (0.002)**	ND (0.001)	ND (0.002)	NR	NR
600012	TA2-2-ACF3-0001-12-S	12	ND (0.0062)	ND (0.0025)	ND (0.0062)	ND (0.0012)	ND (0.0012)	ND (0.0012)	NR	ND (0.0025)	ND (0.0038)
600041	TA2-2-ACF4-0001-12-S	12	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	NR	NR
600046	TA2-2-ACF1-0001-SL2-S	NA	**0.0055 J (0.021)**	ND (0.0021)	ND (0.0053)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0032)
600046	TA2-2-PTW1-0001-10-S	10	**0.0067 J (0.021)**	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600047	TA2-2-PTW1-0001-10-S	10	**0.0091 J (0.01)**	ND (0.001)	ND (0.002)	**0.0025 J (0.005)**	ND (0.001)	ND (0.001)	ND (0.002)	NR	NR
600048	TA2-2-ACF4-0001-SL5-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600061	TA2-2-PW12-0001-SL7-S	NA	**0.0081 J (0.021)**	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600061	TA2-2-PW12-0001-SL8-S	NA	**0.011 J (0.021)**	ND (0.0021)	**0.014 J (0.021)**	ND (0.001)	ND (0.001)	ND (0.001)	NR	**0.004 J (0.0084)**	**0.0065 J (0.012)**
600062	TA2-2-PTW2-0001-12-S	12	**0.0067 J (0.01)**	ND (0.001)	ND (0.002)	**0.0015 J (0.005)**	**0.0011 J (0.002)**	ND (0.001)	ND (0.002)	NR	NR
600064	TA2-2-PTW2-0001-12-S	12	**0.01 J (0.021)**	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600066	TA2-2-ACF2-0001-SL4-S	NA	ND (0.0052)	**0.0043 J (0.0084)**	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	**0.014**	**0.021**
600066	TA2-2-PTW3-0001-12-S	12	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600067	TA2-2-PTW3-0001-12-S	12	**0.0041 J (0.01)**	ND (0.001)	ND (0.002)	**0.0014 J (0.005)**	ND (0.001)	ND (0.001)	ND (0.002)	NR	NR
600069	TA2-2-PTW3-0001-SL4-S	NA	**0.0057 J (0.021)**	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600071	TA2-2-OVER-0001-SL2-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0032)
600072	TA2-2-PTW4-0001-15-S	15	**0.0024 J (0.005)**	ND (0.00023)	ND (0.0044)	**0.0038**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600074	TA2-2-PTW4-0001-15-S	15	ND (0.0054)	ND (0.0022)	ND (0.0054)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0022)	ND (0.0032)
600076	TA2-2-PTW4-SL14-000-S	NA	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.002)	ND (0.003)
600081	TA2-2-OVW4-0001-SL5-S	NA	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.002)	ND (0.003)
600083	TA2-2-OVW4-0001-SL8-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600083	TA2-2-SLPE-0001-SL3-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600083	TA2-2-SLPE-0001-SL9-S	NA	**0.0076 J (0.021)**	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600083	TA2-2-SLPE-SL14-000-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0032)
600085	TA2-2-TRE1-SL06-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600085	TA2-2-TRE1-SL13-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600087	TA2-2-TRE2-SL07-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600277	TA2-2-SLPE-SL16-000-S	NA	ND (0.0052)	ND (0.0021)	**0.0083 J (0.021)**	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600277	TA2-2-SLPE-SL19-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600277	TA2-2-SLPE-SL22-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600277	TA2-2-SLPE-SL23-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of VOC Analytical Results
February 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			VOCs (EPA Method 8260/8260/8260[a]) (mg/kg)								
Record Number[b]	ER Sample ID	Sample Depth (ft)	Acetone	Ethylbenzene	2-Hexanone	Methylene chloride	Toluene	Trichloroethene	Xylene	o-Xylene	p-xylene, m-Xylene
600277	TA2-2-SLPE-SL32-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600277	TA2-2-SLPE-SL34-000-S	NA	ND (0.0051)	ND (0.002)	ND (0.0051)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.002)	ND (0.0031)
600279	TA2-2-TRE3-SL07-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600279	TA2-2-TRE4-SL10-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600281	TA2-2-OVTE-SL03-000-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0032)
600281	TA2-2-OVTE-SL08-000-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600285	TA2-2-OVTE-SL11-000-DUP	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600285	TA2-2-OVTE-SL11-000-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600285	TA2-2-TRE5-SL08-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600285	TA2-2-TRE5-SL17-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600288	TA2-2-TRE6-SL09-000-S	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.00074 J (0.001)**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600290	TA2-2-TRE6-SL09-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0032)
600290	TA2-2-TRE6-SL22-000-DUP	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0032)
600290	TA2-2-TRE6-SL22-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600292	TA2-2-OVA5-SL05-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600292	TA2-2-OVA5-SL11-000-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600292	TA2-2-OVA5-SL13-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0031)
600296	TA2-2-TRE7-SL08-000-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600296	TA2-2-TRE7-SL13-000-S	NA	ND (0.0052)	ND (0.0021)	ND (0.0052)	ND (0.001)	ND (0.001)	ND (0.001)	NR	ND (0.0021)	ND (0.0032)
600296	TA2-2-TRE7-SL25-000-S	NA	ND (0.0053)	ND (0.0021)	ND (0.0053)	ND (0.0011)	ND (0.0011)	ND (0.0011)	NR	ND (0.0021)	ND (0.0032)
600299	TA2-2-TRE7-SL37-000-S	NA	ND (0.026)	ND (0.011)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.011)	ND (0.016)
600299	TA2-2-TRE7-SL49-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600299	TA2-2-TRE7-SL55-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600301	TA2-2-TRE8-SL01-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600301	TA2-2-TRE8-SL14-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600303	TA2-2-TRE8-SL07-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600303	TA2-2-TRE8-SL21-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600303	TA2-2-TRE8-SL29-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.015)
600461	TA2-2-ACF5-SL06-000-S	NA	ND (0.026)	ND (0.010)	ND (0.051)	ND (0.0051)	ND (0.0051)	ND (0.0051)	NR	ND (0.010)	ND (0.015)
600461	TA2-2-OVD1-SL01-000-S	NA	ND (0.026)	ND (0.010)	ND (0.051)	ND (0.0051)	ND (0.0051)	ND (0.0051)	NR	ND (0.010)	ND (0.015)
600461	TA2-2-OVD2-SL02-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600463	TA2-2-TRD1-SL02-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600463	TA2-2-TRD1-SL06-000-S	NA	ND (0.027)	ND (0.011)	ND (0.054)	ND (0.0054)	ND (0.0054)	ND (0.0054)	NR	ND (0.011)	ND (0.016)
600463	TA2-2-TRD1-SL09-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600463	TA2-2-TRD1-SL12-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of VOC Analytical Results
February 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			VOCs (EPA Method 8260/8260/8260[a]) (mg/kg)								
Record Number[b]	ER Sample ID	Sample Depth (ft)	Acetone	Ethylbenzene	2-Hexanone	Methylene chloride	Toluene	Trichloroethene	Xylene	o-Xylene	p-xylene, m-Xylene
600465	TA2-2-OVD3-SL01-000-S	NA	ND (0.026)	ND (0.011)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.011)	ND (0.016)
600465	TA2-2-TRD2-SL01-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600465	TA2-2-TRD2-SL05-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600467	TA2-2-TRD3-SL03-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600467	TA2-2-TRD3-SL06-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600467	TA2-2-TRD3-SL12-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600470	TA2-2-TRD4-SL03-000-DUP	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600470	TA2-2-TRD4-SL03-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600470	TA2-2-TRD4-SL07-000-S	NA	ND (0.027)	ND (0.011)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.011)	ND (0.016)
600470	TA2-2-TRD4-SL14-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600470	TA2-2-TRD5-SL05-000-DUP	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600470	TA2-2-TRD5-SL05-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600474	TA2-2-OVD4-SL03-000-S	NA	ND (0.027)	ND (0.011)	ND (0.054)	ND (0.0054)	ND (0.0054)	ND (0.0054)	NR	ND (0.011)	ND (0.016)
600474	TA2-2-TRD6-SL03-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600474	TA2-2-TRD6-SL08-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600474	TA2-2-TRD6-SL15-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600474	TA2-2-TRD6-SL19-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600474	TA2-2-TRD6-SL23-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600489	TA2-2-OVD7-SL02-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	**0.0069 J (0.021)**	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600489	TA2-2-OVD8-SL02-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	**0.0068 J (0.021)**	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600489	TA2-2-TRD7-SL03-000-DUP	NA	ND (0.026)	ND (0.010)	ND (0.053)	**0.007 J (0.021)**	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600489	TA2-2-TRD7-SL03-000-S	NA	ND (0.026)	ND (0.011)	ND (0.053)	**0.0066 J (0.021)**	ND (0.0053)	ND (0.0053)	NR	ND (0.011)	ND (0.016)
600489	TA2-2-TRD7-SL11-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	**0.0063 J (0.021)**	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600489	TA2-2-TRD7-SL13-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	**0.0067 J (0.021)**	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600489	TA2-2-TRD7-SL23-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	**0.0069 J (0.021)**	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600493	TA2-2-SLPE-SL39-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	**0.0067 J (0.021)**	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600493	TA2-2-SLPE-SL41-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	**0.0066 J (0.021)**	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
600502	TA2-2-TRD8-SL01-049-DUP	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.015)
600502	TA2-2-TRD8-SL01-049-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.015)
600502	TA2-2-TRD8-SL04-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600502	TA2-2-TRD8-SL16-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600502	TA2-2-TRD8-SL27-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600502	TA2-2-TRD8-SL33-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600502	TA2-2-TRD8-SL45-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)

Refer to footnotes at end of table.

Table A-3 (Continued)
Summary of VOC Analytical Results
February 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			VOCs (EPA Method 8260/8260/8260[a]) (mg/kg)								
Record Number[b]	ER Sample ID	Sample Depth (ft)	Acetone	Ethylbenzene	2-Hexanone	Methylene chloride	Toluene	Trichloroethene	Xylene	o-Xylene	p-xylene, m-Xylene
600505	TA2-2-SLPE-SL44-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.015)
600505	TA2-2-TRC9-SL01-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600505	TA2-2-TRC9-SL05-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600505	TA2-2-TRC9-SL19-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
600506	TA2-2-TRC9-SL01-000-SP	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	ND (0.00025)	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
601134	TA2-2-TRC9-SL24-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
601134	TA2-2-TRC9-SL42-000-S	NA	ND (0.027)	ND (0.011)	ND (0.054)	ND (0.0054)	ND (0.0054)	ND (0.0054)	NR	ND (0.011)	ND (0.016)
601134	TA2-2-TRC9-SL57-000-S	NA	ND (0.027)	ND (0.011)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.011)	ND (0.016)
601134	TA2-2-TRC9-SL71-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
601143	TA2-2-TRC7-SL01-000-S	NA	ND (0.026)	ND (0.010)	ND (0.051)	ND (0.0051)	ND (0.0051)	ND (0.0051)	NR	ND (0.010)	ND (0.015)
601143	TA2-2-TRC7-SL21-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
601143	TA2-2-TRC8-SL04-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.015)
601143	TA2-2-TRC8-SL11-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
601143	TA2-2-TRC8-SL17-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
601145	TA2-2-TRC6-SL07-000-S	NA	ND (0.026)	ND (0.010)	ND (0.053)	ND (0.0053)	ND (0.0053)	ND (0.0053)	NR	ND (0.010)	ND (0.016)
601154	TA2-2-TRC5-SL07-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
602606	TA2-2-EAST-FNCE-001-DU	NA	ND (0.025)	ND (0.010)	ND (0.051)	ND (0.0051)	ND (0.0051)	ND (0.0051)	NR	ND (0.010)	ND (0.015)
602606	TA2-2-EAST-FNCE-001-S	NA	ND (0.025)	ND (0.010)	ND (0.051)	ND (0.0051)	ND (0.0051)	ND (0.0051)	NR	ND (0.010)	ND (0.015)
602606	TA2-2-TR2-P12-SL6-DU	NA	ND (25)	ND (0.010)	ND (0.050)	ND (0.005)	ND (0.005)	ND (0.005)	NR	ND (0.010)	ND (0.015)
602606	TA2-2-TR2-P12-SL6-S	NA	ND (0.025)	ND (0.010)	ND (0.050)	ND (0.005)	ND (0.005)	ND (0.005)	NR	ND (0.010)	ND (0.015)
602607	TA2-2-TR2-EAST-FNCE-002-DU	NA	ND (0.0103)	ND (0.0003)	ND (0.0028)	ND (0.0014)	ND (0.0009)	ND (0.0003)	ND (0.0007)	NR	NR
602607	TA2-2-TR2-EAST-FNCE-002-S	NA	ND (0.0103)	ND (0.0003)	ND (0.0028)	**0.0029 J (0.005)**	ND (0.0009)	ND (0.0003)	ND (0.0007)	NR	NR
602607	TA2-2-TR2-P12A-SL6-DU	NA	ND (0.0103)	ND (0.0003)	ND (0.0028)	**0.0055**	ND (0.0009)	ND (0.0003)	ND (0.0007)	NR	NR
602607	TA2-2-TR2-P12A-SL6-S	NA	ND (0.0103)	ND (0.0003)	ND (0.0028)	**0.0073**	ND (0.0009)	ND (0.0003)	ND (0.0007)	NR	NR
604554	TA2-2-33-PUCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000619 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-34-PUCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000641 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-34-PUCS-002-DU	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000631 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-34-PUCS-002-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.653 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-34-PUCS-003-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00051 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-34-PUCS-004-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000592 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR

Refer to footnotes at end of table.

Table A-3 (Concluded)
Summary of VOC Analytical Results
February 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			VOCs (EPA Method 8260/8260/8260[a]) (mg/kg)								
Record Number[b]	ER Sample ID	Sample Depth (ft)	Acetone	Ethylbenzene	2-Hexanone	Methylene chloride	Toluene	Trichloroethene	Xylene	o-Xylene	p-xylene, m-Xylene
604554	TA2-2-34-PUCS-005-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000661 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-38-PUCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000831 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-38-PUCS-002-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000885 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-38-PUCS-003-DU	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	ND (0.00044)	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-38-PUCS-003-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000662 J (0.005)**	ND (0.0005)	ND (0.00072)	NR	NR	NR
604554	TA2-2-38-PUCS-005-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000716 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
Quality Assurance/Quality Control Samples (mg/L)											
600059	TA2-2-PTW1-EB	NA	ND (0.002)	ND (0.001)	ND (0.002)	**0.0024 J (0.005)**	ND (0.001)	ND (0.001)	ND (0.003)	NR	NR
600283	TA2-2-TRE5-001-EB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.0046**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600459	TA2-2-TRD1-0006-EB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.0016**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600472	TA2-2-TRD6-0015-EB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.0011**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600494	TA2-2-TRD8-0025-EB	NA	ND (0.0037)	ND (0.0003)	ND (0.0032)	ND (0.0012)	ND (0.0005)	ND (0.0006)	ND (0.0011)	NR	NR
601139	TA2-2-TRC7-0003-000-EB	NA	ND (0.0037)	ND (0.0003)	ND (0.0032)	ND (0.0012)	ND (0.0005)	**0.0019**	ND (0.0011)	NR	NR
604554	TA2-2-PUCS-EB1-S	NA	**0.00244 J (0.005)**	ND (0.00015)	ND (0.00079)	**0.000974 J (0.005)**	ND (0.00022)	ND (0.00016)	ND (0.00044)	NR	NR
600007	TA2-2-ACF2-0001-15-S	15	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	NR	NR
600010	TA2-2-ACF3-0001-12-S	12	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	NR	NR
600041	TA2-2-ACF4-TB	NA	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	NR	NR
600047	TA2-2-PTW1-TB	NA	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	NR	NR
600059	TA2-2-PTW1-TB	NA	ND (0.002)	ND (0.001)	ND (0.002)	**0.0031 J (0.005)**	ND (0.001)	ND (0.001)	ND (0.003)	NR	NR
600062	TA2-2-PTW2-TB	NA	ND (0.002)	ND (0.001)	ND (0.002)	**0.0019 J, H (0.005)**	ND (0.001)	ND (0.001)	ND (0.003)	NR	NR
600067	TA2-2-PTW3-TB	NA	ND (0.002)	ND (0.001)	**0.022 H**	**0.0037 J, H (0.005)**	**0.0015 J, H (0.002)**	**0.0034 H**	ND (0.003)	NR	NR
600072	TA2-2-PTW4-TB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.0022**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600078	TA2-2-ACF4-0001-000-TB	NA	NR	NR	NR	NR	NR	ND (0.001)	NR	NR	NR
600283	TA2-2-TRE5-001-TB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.0067 H**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600288	TA2-2-TRE6-SL09-000-TB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.001**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600293	TA2-2-ACF4-P507-508-TB	NA	NR	NR	NR	NR	NR	ND (0.010)	NR	NR	NR
600459	TA2-2-TRD1-0006-TB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.0023**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600472	TA2-2-TRD6-0015-TB	NA	ND (0.0022)	ND (0.00023)	ND (0.0044)	**0.0015**	ND (0.00022)	ND (0.00027)	ND (0.00062)	NR	NR
600494	TA2-2-TRD8-0025-TB	NA	ND (0.0037)	ND (0.0003)	ND (0.0032)	ND (0.0012)	ND (0.0005)	ND (0.0006)	ND (0.0011)	NR	NR
600506	TA2-2-TRC9-SL01-000-TB	NA	ND (0.0037)	ND (0.0003)	ND (0.0032)	ND (0.0012)	ND (0.0005)	ND (0.0006)	ND (0.0011)	NR	NR
602607	TA2-2-TR2-EAST-TR2-P12-TB	NA	ND (0.0037)	ND (0.0003)	ND (0.0032)	ND (0.0012)	ND (0.0005)	ND (0.0006)	ND (0.0011)	NR	NR
604554	TA2-2-PUCS-TB3-S	NA	ND (0.00082)	ND (0.00015)	ND (0.00079)	**0.00204 J (0.005)**	ND (0.00022)	ND (0.00016)	ND (0.00044)	NR	NR

Note: Values in **bold** indicate detected VOCs.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
DUP = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
H = The holding time was exceeded for the associated sample analysis.
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
J, H = The associated value is an estimated quantity. Holding time was exceeded.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
NR = Not reported.
PUCS = Potentially uncontaminated soil.
S = Soil sample.
SWMU = Solid Waste Management Unit.
TA = Technical Area.
TB = Trip blank.
VOC = Volatile organic compound.

Table A-4
Summary of SVOC Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			SVOCs (EPA Method 8270[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Butylbenzyl phthalate	2-Chlorophenol	Di-n-butyl phthalate
600004	TA2-2-ACF1-0001-18-S	18	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600007	TA2-2-ACF2-0001-15-S	15	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600010	TA2-2-ACF3-0001-12-S	12	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600041	TA2-2-ACF4-0001-12-S	12	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600047	TA2-2-PTW1-0001-10-S	10	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600062	TA2-2-PTW2-0001-12-S	12	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600067	TA2-2-PTW3-0001-12-S	12	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)
600072	TA2-2-PTW4-0001-15-S	15	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)
600288	TA2-2-TRE6-SL09-000-S	NA	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)
602607	TA2-2-TR2-EAST-FNCE-002-DU	NA	ND (0.0867)	ND (0.0733)	ND (0.143)	ND (0.133)	ND (0.090)	ND (0.157)	ND (0.0733)
602607	TA2-2-TR2-EAST-FNCE-002-S	NA	ND (0.0867)	ND (0.0733)	ND (0.143)	ND (0.133)	ND (0.090)	ND (0.157)	ND (0.0733)
602607	TA2-2-TR2-P12A-SL6-DU	NA	ND (0.0867)	ND (0.0733)	ND (0.143)	ND (0.133)	ND (0.090)	ND (0.157)	ND (0.0733)
602607	TA2-2-TR2-P12A-SL6-S	NA	ND (0.0867)	ND (0.0733)	ND (0.143)	ND (0.133)	ND (0.090)	ND (0.157)	ND (0.0733)
604554	TA2-2-33-PUCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-34-PUCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-34-PUCS-002-DU	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-34-PUCS-002-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-34-PUCS-003-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-34-PUCS-004-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-34-PUCS-005-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-38-PUCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-38-PUCS-002-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-38-PUCS-003-DU	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	**0.01 J (0.333)**	ND (0.0206)
604554	TA2-2-38-PUCS-003-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-38-PUCS-005-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
Quality Assurance/Quality Control Samples (mg/L)									
600059	TA2-2-PTW1-EB	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600283	TA2-2-TRE5-001-EB	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600459	TA2-2-TRD1-0006-EB	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600472	TA2-2-TRD6-0015-EB	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600494	TA2-2-TRD8-0025-EB	NA	ND (0.0023)	ND (0.002)	ND (0.0047)	ND (0.0026)	ND (0.0037)	ND (0.0021)	ND (0.0029)
601139	TA2-2-TRC7-0003-000-EB	NA	ND (0.0023)	ND (0.002)	ND (0.0047)	ND (2.6)	ND (0.0037)	ND (0.0021)	ND (0.0029)
604554	TA2-2-PUCS-EB1-S	NA	ND (0.00013)	ND (0.00013)	ND (0.00013)	ND (0.00023)	ND (0.00182)	ND (0.00124)	ND (0.00182)

Refer to footnotes at end of table.

Table A-4 (Concluded)
Summary of SVOC Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			SVOCs (EPA 8270[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Diphenylamine	bis(2-Ethylhexyl) phthalate	Fluoranthene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
600004	TA2-2-ACF1-0001-18-S	18	NR	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600007	TA2-2-ACF2-0001-15-S	15	NR	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600010	TA2-2-ACF3-0001-12-S	12	NR	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600041	TA2-2-ACF4-0001-12-S	12	NR	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600047	TA2-2-PTW1-0001-10-S	10	NR	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600062	TA2-2-PTW2-0001-12-S	12	NR	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)	ND (0.167)
600067	TA2-2-PTW3-0001-12-S	12	NR	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)
600072	TA2-2-PTW4-0001-15-S	15	NR	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)
600288	TA2-2-TRE6-SL09-000-S	NA	NR	**0.27 J (0.331)**	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)	ND (0.170)
602607	TA2-2-TR2-EAST-FNCE-002-DU	NA	NR	ND (0.300)	ND (0.0667)	ND (0.0567)	ND (0.060)	ND (0.0567)	ND (0.0733)
602607	TA2-2-TR2-EAST-FNCE-002-S	NA	NR	ND (0.300)	ND (0.0667)	ND (0.0567)	ND (0.060)	ND (0.0567)	ND (0.0733)
602607	TA2-2-TR2-P12A-SL6-DU	NA	NR	ND (0.300)	ND (0.0667)	ND (0.0567)	ND (0.060)	ND (0.0567)	ND (0.0733)
602607	TA2-2-TR2-P12A-SL6-S	NA	NR	ND (0.300)	ND (0.0667)	**0.15 J (0.667)**	ND (0.060)	ND (0.0567)	ND (0.0733)
604554	TA2-2-33-PUCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-34-PUCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-34-PUCS-002-DU	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-34-PUCS-002-S	NA	ND (0.0157)	**0.02 J (0.0333)**	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-34-PUCS-003-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-34-PUCS-004-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-34-PUCS-005-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-38-PUCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-38-PUCS-002-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-38-PUCS-003-DU	NA	ND (0.0157)	**0.251**	**0.0053 J (0.0333)**	ND (0.0609)	**0.0049 J (0.0333)**	ND (0.00366)	ND (0.00866)
604554	TA2-2-38-PUCS-003-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-38-PUCS-005-S	NA	ND (0.0157)	ND (0.00699)	ND (0.0033)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
Quality Assurance/Quality Control Samples (mg/L)									
600059	TA2-2-PTW1-EB	NA	NR	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600283	TA2-2-TRE5-001-EB	NA	NR	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600459	TA2-2-TRD1-0006-EB	NA	NR	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600472	TA2-2-TRD6-0015-EB	NA	NR	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
600494	TA2-2-TRD8-0025-EB	NA	NR	ND (0.0037)	ND (0.0031)	ND (0.0028)	ND (0.0018)	ND (0.0008)	ND (0.0025)
601139	TA2-2-TRC7-0003-000-EB	NA	NR	ND (0.0037)	ND (0.0031)	ND (0.0028)	ND (0.0018)	ND (0.0008)	ND (0.0025)
604554	TA2-2-PUCS-EB1-S	NA	NR	ND (0.00004)	ND (0.00012)	ND (0.00158)	ND (0.00012)	ND (0.00084)	ND (0.00014)

Note: Values in **bold** indicate detected SVOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
DU = Duplicate sample.
EB = Equipment blank.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
NR = Not reported.
S = Soil sample.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.

Table A-5
Summary of Gross Alpha and Beta Analysis
June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)			
			Gross Alpha		Gross Beta	
Record Number[a]	ER Sample ID	Sample Depth (ft)	Result	Error[b]	Result	Error[b]
604553	TA2-2-33-PUCS-001-S	NA	1.7	1.23	11.4	4.39
604553	TA2-2-34-PUCS-001-S	NA	1.57	1.21	12	4.43
604553	TA2-2-34-PUCS-002-DU	NA	0.994	1.18	13.3	4.6
604553	TA2-2-34-PUCS-002-S	NA	2	1.26	9.24	4.17
604553	TA2-2-34-PUCS-003-S	NA	2.13	1.26	10.3	4.25
604553	TA2-2-34-PUCS-004-S	NA	0.668	1.14	8.72	4.12
604553	TA2-2-34-PUCS-005-S	NA	1.37	1.22	8.31	4.1
604553	TA2-2-38-PUCS-001-S	NA	0.971	1.15	7.7	4
604553	TA2-2-38-PUCS-002-S	NA	0.683	1.13	4.84	3.73
604553	TA2-2-38-PUCS-003-DU	NA	1.6	1.22	6.41	3.88
604553	TA2-2-38-PUCS-003-S	NA	1.16	1.18	5.65	3.81
604553	TA2-2-38-PUCS-004-S	NA	0.482	1.12	7.64	4.02
604553	TA2-2-38-PUCS-005-S	NA	0.795	1.15	7.87	4.03
604554	TA2-2-33-PUCS-001-S	NA	11.7	4.4	22	4.85
604554	TA2-2-34-PUCS-001-S	NA	13.6	4.97	21.2	4.69
604554	TA2-2-34-PUCS-002-DU	NA	18	6.06	25.8	5.55
604554	TA2-2-34-PUCS-002-S	NA	13.5	4.97	19	4.86
604554	TA2-2-34-PUCS-003-S	NA	11.8	4.81	17.5	4.59
604554	TA2-2-34-PUCS-004-S	NA	12.4	4.42	21.4	4.55
604554	TA2-2-34-PUCS-005-S	NA	11.5	4.64	19	5.27
604554	TA2-2-38-PUCS-001-S	NA	12.9	4.67	21.6	5.25
604554	TA2-2-38-PUCS-002-S	NA	5.95	3.24	19.5	4.23
604554	TA2-2-38-PUCS-003-DU	NA	10.2	4.49	21.9	5.57
604554	TA2-2-38-PUCS-003-S	NA	14.7	4.63	15.7	4.38
604554	TA2-2-38-PUCS-005-S	NA	6.35	3.93	24.3	5.04
604555	TA2-2-31-PUCS-001-S	NA	1.47	1.28	15.7	4.88
604555	TA2-2-32-PUCS-001-S	NA	ND (1.04)	--	4.92	3.8
604555	TA2-2-34-PUCS-006-S	NA	ND (1.04)	--	5.77	3.88
604555	TA2-2-34-PUCS-007-S	NA	ND (1.04)	--	6.13	3.92
604555	TA2-2-34-PUCS-008-S	NA	ND (1.04)	--	7.99	4.09
604555	TA2-2-34-PUCS-009-S	NA	ND (1.04)	--	5.85	3.85
604555	TA2-2-34-PUCS-010-S	NA	ND (1.04)	--	7.05	3.97
604555	TA2-2-34-PUCS-011-S	NA	ND (1.04)	--	5.02	3.8
604555	TA2-2-34-PUCS-012-S	NA	ND (0.969)	--	7.01	4
604555	TA2-2-34-PUCS-013-S	NA	ND (0.969)	--	6.88	3.95
604555	TA2-2-34-PUCS-014-S	NA	1.2	1.18	16.3	4.92
604555	TA2-2-34-PUCS-015-DU	NA	0.988	1.13	6.33	3.88
604555	TA2-2-34-PUCS-015-S	NA	0.949	1.13	ND (2.78)	--
604555	TA2-2-34-PUCS-016-S	NA	1.83	1.22	7.71	4.03
604555	TA2-2-34-PUCS-017-S	NA	1.02	1.17	10.2	4.31
604555	TA2-2-34-PUCS-018-S	NA	1.06	1.16	3.23	3.59
604555	TA2-2-34-PUCS-019-S	NA	ND (0.969)	--	4.69	3.75
604555	TA2-2-34-PUCS-020-S	NA	1.45	1.2	8.83	4.16
604555	TA2-2-34-PUCS-021-DU	NA	ND (0.969)	--	5.96	3.9
604555	TA2-2-34-PUCS-021-S	NA	1.82	1.27	10.7	4.38
604555	TA2-2-34-PUCS-022-S	NA	1.32	1.18	6.41	3.91
604555	TA2-2-34-PUCS-023-S	NA	1.94	1.26	9.79	4.27
604555	TA2-2-34-PUCS-024-S	NA	ND (0.969)	--	3.94	3.67
604555	TA2-2-34-PUCS-025-S	NA	ND (0.969)	--	3.51	3.61
604555	TA2-2-34-PUCS-026-S	NA	1.23	1.14	3.4	3.57
604555	TA2-2-34-PUCS-027-DU	NA	1.02	1.15	6.32	3.9
604555	TA2-2-34-PUCS-027-S	NA	ND (0.969)	--	3.9	3.63
604555	TA2-2-34-PUCS-028-S	NA	1.43	1.18	6.86	3.94
604555	TA2-2-34-PUCS-029-S	NA	1.55	1.18	7.39	3.99
604555	TA2-2-34-PUCS-030-S	NA	ND (0.969)	--	6.41	3.9

Refer to footnotes at end of table.

Table A-5 (Concluded)
Summary of Gross Alpha and Beta Analysis
June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)			
			Gross Alpha		Gross Beta	
Record Number[a]	ER Sample ID	Sample Depth (ft)	Result	Error[b]	Result	Error[b]
04555	TA2-2-34-PUCS-031-S	NA	1.54	1.2	8.59	4.12
604555	TA2-2-37-PUCS-001-S	NA	1.22	1.16	ND (2.78)	--
604555	TA2-2-37-PUCS-002-S	NA	ND (0.969)	--	ND (2.78)	--
604555	TA2-2-38-PUCS-031-S	NA	ND (0.969)	--	3.22	3.57
604555	TA2-2-38-PUCS-032-S	NA	1.78	1.2	6.45	3.89
604555	TA2-2-38-PUCS-033-S	NA	ND (0.969)	--	4.06	3.67
604555	TA2-2-38-PUCS-034-DU	NA	ND (0.969)	--	5.59	3.82
604555	TA2-2-38-PUCS-034-S	NA	ND (0.969)	--	10.1	4.28
604555	TA2-2-38-PUCS-035-S	NA	1.82	1.22	4.4	3.69
604555	TA2-2-38-PUCS-036-S	NA	ND (0.969)	--	ND (2.82)	--
604555	TA2-2-38-PUCS-037-S	NA	ND (0.969)	--	3.57	3.61
604555	TA2-2-38-PUCS-038-S	NA	1.54	1.22	7.57	4.04
604556	TA2-2-34-PUCS-032-S	NA	ND (0.684)	--	ND (3.01)	--
604556	TA2-2-34-PUCS-033-DU	NA	ND (0.684)	--	5.23	4.11
604556	TA2-2-34-PUCS-033-S	NA	ND (0.684)	--	ND (3.01)	--
604556	TA2-2-34-PUCS-034-S	NA	0.929	0.918	ND (3.01)	--
604556	TA2-2-34-PUCS-035-S	NA	1.18	0.949	ND (3.01)	--
604556	TA2-2-34-PUCS-036-S	NA	ND (0.684)	--	ND (3.01)	--
604556	TA2-2-34-PUCS-037-S	NA	0.963	0.92	ND (3.01)	--
604556	TA2-2-34-PUCS-038-S	NA	ND (0.684)	--	ND (3.01)	--
604556	TA2-2-38-PUCS-020-S	NA	0.86	0.912	ND (3.01)	--
604556	TA2-2-38-PUCS-021-S	NA	ND (0.684)	--	ND (3.01)	--
604556	TA2-2-38-PUCS-022-S	NA	1	0.926	ND (3.01)	--
604556	TA2-2-38-PUCS-023-S	NA	ND (0.684)	--	ND (3.01)	--
604557	TA2-2-38-PUCS-006-S	NA	1.17	1.2	ND (2.82)	--
604557	TA2-2-38-PUCS-007-DU	NA	1.06	1.19	ND (2.82)	--
604557	TA2-2-38-PUCS-007-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-008-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-010-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-011-S	NA	0.894	1.17	ND (2.82)	--
604557	TA2-2-38-PUCS-012-S	NA	0.917	1.18	ND (2.82)	--
604557	TA2-2-38-PUCS-013-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-016-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-017-S	NA	1.6	1.24	ND (2.82)	--
604557	TA2-2-38-PUCS-039-S	NA	1.44	1.22	ND (2.82)	--
604557	TA2-2-38-PUCS-043-S	NA	0.977	1.19	2.65	3.71
604557	TA2-2-38-PUCS-044-S	NA	0.995	1.19	ND (2.82)	--
604557	TA2-2-38-PUCS-045-S	NA	1.54	1.24	ND (2.82)	--
604557	TA2-2-38-PUCS-046-S	NA	1.75	1.25	ND (2.82)	--
604557	TA2-2-38-PUCS-047-DU	NA	1.63	1.26	ND (2.82)	--
604557	TA2-2-38-PUCS-047-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-050-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-051-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-052-S	NA	ND (0.889)	--	ND (2.82)	--
604557	TA2-2-38-PUCS-053-S	NA	ND (0.889)	--	ND (2.82)	--

[a]Analysis request/chain-of-custody record.
[b]Two standard deviations about the mean detected activity.
bgs = Below ground surface.
DU = Duplicate sample.
ft = Foot (feet).
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not calculated for nondetected results.

Table A-6
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
600006	TA2-2-ACF1-0001-18-S	18	ND (0.0281)	--	0.799	0.375	**ND (0.218)**	--	ND (.00298)	--
600009	TA2-2-ACF2-0001-15-S	15	ND (0.0265)	--	0.798	0.375	ND (0.178)	--	0.000972	0.000763
600011	TA2-2-ACF3-0001-12-S	12	ND (0.0351)	--	0.703	0.404	**ND (0.189)**	--	ND (.00125)	--
600040	TA2-2-ACF3-0001-SL1-S	NA	0.0289	0.0196	0.834	0.429	**ND (0.27)**	--	**ND (1.92)**	--
600040	TA2-2-ACF4-0001-SL1-S	NA	0.058	0.0403	0.794	0.404	**ND (0.236)**	--	**ND (1.72)**	--
600042	TA2-2-ACF4-0001-12-S	12	ND (0.028)	--	0.721	0.357	**ND (0.181)**	--	**ND (1.59)**	--
600044	TA2-2-ACF4-0001-SL5-S	NA	0.0526	0.0169	0.676	0.325	ND (0.159)	--	**ND (1.38)**	--
600045	TA2-2-ACF1-0001-SL2-S	NA	0.0503	0.0282	0.878	0.477	**ND (0.197)**	--	0.991	0.69
600045	TA2-2-PTW1-0001-10-S	10	ND (0.0295)	--	0.529	0.312	ND (0.165)	--	ND (.633)	--
600060	TA2-2-PW12-0001-SL7-S	NA	0.0363	0.0314	0.764	0.427	**ND (0.221)**	--	**ND (3.06)**	--
600060	TA2-2-PW12-0001-SL8-S	NA	ND (0.0347)	--	0.694	0.344	**ND (0.183)**	--	0.507	0.485
600063	TA2-2-PTW2-0001-12-S	NA	ND (0.0272)	--	0.581	0.334	ND (0.179)	--	**ND (1.53)**	--
600065	TA2-2-ACF2-0001-SL4-S	NA	0.0489	0.0422	0.852	0.446	**ND (0.196)**	--	ND (1.3)	--
600065	TA2-2-PTW3-0001-12-S	12	ND (0.0328)	--	0.56	0.362	ND (0.176)	--	0.715	0.626
600068	TA2-2-PTW3-0001-SL4-S	NA	0.00842	0.00857	0.76	0.379	**ND (0.22)**	--	**ND (2.96)**	--
600070	TA2-2-OVER-0001-SL2-S	NA	0.0229	0.0271	0.772	0.614	**ND (0.23)**	--	**ND (3.24)**	--
600073	TA2-2-PTW4-0001-15-S	NA	ND (0.0319)	--	0.696	0.426	**ND (0.186)**	--	0.821	0.626
600075	TA2-2-PTW4-SL10-000-S	NA	0.0205	0.0205	0.772	0.369	**ND (0.229)**	--	**ND (3.15)**	--
600075	TA2-2-PTW4-SL14-000-S	NA	0.0215	0.0196	0.755	0.358	**ND (0.225)**	--	**ND (3.01)**	--
600075	TA2-2-PTW4-SL15-000-S	NA	ND (0.0312)	--	0.686	0.449	**ND (0.222)**	--	**ND (3.06)**	--
600079	TA2-2-TRE1-0001-000-S	NA	ND (0.0677)	--	0.851	0.45	**3.28**	0.945	**208 U**	45.9
600080	TA2-2-OVW4-0001-SL5-S	NA	0.0284	0.0136	0.693	0.347	**ND (0.194)**	--	**ND (1.7)**	--
600082	TA2-2-OVW4-0001-SL8-S	NA	ND (0.0305)	--	0.645	0.312	**ND (0.225)**	--	**ND (3.14)**	--
600082	TA2-2-SLPE-0001-SL3-S	NA	ND (0.029)	--	0.688	0.387	**ND (0.219)**	--	**ND (2.87)**	--
600082	TA2-2-SLPE-0001-SL9-S	NA	ND (0.0272)	--	0.664	0.347	ND (0.176)	--	ND (1.26)	--
600082	TA2-2-SLPE-SL14-000-S	NA	ND (0.0321)	--	0.618	0.3	**ND (0.228)**	--	**ND (3)**	--
600084	TA2-2-TRE1-SL06-000-S	NA	0.0325	0.0199	0.637	0.318	ND (0.172)	--	**2.72 U**	1.13
600084	TA2-2-TRE1-SL13-000-S	NA	0.00978	0.0109	0.646	0.316	ND (0.122)	--	**2.52 U**	0.971
600086	TA2-2-TRE2-SL07-000-S	NA	0.00967	0.00427	0.619	0.296	**ND (0.214)**	--	**3.16 U**	3.66
600275	TA2-2-TRE4-0001-000-S	NA	ND (0.0406)	--	0.707	0.357	**ND (0.285)**	--	**ND (3.95)**	--
600276	TA2-2-SLPE-SL16-000-S	NA	ND (0.0285)	--	0.672	0.323	ND (0.034)	--	**ND (2.9)**	--
600276	TA2-2-SLPE-SL19-000-S	NA	0.0107	0.00238	0.73	0.349	ND (0.0371)	--	**ND (3.2)**	--
600276	TA2-2-SLPE-SL22-000-S	NA	ND (0.0288)	--	0.715	0.338	ND (0.0325)	--	**ND (2.85)**	--
600276	TA2-2-SLPE-SL23-000-S	NA	ND (0.0272)	--	0.671	0.321	ND (0.0326)	--	**ND (2.91)**	--
600276	TA2-2-SLPE-SL32-000-S	NA	ND (0.0274)	--	0.736	0.35	ND (0.031)	--	**ND (2.73)**	--
600276	TA2-2-SLPE-SL34-000-S	NA	ND (0.0288)	--	0.738	1.31	ND (0.0337)	--	**ND (2.96)**	--
600278	TA2-2-TRE3-SL07-000-S	NA	ND (0.0248)	--	0.671	0.353	0.0844	0.0787	**1.74 U**	1.7
600278	TA2-2-TRE4-SL10-000-S	NA	ND (0.0308)	--	0.656	0.319	ND (0.172)	--	0.738 U	0.588
600280	TA2-2-OVTE-SL03-000-S	NA	ND (0.0273)	--	0.747	0.365	**ND (0.203)**	--	**ND (2.88)**	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
600280	TA2-2-OVTE-SL08-000-S	NA	ND (0.0309)	--	0.713	0.373	**ND (0.219)**	--	**ND (3.03)**	--
600282	TA2-2-TRE4-0001-000-DEB	NA	ND (0.0396)	--	ND (0.244)	--	**ND (0.22)**	--	ND (0.541)	--
600282	TA2-2-TRE5-0001-000-DEB	NA	**ND (0.119)**	--	1.39	0.83	**0.761**	0.633	**ND (2.09)**	--
600284	TA2-2-OVTE-SL11-000-DUP	NA	ND (0.041)	--	0.394	0.278	**ND (0.248)**	--	**ND (2.13)**	--
600284	TA2-2-OVTE-SL11-000-S	NA	ND (0.0447)	--	0.564	0.348	**ND (0.28)**	--	**ND (2.4)**	--
600284	TA2-2-TRE5-SL08-000-S	NA	ND (0.0308)	--	0.672	0.338	**ND (0.216)**	--	**ND (3.06)**	--
600284	TA2-2-TRE5-SL17-000-S	NA	ND (0.028)	--	0.625	0.314	**ND (0.206)**	--	**ND (2.86)**	--
600289	TA2-2-TRE6-SL09-000-S	NA	ND (0.0286)	--	0.727	0.381	**ND (0.181)**	--	**ND (1.58)**	--
600289	TA2-2-TRE6-SL22-000-DUP	NA	ND (0.0268)	--	0.742	0.355	ND (0.176)	--	**ND (1.55)**	--
600289	TA2-2-TRE6-SL22-000-S	NA	ND (0.026)	--	0.707	0.351	ND (0.179)	--	**ND (1.54)**	--
600291	TA2-2-OVA5-SL05-000-S	NA	ND (0.0289)	--	0.659	0.325	**ND (0.207)**	--	**ND (2.96)**	--
600291	TA2-2-OVA5-SL11-000-S	NA	ND (0.0309)	--	0.687	0.345	**ND (0.226)**	--	**ND (3.14)**	--
600291	TA2-2-OVA5-SL13-000-S	NA	ND (0.027)	--	0.66	0.439	**ND (0.207)**	--	**ND (2.97)**	--
600295	TA2-2-TRE7-SL08-000-S	NA	ND (0.0314)	--	0.718	0.389	**ND (0.226)**	--	**ND (3.3)**	--
600295	TA2-2-TRE7-SL13-000-S	NA	ND (0.0302)	--	0.677	0.369	**ND (0.218)**	--	**ND (3.09)**	--
600295	TA2-2-TRE7-SL25-000-S	NA	ND (0.0309)	--	0.675	0.339	**ND (0.216)**	--	**ND (3)**	--
600298	TA2-2-TRE7-SL37-000-S	NA	ND (0.0284)	--	0.651	0.32	**ND (0.181)**	--	**ND (1.59)**	--
600298	TA2-2-TRE7-SL49-000-S	NA	0.0103	0.00948	0.668	0.327	ND (0.158)	--	**ND (1.42)**	--
600298	TA2-2-TRE7-SL55-000-S	NA	ND (0.0259)	--	0.651	0.313	ND (0.167)	--	**ND (1.46)**	--
600300	TA2-2-TRE8-SL01-000-S	NA	ND (0.0316)	--	0.696	0.357	ND (0.172)	--	ND (1.14)	--
600300	TA2-2-TRE8-SL14-000-S	NA	ND (0.0282)	--	0.737	0.353	**ND (0.203)**	--	**ND (2.82)**	--
600302	TA2-2-TRE8-SL07-000-S	NA	ND (0.0322)	--	0.616	0.326	ND (0.178)	--	0.966 U	0.649
600302	TA2-2-TRE8-SL21-000-S	NA	ND (0.0256)	--	0.595	0.292	ND (0.173)	--	**ND (1.53)**	--
600302	TA2-2-TRE8-SL29-000-S	NA	ND (0.0341)	--	0.717	0.356	ND (0.177)	--	0.511 U	0.515
600460	TA2-2-ACF5-SL06-000-S	NA	ND (0.0299)	--	0.673	0.362	ND (0.173)	--	1.25	0.886
600460	TA2-2-OVD1-SL01-000-S	NA	ND (0.0332)	--	0.784	0.451	**ND (0.181)**	--	ND (1.22)	--
600460	TA2-2-OVD2-SL02-000-S	NA	ND (0.0384)	--	0.762	0.383	**ND (0.2)**	--	1.08	0.699
600462	TA2-2-TRD1-SL02-000-S	NA	ND (0.0296)	--	0.679	0.342	**ND (0.185)**	--	**ND (1.7)**	--
600462	TA2-2-TRD1-SL06-000-S	NA	ND (0.0389)	--	0.899	0.454	**ND (0.235)**	--	1.07 U	1.05
600462	TA2-2-TRD1-SL09-000-S	NA	ND (0.0332)	--	0.792	0.39	**ND (0.2)**	--	**ND (1.84)**	--
600462	TA2-2-TRD1-SL12-000-S	NA	0.0118	0.0137	0.755	0.379	**ND (0.189)**	--	**ND (1.74)**	--
600464	TA2-2-OVD3-SL01-000-S	NA	ND (0.0438)	--	0.86	0.456	**ND (0.291)**	--	**ND (4.18)**	--
600464	TA2-2-TRD2-SL01-000-S	NA	ND (0.0311)	--	0.717	0.377	**ND (0.227)**	--	**ND (3.19)**	--
600464	TA2-2-TRD2-SL05-000-S	NA	ND (0.0314)	--	0.741	0.431	**ND (0.232)**	--	**ND (3.22)**	--
600466	TA2-2-TRD3-SL03-000-S	NA	ND (0.0358)	--	0.682	0.389	ND (0.177)	--	**1.34 U**	0.693
600466	TA2-2-TRD3-SL06-000-S	NA	ND (0.0339)	--	0.591	0.318	**ND (0.187)**	--	**1.33 U**	0.748
600466	TA2-2-TRD3-SL12-000-S	NA	ND (0.0315)	--	0.63	0.333	ND (0.17)	--	0.923 U	0.653
600469	TA2-2-TRD4-SL03-000-DUP	NA	ND (0.0314)	--	0.613	0.317	**ND (0.221)**	--	0.982	0.639
600469	TA2-2-TRD4-SL03-000-S	NA	ND (0.0328)	--	0.785	0.378	**ND (0.236)**	--	ND (0.786)	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
600469	TA2-2-TRD4-SL05-000-S	NA	ND (0.0281)	--	0.69	0.335	**ND (0.215)**	--	ND (0.709)	--
600469	TA2-2-TRD4-SL07-000-S	NA	ND (0.0286)	--	0.589	0.302	**ND (0.202)**	--	0.753	0.547
600469	TA2-2-TRD4-SL14-000-S	NA	ND (0.0317)	--	0.691	0.333	**ND (0.221)**	--	0.658 U	0.426
600469	TA2-2-TRD5-SL05-000-DUP	NA	ND (0.0308)	--	0.761	1.31	**ND (0.23)**	--	0.535 U	0.377
600473	TA2-2-OVD4-SL03-000-S	NA	0.0461	0.0287	0.674	0.327	**ND (0.223)**	--	0.659	0.477
600473	TA2-2-TRD6-SL03-000-S	NA	ND (0.0281)	--	0.645	0.314	**ND (0.203)**	--	ND (0.535)	--
600473	TA2-2-TRD6-SL08-000-S	NA	ND (0.0279)	--	0.646	0.339	**ND (0.205)**	--	0.834	0.422
600473	TA2-2-TRD6-SL15-000-S	NA	ND (0.0273)	--	0.648	0.581	**ND (0.196)**	--	ND (0.676)	--
600473	TA2-2-TRD6-SL19-000-S	NA	ND (0.0277)	--	0.628	0.301	**ND (0.202)**	--	0.437 U	0.402
600473	TA2-2-TRD6-SL23-000-S	NA	ND (0.0271)	--	0.677	0.323	0.1	0.172	0.663	0.502
600488	TA2-2-OVD7-SL02-000-S	NA	0.0155	0.0281	0.706	0.611	**ND (0.213)**	--	0.76 U	0.414
600488	TA2-2-OVD8-SL02-000-S	NA	ND (0.0269)	--	0.661	0.316	**ND (0.194)**	--	ND (0.66)	--
600488	TA2-2-TRD7-SL03-000-S	NA	ND (0.0308)	--	0.612	0.301	**ND (0.217)**	--	0.605	0.367
600488	TA2-2-TRD7-SL11-000-S	NA	ND (0.0318)	--	0.601	0.343	0.136	0.189	0.921	0.425
600488	TA2-2-TRD7-SL13-000-S	NA	0.0224	0.0213	0.735	0.349	**ND (0.196)**	--	0.749 U	0.468
600488	TA2-2-TRD7-SL23-000-S	NA	ND (0.0294)	--	0.704	0.335	0.123	0.178	0.387	0.436
600492	TA2-2-SLPE-SL39-000-S	NA	ND (0.03)	--	0.69	0.356	0.0812	0.139	0.81	0.486
600492	TA2-2-SLPE-SL41-000-S	NA	ND (0.0335)	--	0.646	0.36	0.095	0.145	ND (0.518)	--
600501	TA2-2-TRD8-SL01-049-S	NA	0.0127	0.0105	0.725	0.365	**ND (0.194)**	--	0.779	0.455
600501	TA2-2-TRD8-SL04-000-S	NA	0.0194	0.0223	0.705	0.335	**ND (0.207)**	--	ND (0.712)	--
600501	TA2-2-TRD8-SL16-000-S	NA	ND (0.0327)	--	0.778	0.372	**ND (0.226)**	--	0.732 U	0.616
600501	TA2-2-TRD8-SL27-000-S	NA	ND (0.0322)	--	0.649	0.348	**ND (0.218)**	--	ND (0.537)	--
600501	TA2-2-TRD8-SL33-000-S	NA	ND (0.0316)	--	0.689	0.34	0.106	0.188	0.543 U	0.409
600501	TA2-2-TRD8-SL45-000-S	NA	ND (0.0302)	--	0.684	0.332	**ND (0.218)**	--	0.552	0.353
600504	TA2-2-SLPE-SL44-000-S	NA	ND (0.0325)	--	0.785	0.447	**ND (0.203)**	--	ND (0.542)	--
600504	TA2-2-TRC9-SL01-000-S	NA	ND (0.0345)	--	0.825	0.452	0.107	0.205	1.08	0.54
600504	TA2-2-TRC9-SL05-000-S	NA	ND (0.0369)	--	0.784	0.381	**0.206**	0.22	ND (0.878)	--
600504	TA2-2-TRC9-SL19-000-S	NA	ND (0.0377)	--	0.813	0.469	**ND (0.208)**	--	ND (0.572)	--
601133	TA2-2-TRC9-SL24-000-S	NA	ND (0.0327)	--	0.788	0.42	0.108	0.194	0.833	0.614
601133	TA2-2-TRC9-SL42-000-S	NA	ND (0.039)	--	0.835	0.42	0.12	0.227	0.315 U	0.362
601133	TA2-2-TRC9-SL57-000-S	NA	ND (0.0325)	--	0.783	0.393	0.114	0.2	0.875 U	0.501
601133	TA2-2-TRC9-SL71-000-S	NA	ND (0.0371)	--	0.86	0.417	**0.365**	0.231	0.952	0.501
601140	TA2-2-TRC7-SL21-000-S	NA	0.0205	0.019	0.778	0.476	**ND (0.224)**	--	ND (0.746)	--
601140	TA2-2-TRC8-SL04-000-S	NA	0.0142	0.0257	0.841	0.436	0.162	0.165	ND (0.727)	--
601140	TA2-2-TRC8-SL11-000-S	NA	ND (0.0294)	--	0.711	0.406	0.172	0.175	ND (0.737)	--
601140	TA2-2-TRC8-SL17-000-S	NA	**0.114**	0.0415	0.755	0.406	**ND (0.219)**	--	ND (0.734)	--
601141	TA2-2-TRC6-SL01-000-S	NA	ND (0.048)	--	1.04	0.998	**0.222**	0.199	0.731 U	0.543
601141	TA2-2-TRC6-SL02-000-S	NA	0.0436	0.044	0.896	0.525	**ND (0.265)**	--	1.15 U	0.887
601141	TA2-2-TRC6-SL03-000-S	NA	ND (0.0278)	--	0.913	0.513	0.128	0.208	ND (0.51)	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
601141	TA2-2-TRC6-SL04-000-S	NA	0.021	0.0216	0.998	0.515	**ND (0.245)**	--	1.01	1.02
601142	TA2-2-TRC6-SL05-000-S	NA	0.0366	0.049	1.03	0.601	**0.201**	0.277	ND (0.907)	--
601142	TA2-2-TRC6-SL06-000-S	NA	ND (0.0522)	--	0.945	0.569	**0.195**	0.235	ND (0.748)	--
601142	TA2-2-TRC6-SL07-000-S	NA	ND (0.0553)	--	1.11	0.665	**ND (0.29)**	--	ND (0.81)	--
601152	TA2-2-TRC5-SL01-000-S	NA	ND (0.0434)	--	0.963	0.54	**ND (0.235)**	--	ND (0.663)	--
601152	TA2-2-TRC5-SL02-000-S	NA	0.0331	0.0414	0.94	0.537	**ND (0.24)**	--	ND (0.674)	--
601152	TA2-2-TRC5-SL03-000-S	NA	ND (0.0297)	--	1.03	0.579	**ND (0.278)**	--	ND (0.776)	--
601152	TA2-2-TRC5-SL07-000-S	NA	ND (0.0246)	--	1.04	0.618	**ND (0.264)**	--	ND (0.753)	--
601153	TA2-2-TRC5-SL05-000-S	NA	ND (0.0381)	--	0.962	0.507	0.153	0.208	ND (0.901)	--
601153	TA2-2-TRC5-SL06-000-S	NA	ND (0.0366)	--	0.954	0.524	**ND (0.248)**	--	ND (0.851)	--
601153	TA2-2-TRC5-SL07-000-S	NA	0.0314	0.0262	0.927	0.486	**ND (0.213)**	--	ND (0.746)	--
601155	TA2-2-TRC5-SL08-000-S	NA	ND (0.0555)	--	0.989	0.577	**ND (0.278)**	--	ND (0.773)	--
601155	TA2-2-TRC5-SL09-000-S	NA	ND (0.0449)	--	0.737	0.423	**ND (0.234)**	--	0.445 U	0.417
601155	TA2-2-TRC5-SL10-000-S	NA	ND (0.0549)	--	0.93	0.508	**ND (0.274)**	--	ND (0.685)	--
601156	TA2-2-TRC5-SL11-000-S	NA	0.0358	0.0303	0.861	0.485	**ND (0.225)**	--	ND (0.632)	--
601156	TA2-2-TRC5-SL12-000-S	NA	0.0173	0.0223	0.911	0.497	**ND (0.235)**	--	ND (0.669)	--
601156	TA2-2-TRC5-SL13-000-S	NA	ND (0.0412)	--	0.843	0.482	**ND (0.221)**	--	ND (0.607)	--
601593	TA2-2-TRC4-SL01-000-S	NA	ND (0.0269)	--	0.687	0.371	ND (0.175)	--	ND (0.567)	--
601593	TA2-2-TRC4-SL02-000-S	NA	ND (0.0361)	--	0.753	0.431	**ND (0.196)**	--	ND (0.555)	--
601593	TA2-2-TRC4-SL03-000-S	NA	ND (0.0317)	--	0.797	0.427	**0.189**	0.166	0.92 U	0.5
601593	TA2-2-TRC4-SL04-000-S	NA	ND (0.0341)	--	ND (0.15)	--	**ND (0.197)**	--	ND (0.574)	--
601593	TA2-2-TRC4-SL05-000-S	NA	ND (0.0285)	--	0.735	0.418	0.137	0.153	0.573 U	0.691
601593	TA2-2-TRC4-SL06-000-S	NA	ND (0.0288)	--	0.861	0.439	**ND (0.193)**	--	0.77	0.799
601593	TA2-2-TRC4-SL07-000-S	NA	ND (0.032)	--	0.797	0.428	**0.193**	0.172	ND (0.638)	--
601593	TA2-2-TRC4-SL08-000-S	NA	ND (0.0272)	--	0.642	0.417	ND (0.17)	--	ND (0.558)	--
601597	TA2-2-TRC3-SL01-000-S	NA	ND (0.0362)	--	0.792	0.454	**ND (0.203)**	--	ND (0.539)	--
601597	TA2-2-TRC3-SL02-000-S	NA	0.0319	0.0329	0.807	0.47	**ND (0.221)**	--	0.874 U	0.426
601597	TA2-2-TRC3-SL03-000-S	NA	ND (0.0385)	--	0.807	0.449	**ND (0.211)**	--	ND (0.565)	--
601597	TA2-2-TRC3-SL04-000-S	NA	0.051	0.028	0.788	0.454	**ND (0.21)**	--	ND (0.562)	--
601597	TA2-2-TRC3-SL05-000-S	NA	ND (0.0391)	--	0.905	0.501	0.138	0.182	ND (0.588)	--
601597	TA2-2-TRC3-SL06-000-S	NA	ND (0.0344)	--	0.802	0.421	**ND (0.2)**	--	ND (0.526)	--
601598	TA2-2-TRC3-SL07-000-S	NA	ND (0.0303)	--	0.817	0.453	**ND (0.226)**	--	ND (0.775)	--
601598	TA2-2-TRC3-SL08-000-S	NA	ND (0.0304)	--	0.831	0.407	**ND (0.224)**	--	ND (0.763)	--
601598	TA2-2-TRC3-SL09-000-S	NA	ND (0.033)	--	0.712	0.419	**ND (0.221)**	--	ND (0.781)	--
601599	TA2-2-TRC3-SL10-000-S	NA	ND (0.0428)	--	0.825	0.477	**ND (0.237)**	--	ND (0.671)	--
601599	TA2-2-TRC3-SL11-000-S	NA	ND (0.0437)	--	0.772	0.449	**ND (0.226)**	--	0.916 U	1.15
601599	TA2-2-TRC3-SL12-000-S	NA	ND (0.0429)	--	0.755	0.455	**ND (0.229)**	--	ND (0.632)	--
601599	TA2-2-TRC3-SL13-000-S	NA	ND (0.0365)	--	0.779	0.397	**ND (0.196)**	--	ND (0.492)	--
601599	TA2-2-TRC3-SL14-000-S	NA	ND (0.035)	--	0.85	0.446	**ND (0.203)**	--	ND (0.564)	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
601599	TA2-2-TRC3-SL15-000-S	NA	ND (0.0364)	--	0.81	0.481	**ND (0.216)**	--	ND (0.591)	--
601599	TA2-2-TRC3-SL16-000-S	NA	ND (0.0353)	--	0.813	1.2	**ND (0.203)**	--	ND (0.548)	--
601602	TA2-2-TRC2-SL01-000-S	NA	ND (0.0379)	--	0.763	0.507	**ND (0.226)**	--	ND (0.621)	--
601602	TA2-2-TRC2-SL02-000-S	NA	ND (0.0211)	--	0.877	0.498	**ND (0.22)**	--	ND (0.595)	--
601602	TA2-2-TRC2-SL03-000-S	NA	ND (0.041)	--	0.794	0.358	**ND (0.222)**	--	ND (0.607)	--
601602	TA2-2-TRC2-SL04-000-S	NA	ND (0.039)	--	0.825	0.479	0.169	0.185	ND (0.582)	--
601602	TA2-2-TRC2-SL05-000-S	NA	ND (0.0323)	--	0.79	0.851	**ND (0.226)**	--	ND (0.777)	--
601602	TA2-2-TRC2-SL06-000-S	NA	ND (0.0305)	--	0.656	0.36	0.106	0.173	ND (0.735)	--
601602	TA2-2-TRC2-SL07-000-S	NA	ND (0.0321)	--	0.716	0.416	**ND (0.219)**	--	ND (0.771)	--
601602	TA2-2-TRC2-SL08-000-S	NA	ND (0.0301)	--	0.704	0.428	**ND (0.218)**	--	ND (0.772)	--
601604	TA2-2-TRC1-SL01-000-S	NA	ND (0.032)	--	0.755	0.448	**ND (0.214)**	--	ND (0.732)	--
601604	TA2-2-TRC1-SL02-000-S	NA	ND (0.0327)	--	0.791	0.467	0.163	0.192	ND (0.829)	--
601604	TA2-2-TRC1-SL03-000-S	NA	ND (0.0357)	--	0.771	0.448	**ND (0.26)**	--	ND (0.864)	--
601604	TA2-2-TRC1-SL04-000-S	NA	ND (0.0336)	--	0.743	0.426	0.122	0.179	ND (0.794)	--
601604	TA2-2-TRC1-SL05-000-S	NA	ND (0.0371)	--	0.922	0.501	**ND (0.258)**	--	ND (0.851)	--
601604	TA2-2-TRC1-SL06-000-S	NA	ND (0.031)	--	0.761	0.428	**ND (0.237)**	--	ND (0.81)	--
601604	TA2-2-TRC1-SL07-000-S	NA	ND (0.0333)	--	0.75	0.424	**ND (0.23)**	--	ND (0.767)	--
601604	TA2-2-TRC1-SL08-000-S	NA	ND (0.0336)	--	0.811	0.43	**ND (0.228)**	--	ND (0.782)	--
601606	TA2-2-TRB1-SL01-000-S	NA	ND (0.0182)	--	ND (0.134)	--	0.178	0.17	ND (0.711)	--
601606	TA2-2-TRB1-SL02-000-S	NA	ND (0.0313)	--	0.693	0.401	**ND (0.218)**	--	ND (0.752)	--
601606	TA2-2-TRB1-SL03-000-S	NA	ND (0.0322)	--	0.718	0.407	**ND (0.224)**	--	ND (0.767)	--
601606	TA2-2-TRB1-SL04-000-S	NA	ND (0.0292)	--	0.828	0.416	**ND (0.214)**	--	ND (0.732)	--
601606	TA2-2-TRB1-SL05-000-S	NA	ND (0.0309)	--	0.852	0.473	**ND (0.21)**	--	ND (0.725)	--
601608	TA2-2-OVB1-SL01-000-S	NA	ND (0.0475)	--	0.844	0.424	0.159	0.206	ND (0.652)	--
601608	TA2-2-OVB1-SL02-000-S	NA	ND (0.0516)	--	0.854	0.511	**ND (0.26)**	--	ND (0.637)	--
601608	TA2-2-TRB1-SL06-000-S	NA	ND (0.0453)	--	0.738	0.466	**0.228**	0.212	ND (0.668)	--
601608	TA2-2-TRB1-SL07-000-S	NA	ND (0.0467)	--	0.857	0.505	ND (0.128)	--	ND (0.668)	--
601608	TA2-2-TRB1-SL08-000-S	NA	ND (0.0406)	--	0.797	0.812	0.122	0.203	ND (0.649)	--
601608	TA2-2-TRB1-SL09-000-S	NA	ND (0.0376)	--	0.668	0.341	ND (0.0957)	--	ND (0.55)	--
601608	TA2-2-TRB1-SL10-000-S	NA	ND (0.0343)	--	0.683	0.393	**ND (0.192)**	--	0.656 U	0.375
601727	TA2-2-TRB1-SL11-000-S	NA	0.0307	0.00447	0.896	0.473	**ND (0.222)**	--	ND (0.755)	--
601727	TA2-2-TRB1-SL12-000-S	NA	ND (0.0158)	--	0.799	0.454	**ND (0.223)**	--	ND (0.765)	--
601727	TA2-2-TRB2-SL02-000-S	NA	ND (0.0288)	--	0.781	0.421	**ND (0.215)**	--	ND (0.732)	--
601729	TA2-2-OVB2-B301-000-S	NA	ND (0.0301)	--	0.748	0.415	**ND (0.22)**	--	ND (0.738)	--
601730	TA2-2-TRB3-SL01-000-S	NA	ND (0.0286)	--	0.811	0.42	**ND (0.205)**	--	ND (0.7)	--
601730	TA2-2-TRB3-SL02-000-S	NA	ND (0.0277)	--	0.702	0.484	**ND (0.21)**	--	ND (0.694)	--
601730	TA2-2-TRB3-SL03-000-S	NA	ND (0.0291)	--	0.728	0.416	0.087	0.163	0.614 U	0.545
601730	TA2-2-TRB3-SL04-000-S	NA	ND (0.0279)	--	0.717	0.417	**ND (0.208)**	--	ND (0.708)	--
601732	TA2-2-TRB3-SL05-000-S	NA	ND (0.0278)	--	0.767	0.404	**ND (0.2)**	--	ND (0.647)	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
601732	TA2-2-TRB3-SL06-000-S	NA	ND (0.0281)	--	0.819	0.428	**ND (0.204)**	--	ND (0.716)	--
601732	TA2-2-TRB3-SL07-000-S	NA	ND (0.0118)	--	0.642	0.347	**ND (0.185)**	--	ND (0.653)	--
601732	TA2-2-TRB3-SL08-000-S	NA	ND (0.0159)	--	0.786	0.364	**ND (0.208)**	--	ND (0.705)	--
601733	TA2-2-TRB3-SL09-000-S	NA	ND (0.0401)	--	ND (0.179)	--	**ND (0.215)**	--	0.76 U	0.577
601733	TA2-2-TRB3-SL10-000-S	NA	ND (0.036)	--	0.848	0.447	**ND (0.204)**	--	ND (0.589)	--
601733	TA2-2-TRB3-SL11-000-S	NA	ND (0.0359)	--	0.735	0.45	0.154	0.189	ND (0.568)	--
601733	TA2-2-TRB3-SL12-000-S	NA	ND (0.0347)	--	0.951	0.424	**ND (0.246)**	--	ND (0.838)	--
601733	TA2-2-TRB3-SL13-000-S	NA	ND (0.0313)	--	0.78	1.41	**ND (0.226)**	--	ND (0.787)	--
601733	TA2-2-TRB3-SL14-000-S	NA	ND (0.0304)	--	0.873	0.458	**ND (0.224)**	--	ND (0.769)	--
601742	TA2-2-TRB3-SL15-000-S	NA	ND (0.0305)	--	0.849	0.45	0.12	0.171	ND (0.721)	--
601742	TA2-2-TRB3-SL17-000-S	NA	ND (0.0295)	--	ND (0.12)	--	**ND (0.205)**	--	ND (0.686)	--
601744	TA2-2-TRA3-SL01-000-S	NA	ND (0.0318)	--	0.814	0.476	0.143	0.183	ND (0.766)	--
601744	TA2-2-TRA3-SL02-000-S	NA	ND (0.0322)	--	0.76	0.409	**ND (0.221)**	--	ND (0.75)	--
601744	TA2-2-TRA3-SL03-000-S	NA	ND (0.0336)	--	0.828	0.389	0.175	0.194	ND (0.848)	--
601744	TA2-2-TRA3-SL04-000-S	NA	ND (0.0351)	--	ND (0.184)	--	0.113	0.195	ND (0.875)	--
601744	TA2-2-TRA3-SL05-000-S	NA	ND (0.0367)	--	0.879	0.495	**ND (0.241)**	--	ND (0.85)	--
602084	TA2-2-TRA3-SL06-000-S	NA	0.0127	0.00747	0.747	0.413	**ND (0.211)**	--	ND (0.741)	--
602084	TA2-2-TRA3-SL07-000-S	NA	ND (0.0321)	--	0.85	0.454	**ND (0.226)**	--	ND (0.792)	--
602084	TA2-2-TRA3-SL08-000-S	NA	ND (0.0372)	--	0.785	1.55	**ND (0.252)**	--	ND (0.856)	--
602084	TA2-2-TRA3-SL09-000-S	NA	0.0114	0.012	0.7	0.451	**ND (0.238)**	--	ND (0.796)	--
602084	TA2-2-TRA3-SL10-000-S	NA	ND (0.0304)	--	0.743	0.337	**ND (0.219)**	--	ND (0.759)	--
602084	TA2-2-TRA3-SL11-000-S	NA	ND (0.0375)	--	0.969	0.489	**ND (0.252)**	--	ND (0.837)	--
602084	TA2-2-TRA3-SL12-000-S	NA	ND (0.0325)	--	0.822	0.432	**ND (0.226)**	--	ND (0.761)	--
602084	TA2-2-TRA3-SL13-000-S	NA	ND (0.0321)	--	0.898	0.481	**ND (0.237)**	--	ND (0.804)	--
602085	TA2-2-TRA3-SL14-000-S	NA	ND (0.0313)	--	ND (0.141)	--	0.1	0.178	ND (0.775)	--
602085	TA2-2-TRA3-SL15-000-S	NA	ND (0.0324)	--	ND (0.146)	--	**ND (0.228)**	--	ND (0.803)	--
602085	TA2-2-TRA3-SL16-000-S	NA	ND (0.028)	--	0.858	0.447	**ND (0.214)**	--	ND (0.726)	--
602089	TA2-2-TRA2-SL01-000-S	NA	ND (0.033)	--	0.89	0.429	**ND (0.219)**	--	ND (0.762)	--
602089	TA2-2-TRA2-SL02-000-S	NA	ND (0.0463)	--	**3.58**	2.33	**ND (0.332)**	--	ND (1.16)	--
602089	TA2-2-TRA2-SL03-000-S	NA	ND (0.0363)	--	0.784	0.37	**ND (0.242)**	--	ND (0.842)	--
602089	TA2-2-TRA2-SL04-000-S	NA	ND (0.036)	--	0.767	0.438	**ND (0.247)**	--	ND (0.864)	--
602089	TA2-2-TRA2-SL05-000-S	NA	ND (0.0334)	--	0.851	0.48	0.113	0.184	ND (0.778)	--
602091	TA2-2-OVA2-SL01-000-S	NA	ND (0.0346)	--	0.942	0.507	**ND (0.247)**	--	ND (0.843)	--
602091	TA2-2-OVA3-SL01-000-S	NA	ND (0.036)	--	0.831	0.496	**ND (0.246)**	--	ND (0.842)	--
602091	TA2-2-TRA2-SL06-000-S	NA	ND (0.032)	--	0.727	0.428	**ND (0.218)**	--	ND (0.744)	--
602091	TA2-2-TRA2-SL07-000-S	NA	ND (0.033)	--	0.812	0.486	0.161	0.189	ND (0.846)	--
602094	TA2-2-TRA2-SL02-2ND-S	NA	ND (0.03)	--	0.785	0.415	**ND (0.217)**	--	ND (0.748)	--
602094	TA2-2-TRA2-SL02-RE-S	NA	ND (0.0333)	--	0.902	0.48	0.18	0.186	ND (0.805)	--
602095	TA2-2-FILL-DIRT-1/2-S	NA	ND (0.0292)	--	0.673	0.346	**ND (0.205)**	--	ND (0.712)	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
602095	TA2-2-FILL-DIRT-2/2-S	NA	ND (0.0296)	--	ND (0.148)	--	**ND (0.216)**	--	ND (0.736)	--
602096	TA2-2-TRA1-SL01-000-S	NA	ND (0.0332)	--	0.93	0.517	**ND (0.24)**	--	ND (0.831)	--
602096	TA2-2-TRA1-SL02-000-S	NA	ND (0.0295)	--	0.844	0.457	**ND (0.21)**	--	ND (0.733)	--
602096	TA2-2-TRA1-SL03-000-S	NA	0.0166	0.0169	0.785	0.415	**ND (0.21)**	--	ND (0.746)	--
602096	TA2-2-TRA1-SL04-000-S	NA	ND (0.0276)	--	ND (0.117)	--	**ND (0.211)**	--	ND (0.699)	--
602100	TA2-2-OVA1-SL01-000-S	NA	ND (0.0267)	--	0.681	0.331	0.116	0.157	ND (0.655)	--
602100	TA2-2-OVA1-SL02-000-S	NA	ND (0.0269)	--	0.826	0.424	**ND (0.21)**	--	ND (0.729)	--
602100	TA2-2-OVA1-SL03-000-S	NA	ND (0.031)	--	0.91	0.432	**ND (0.22)**	--	ND (0.746)	--
602100	TA2-2-OVA1-SL04-000-S	NA	ND (0.0337)	--	0.936	0.573	0.136	0.2	ND (0.876)	--
602100	TA2-2-OVA1-SL05-000-S	NA	ND (0.0309)	--	ND (0.148)	--	0.114	0.173	ND (0.747)	--
602100	TA2-2-OVA1-SL06-000-S	NA	ND (0.028)	--	0.774	1.06	**ND (0.208)**	--	ND (0.732)	--
602100	TA2-2-SLPE-SL45-000-S	NA	ND (0.0364)	--	0.871	0.466	**ND (0.24)**	--	ND (0.818)	--
602100	TA2-2-SLPE-SL46-000-S	NA	ND (0.0335)	--	0.891	0.488	0.0993	0.194	ND (0.813)	--
602100	TA2-2-TRA1-SL05-000-S	NA	ND (0.0303)	--	0.942	0.5	**ND (0.219)**	--	ND (0.735)	--
602100	TA2-2-TRA1-SL06-000-S	NA	ND (0.0261)	--	0.816	0.426	**ND (0.196)**	--	ND (0.68)	--
602101	TA2-2-OVT2-P12-SL1-S	NA	ND (0.0358)	--	0.834	0.448	**ND (0.23)**	--	ND (0.816)	--
602101	TA2-2-OVT2-P12-SL2-S	NA	ND (0.0274)	--	0.714	0.377	**ND (0.199)**	--	ND (0.67)	--
602101	TA2-2-OVT3-P10-SL1-S	NA	ND (0.0245)	--	0.709	0.38	**ND (0.185)**	--	ND (0.62)	--
602101	TA2-2-OVT3-P10-SL2-S	NA	ND (0.0278)	--	0.906	0.439	**ND (0.208)**	--	ND (0.704)	--
602101	TA2-2-OVT3-P10-SL3-S	NA	ND (0.026)	--	0.691	0.345	**ND (0.194)**	--	ND (0.648)	--
602595	TA2-2-TR3-P10-SL1-S	NA	ND (0.0419)	--	0.894	0.738	**ND (0.203)**	--	ND (0.588)	--
602595	TA2-2-TR3-P10-SL2-S	NA	ND (0.0426)	--	0.904	0.916	**ND (0.204)**	--	0.814 U	1.54
602599	TA2-2-TR2-P12-SL1-S	NA	ND (0.038)	--	0.871	0.624	**ND (0.2)**	--	ND (0.549)	--
602599	TA2-2-TR2-P12-SL2-S	NA	ND (0.0357)	--	0.731	0.405	0.112	0.178	0.998 U	1.15
602599	TA2-2-TR2-P12-SL3-S	NA	ND (0.0388)	--	0.797	0.432	0.151	0.187	ND (0.523)	--
602599	TA2-2-TR2-P12-SL4-S	NA	ND (0.0345)	--	ND (0.137)	--	0.102	0.172	0.915 U	0.508
602599	TA2-2-TR2-P12-SL5-S	NA	ND (0.0369)	--	ND (0.164)	--	**ND (0.209)**	--	ND (0.595)	--
602605	TA2-2-EAST-FNCE-001-S	NA	ND (0.0378)	--	0.961	0.511	**0.187**	0.2	ND (0.875)	--
602605	TA2-2-TR2-P12-SL6-S	NA	ND (0.0382)	--	1.1	1.61	**ND (0.266)**	--	ND (0.934)	--
602612	TA2-2-TR2-P12-SL7-S	NA	ND (0.0345)	--	0.872	0.462	**ND (0.231)**	--	ND (0.818)	--
602612	TA2-2-TR2-P12-SL8-S	NA	ND (0.03)	--	0.704	0.407	**ND (0.215)**	--	1.16 U	1.29
602616	TA2-2-OV1-P6-SL1-S	NA	ND (0.0372)	--	ND (0.158)	--	0.102	0.148	ND (0.446)	--
602618	TA2-2-TR1-P6-SL1-S	NA	ND (0.0284)	--	0.885	0.395	**ND (0.216)**	--	ND (0.738)	--
602618	TA2-2-TR1-P6-SL10-S	NA	ND (0.0274)	--	0.78	0.403	**ND (0.196)**	--	ND (0.685)	--
602618	TA2-2-TR1-P6-SL11-S	NA	ND (0.0314)	--	0.704	0.439	**ND (0.207)**	--	ND (0.745)	--
602618	TA2-2-TR1-P6-SL2-S	NA	ND (0.0302)	--	ND (0.136)	--	**ND (0.216)**	--	ND (0.755)	--
602618	TA2-2-TR1-P6-SL3-S	NA	ND (0.0275)	--	0.905	0.447	**ND (0.199)**	--	ND (0.695)	--
602618	TA2-2-TR1-P6-SL4-S	NA	ND (0.0293)	--	0.92	0.487	0.145	0.173	ND (0.753)	--
602618	TA2-2-TR1-P6-SL5-S	NA	ND (0.03)	--	0.713	0.372	**ND (0.211)**	--	ND (0.693)	--
Background Activity - North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
602618	TA2-2-TR1-P6-SL6-S	NA	ND (0.0273)	--	ND (0.125)	--	**0.237**	0.159	ND (0.675)	--
602618	TA2-2-TR1-P6-SL7-S	NA	ND (0.0282)	--	0.785	0.413	**ND (0.202)**	--	ND (0.683)	--
602618	TA2-2-TR1-P6-SL8-S	NA	ND (0.0278)	--	0.759	0.389	0.0958	0.155	ND (0.683)	--
602618	TA2-2-TR1-P6-SL9-S	NA	ND (0.03)	--	ND (0.132)	--	**ND (0.22)**	--	ND (0.748)	--
602782	TA2-2-OVT1-P4-SL1-S	NA	ND (0.0366)	--	ND (0.157)	--	0.153	0.173	ND (0.54)	--
602782	TA2-2-TR1-P4-SL1-S	NA	ND (.0263)	--	0.636	0.3	0.135	0.147	ND (0.574)	--
602782	TA2-2-TR1-P4-SL2-S	NA	ND (0.0343)	--	0.74	0.392	ND (0.178)	--	ND (0.439)	--
602782	TA2-2-TR1-P4-SL3-S	NA	ND (0.0349)	--	ND (0.153)	--	0.15	0.163	ND (0.52)	--
602787	TA2-2-TR1-P3-SL1-S	NA	ND (0.0274)	--	0.606	0.284	**ND (0.186)**	--	ND (0.682)	--
602787	TA2-2-TR1-P3-SL2-S	NA	ND (0.0303)	--	0.844	0.391	**ND (0.208)**	--	ND (0.749)	--
602788	TA2-2-OVT1-P2-SL1-S	NA	ND (0.0242)	--	0.705	0.363	**ND (0.181)**	--	ND (0.625)	--
602788	TA2-2-OVT1-P2-SL2-S	NA	0.018	0.0242	0.8	0.409	**ND (0.194)**	--	ND (0.664)	--
602788	TA2-2-OVT1-P3-SL1-S	NA	ND (0.0253)	--	0.796	0.409	**ND (0.192)**	--	ND (0.661)	--
602788	TA2-2-OVT1-P3-SL2-S	NA	ND (0.0251)	--	0.743	0.4	**ND (0.19)**	--	ND (0.65)	--
602789	TA2-2-TR1-P2-SL1-S	NA	0.0369	0.0598	0.593	0.349	**ND (0.205)**	--	ND (0.71)	--
602789	TA2-2-TR1-P2-SL2-S	NA	ND (0.0315)	--	0.829	0.399	0.0981	0.165	ND (0.745)	--
602789	TA2-2-TR1-P2-SL3-S	NA	0.0088	0.0142	0.812	0.451	**ND (0.245)**	--	ND (0.877)	--
602789	TA2-2-TR1-P2-SL4-S	NA	ND (0.0313)	--	0.898	0.49	**ND (0.211)**	--	ND (0.757)	--
602789	TA2-2-TR1-P2-SL5-S	NA	ND (0.0191)	--	0.779	0.423	0.178	0.174	ND (0.79)	--
602789	TA2-2-TR1-P2-SL6-S	NA	ND (0.0309)	--	0.65	0.393	**ND (0.213)**	--	ND (0.727)	--
602794	TA2-2-TR1-P2-SL7-S	NA	ND (0.0355)	--	0.725	0.37	**ND (0.187)**	--	ND (0.562)	--
602794	TA2-2-TR1-P2-SL8-S	NA	ND (0.0358)	--	ND (0.156)	--	0.0766	0.147	ND (0.534)	--
602799	TA2-2-OVT1-P1-SL1-S	NA	ND (0.0355)	--	0.759	0.416	**ND (0.184)**	--	ND (0.458)	--
602799	TA2-2-OVT1-P1-SL2-S	NA	ND (0.0334)	--	ND (0.129)	--	ND (0.179)	--	ND (0.489)	--
602801	TA2-2-TR1-P1-SL2-S	NA	ND (0.0249)	--	ND (0.103)	--	ND (0.178)	--	ND (0.605)	--
602801	TA2-2-TR1-P1-SL3-S	NA	ND (0.0257)	--	0.708	0.367	**ND (0.184)**	--	ND (0.628)	--
602801	TA2-2-TR1-P1-SL4-S	NA	ND (0.026)	--	0.6	0.326	0.116	0.145	ND (0.617)	--
602801	TA2-2-TR1-P1-SL5-S	NA	ND (0.0266)	--	0.571	0.292	**ND (0.187)**	--	ND (0.647)	--
602810	TA2-2-OVT2-P9-SL1-S	NA	ND (0.0318)	--	0.808	0.436	**ND (0.215)**	--	ND (0.753)	--
602920	TA2-2-OVT2-P10-SL1-S	NA	ND (0.024)	--	0.722	0.375	0.0869	0.141	ND (0.606)	--
602920	TA2-2-TR2-P10-SL1-S	NA	ND (0.0244)	--	ND (0.11)	--	0.102	0.143	ND (0.614)	--
602920	TA2-2-TR2-P10-SL2-S	NA	ND (0.0269)	--	ND (0.107)	--	0.105	0.143	ND (0.628)	--
602931	TA2-2-OVT2-P8-SL1-S	NA	ND (0.0266)	--	0.787	0.42	0.123	0.154	ND (0.674)	--
602931	TA2-2-TR2-P8-SL1-S	NA	ND (0.0275)	--	0.824	0.437	**ND (0.199)**	--	ND (0.661)	--
602931	TA2-2-TR2-P8-SL2-S	NA	ND (0.0275)	--	ND (0.125)	--	0.0793	0.148	ND (0.659)	--
602931	TA2-2-TR2-P8-SL3-S	NA	ND (0.0275)	--	0.75	0.681	0.14	0.161	ND (0.697)	--
602965	TA2-2-OVT2-P7-SL1-S	NA	ND (0.0307)	--	0.715	0.369	0.109	0.147	0.707 U	0.793
602965	TA2-2-OVT2-P8-SL1-S	NA	ND (0.0382)	--	ND (0.151)	--	**ND (0.2)**	--	ND (0.546)	--
602965	TA2-2-TR2-P9-SL1-S	NA	ND (0.0341)	--	0.757	0.394	ND (0.178)	--	ND (0.478)	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Continued)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
602965	TA2-2-TR2-P9-SL2-S	NA	ND (0.0329)	--	0.789	0.412	ND (0.114)	--	0.607	0.423
602965	TA2-2-TR2-P9-SL3-S	NA	ND (0.0303)	--	0.756	0.444	ND (0.171)	--	0.707 U	0.86
602966	TA2-2-OVT2-P5/1-SL1-S	NA	0.0307	0.0282	0.738	0.568	**ND (0.194)**	--	ND (0.665)	--
602966	TA2-2-OVT2-P5/1-SL2-S	NA	ND (0.0157)	--	0.774	0.891	**ND (0.202)**	--	ND (0.701)	--
602966	TA2-2-TR2-P7-SL1-S	NA	ND (0.026)	--	0.749	0.392	**ND (0.181)**	--	ND (0.635)	--
602966	TA2-2-TR2-P7-SL2-S	NA	ND (0.0278)	--	0.772	0.395	**ND (0.197)**	--	ND (0.69)	--
602966	TA2-2-TR2-P8-SL1-S	NA	ND (0.028)	--	0.812	0.519	**ND (0.2)**	--	ND (0.662)	--
602966	TA2-2-TR2-P8-SL2-S	NA	ND (0.0256)	--	0.855	0.434	**ND (0.186)**	--	ND (0.643)	--
602969	TA2-2-TR2-P6-SL1-S	NA	ND (0.0261)	--	0.785	0.574	0.0814	0.149	ND (0.664)	--
602969	TA2-2-TR2-P6-SL2-S	NA	ND (0.0246)	--	0.667	0.325	ND (0.176)	--	ND (0.608)	--
602969	TA2-2-TR2-P6-SL3-S	NA	ND (0.0264)	--	0.706	0.383	**ND (0.189)**	--	ND (0.647)	--
602969	TA2-2-TR2-P6-SL4-S	NA	ND (0.024)	--	0.637	0.335	ND (0.174)	--	ND (0.582)	--
602973	TA2-2-TR2-P543-SL2-S	NA	ND (0.0287)	--	0.891	0.454	**ND (0.202)**	--	ND (0.722)	--
602973	TA2-2-TR2-P543-SL3-S	NA	ND (0.0268)	--	0.677	0.379	**ND (0.192)**	--	ND (0.654)	--
602979	TA2-2-OVT3-P2/3-SL1-S	NA	ND (0.0374)	--	0.861	0.449	**ND (0.197)**	--	0.328 U	0.405
602979	TA2-2-OVT3-P456-SL1-S	NA	ND (0.0361)	--	0.731	0.379	**ND (0.19)**	--	ND (0.521)	--
602979	TA2-2-TR2-P2/1-SL1-S	NA	ND (0.0309)	--	0.689	0.379	ND (0.173)	--	ND (0.467)	--
602979	TA2-2-TR2-P2/1-SL2-S	NA	ND (0.0333)	--	0.874	0.486	**ND (0.184)**	--	ND (0.494)	--
602979	TA2-2-TR2-P2/1-SL3-S	NA	ND (0.033)	--	0.739	0.422	ND (0.179)	--	ND (0.456)	--
602979	TA2-2-TR2-P2/1-SL4-S	NA	ND (0.0329)	--	ND (0.141)	--	**ND (0.182)**	--	ND (0.51)	--
602979	TA2-2-TR3-P2/3-SL1-S	NA	ND (0.0342)	--	0.749	0.417	**ND (0.182)**	--	ND (0.524)	--
602979	TA2-2-TR3-P2/3-SL2-S	NA	ND (0.0347)	--	0.718	0.393	**ND (0.185)**	--	ND (0.508)	--
602979	TA2-2-TR3-P2/3-SL3-S	NA	ND (0.0321)	--	0.789	0.432	**ND (0.185)**	--	ND (0.497)	--
602979	TA2-2-TR3-P2/3-SL4-S	NA	ND (0.0332)	--	0.753	0.428	0.162	0.158	ND (0.491)	--
603059	TA2-2-OVT3-P789-SL1-S	NA	ND (0.0333)	--	0.647	0.388	**ND (0.183)**	--	0.404 U	0.399
603059	TA2-2-OVT3-P789-SL2-S	NA	ND (0.0312)	--	ND (0.137)	--	0.163	0.151	0.812 U	0.74
603059	TA2-2-TR3-P456-SL2-S	NA	ND (0.034)	--	ND (0.14)	--	**ND (0.186)**	--	ND (0.521)	--
603059	TA2-2-TR3-P456-SL3-S	NA	ND (0.036)	--	0.594	0.356	**ND (0.183)**	--	ND (0.517)	--
603059	TA2-2-TR3-P456-SL6-S	NA	ND (0.0317)	--	0.647	1.16	**ND (0.188)**	--	ND (0.493)	--
603069	TA2-2-TR3-P789-SL1-S	NA	ND (0.029)	--	0.741	0.381	**ND (0.199)**	--	ND (0.682)	--
603069	TA2-2-TR3-P789-SL4-S	NA	ND (0.0308)	--	0.83	0.431	**ND (0.202)**	--	ND (0.705)	--
603069	TA2-2-TR3-P789-SL5-S	NA	ND (0.0163)	--	ND (0.117)	--	**ND (0.203)**	--	ND (0.7)	--
603195	TA2-2-CYLI-NDER-BRM-S	NA	ND (0.0326)	--	0.827	0.415	ND (0.172)	--	ND (0.463)	--
603355	TA2-2-FINAL-SDW-550N-3770E-1.0	NA	ND (0.0268)	--	0.593	0.29	**ND (0.197)**	--	ND (0.684)	--
603357	TA2-2-FINAL-SDW-365N-3850E-1.0	NA	ND (0.0251)	--	0.737	0.392	**ND (0.187)**	--	ND (0.62)	--
603357	TA2-2-FINAL-SDW-365N-3900E-1.0	NA	ND (0.0265)	--	0.878	0.453	**ND (0.19)**	--	ND (0.651)	--
603357	TA2-2-FINAL-SDW-365N-3950E-1.0	NA	ND (0.0282)	--	0.757	0.41	**ND (0.204)**	--	ND (0.7)	--
603357	TA2-2-FINAL-SDW-370N-4000E-1.0	NA	ND (0.0257)	--	0.87	1.14	**ND (0.193)**	--	ND (0.672)	--
603357	TA2-2-FINAL-SDW-375N-4050E-1.0	NA	ND (0.0269)	--	0.685	0.324	**ND (0.195)**	--	ND (0.657)	--
Background Activity—North Area Subsurface[c]			0.084		1.54		0.18		1.3	

Refer to footnotes at end of table.

Table A-6 (Concluded)
Summary of Gamma Spectroscopy Analytical Results
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
603357	TA2-2-FINAL-SDW-375N-4050E-1.0	NA	ND (0.0251)	--	0.789	0.765	**ND (0.191)**	--	ND (0.647)	--
603357	TA2-2-FINAL-SDW-400N-4100E-1.0	NA	ND (0.026)	--	0.722	0.367	**ND (0.193)**	--	ND (0.679)	--
603357	TA2-2-FINAL-SDW-450N-4150E-1.0	NA	ND (0.0253)	--	0.828	0.418	**ND (0.191)**	--	ND (0.665)	--
603357	TA2-2-FINAL-SDW-450N-4150E-D	NA	ND (0.0271)	--	ND (0.115)	--	0.116	0.164	ND (0.707)	--
603357	TA2-2-FINAL-SDW-500N-4150E-1.0	NA	ND (0.0247)	--	ND (0.109)	--	**ND (0.191)**	--	ND (0.652)	--
603357	TA2-2-FINAL-SDW-550N-4150E-1.0	NA	ND (0.0262)	--	0.673	0.373	**ND (0.189)**	--	ND (0.663)	--
603359	TA2-2-FINAL-SDW-365N-3800E-1.0	NA	ND (0.0255)	--	0.798	0.374	0.114	0.161	ND (0.702)	--
603359	TA2-2-FINAL-SDW-375N-3770E-1.0	NA	ND (0.0262)	--	0.812	0.421	**ND (0.196)**	--	ND (0.683)	--
603359	TA2-2-FINAL-SDW-400N-3770E-1.0	NA	ND (0.0232)	--	0.702	0.325	**ND (0.182)**	--	ND (0.598)	--
603359	TA2-2-FINAL-SDW-450N-3770E-1.0	NA	ND (0.0255)	--	0.501	0.301	**ND (0.182)**	--	ND (0.612)	--
603359	TA2-2-FINAL-SDW-450N-3770E-D	NA	ND (0.0256)	--	0.647	0.304	**ND (0.187)**	--	ND (0.633)	--
603359	TA2-2-FINAL-SDW-500N-3770E-1.0	NA	ND (0.0246)	--	0.682	1.16	**ND (0.19)**	--	ND (0.656)	--
604553	TA2-2-33-PUCS-001-S	NA	ND (0.0399)	--	0.961	0.452	**ND (0.211)**	--	0.548 U	0.271
604553	TA2-2-34-PUCS-001-S	NA	0.0114	0.0136	0.65	0.325	**ND (0.195)**	--	ND (0.668)	--
604553	TA2-2-34-PUCS-002-DU	NA	ND (0.0246)	--	0.654	0.303	**ND (0.182)**	--	ND (0.625)	--
604553	TA2-2-34-PUCS-002-S	NA	ND (0.0241)	--	0.729	0.337	ND (0.18)	--	ND (0.628)	--
604553	TA2-2-34-PUCS-003-S	NA	ND (0.0255)	--	0.809	0.377	**ND (0.192)**	--	ND (0.659)	--
604553	TA2-2-34-PUCS-004-S	NA	ND (0.0692)	--	0.584	0.373	**ND (0.342)**	--	ND (0.905)	--
604553	TA2-2-34-PUCS-005-S	NA	ND (0.0637)	--	0.652	0.383	**ND (0.328)**	--	ND (0.895)	--
604553	TA2-2-38-PUCS-001-S	NA	ND (0.0741)	--	0.584	0.376	**ND (0.37)**	--	ND (1.09)	--
604553	TA2-2-38-PUCS-002-S	NA	ND (0.0636)	--	0.594	0.373	**0.303**	0.266	ND (0.922)	--
604553	TA2-2-38-PUCS-003-DU	NA	0.0483	0.0306	0.587	0.328	**ND (0.347)**	--	ND (1.2)	--
604553	TA2-2-38-PUCS-003-S	NA	0.0672	0.0327	0.681	0.373	**ND (0.351)**	--	ND (1.14)	--
604553	TA2-2-38-PUCS-005-S	NA	ND (0.0529)	--	0.507	0.314	**ND (0.365)**	--	**ND (1.32)**	--
Background Activity[c]			0.084		1.54		0.18		1.3	
Quality Assurance/Quality Control Samples (all in mg/L)										
600282	TA2-2-TRE5-0001-EB	NA	ND (44.3)	--	ND (300)	--	ND (276)	--	ND (688)	--
600471	TA2-2-TRD6-0015-EB	NA	ND (71.3)	--	ND (111)	--	ND (100)	--	ND (251)	--
601138	TA2-2-TRC7-0003-000-EB	NA	ND (20.4)	--	ND (138)	--	ND (91.7)	--	ND (225)	--

Note: Values in **bold** exceed background soil activities.

[a]Analysis request/chain-of-custody record.

[b]Two standard deviations about the mean detected activity.

[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.

bgs = Below ground surface.
D = Duplicate sample.
DEB = Debris.
DU = Duplicate sample.
EB = Equipment blank.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
S = Soil sample.
SWMU = Solid Waste Management Unit.
U = The analyte was analyzed for but was not detected.
-- = Error not calculated for nondetected results.

Table A-7
Summary of Tritium Analysis
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 906.0[a]) (pCi/L)	Sample Attributes			Liquid Scintillation Counting (pCi/g)	Liquid Scintillation Counting (pCi/L)[b]
Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Tritium
600004	TA2-2-ACF1-0001-18-S	18	**ND (99.1)**	--	--	--	--	--
600007	TA2-2-ACF2-0001-15-S	15	**1,120**	--	--	--	--	--
600010	TA2-2-ACF3-0001-12-S	12	**1,000**	--	--	--	--	--
600041	TA2-2-ACF4-0001-12-S	12	**140,000**	--	--	--	--	--
600047	TA2-2-PTW1-0001-10-S	10	**482,000**	--	--	--	--	--
600062	TA2-2-PTW2-0001-12-S	12	**649,000**	--	--	--	--	--
600067	TA2-2-PTW3-0001-12-S	12	**21,100**	--	--	--	--	--
600072	TA2-2-PTW4-0001-15-S	15	**64,600**	--	--	--	--	--
600288	TA2-2-TRE6-SL09-000-S	NA	**79,300**	--	--	--	--	--
602607	TA2-2-TR2-EAST-FNCE-002-DU	NA	**72,000**	--	--	--	--	--
602607	TA2-2-TR2-EAST-FNCE-002-S	NA	**75,500**	--	--	--	--	--
602607	TA2-2-TR2-P12A-SL6-DU	NA	**71,000**	--	--	--	--	--
602607	TA2-2-TR2-P12A-SL6-S	NA	**65,700**	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-3770E-1.0	NA	**1,360**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-365N-3850E-1.0	NA	**1,070**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-365N-3900E-1.0	NA	**1,350**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-365N-3950E-1.0	NA	**510**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-375N-4050E-1.0	NA	**2,330**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-400N-4100E-1.0	NA	**1,400**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-450N-4150E-1.0	NA	**29,400**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-450N-4150E-D	NA	**28,200**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-500N-4150E-1.0	NA	**741**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-550N-4150E-1.0	NA	**3,020**	--	--	--	--	--
603360	TA2-2-FINAL-SDW-365N-3800E-1.0	NA	209	--	--	--	--	--
603360	TA2-2-FINAL-SDW-375N-3770E-1.0	NA	**5,120**	--	--	--	--	--
603360	TA2-2-FINAL-SDW-400N-3770E-1.0	NA	**5,360**	--	--	--	--	--
603360	TA2-2-FINAL-SDW-450N-3770E-1.0	NA	**6,160**	--	--	--	--	--
603360	TA2-2-FINAL-SDW-450N-3770E-D	NA	**5,960**	--	--	--	--	--
603360	TA2-2-FINAL-SDW-500N-3770E-1.0	NA	387	--	--	--	--	--
604554	TA2-2-33-PUCS-001-S	NA	**20,400**	604553	TA2-2-33-PUCS-001-S	NA	**27**	**540,000**
604554	TA2-2-34-PUCS-001-S	NA	**99,900**	604553	TA2-2-34-PUCS-001-S	NA	**29.3**	**586,000**
604554	TA2-2-34-PUCS-002-DU	NA	**24,700**	604553	TA2-2-34-PUCS-002-DU	NA	**30.3**	**606,000**
604554	TA2-2-34-PUCS-002-S	NA	**13,800**	604553	TA2-2-34-PUCS-002-S	NA	**13.5**	**270,000**
Background Activity[d]			420	NA	NA	NA	0.021	420

Refer to footnotes at end of table.

Table A-7 (Continued)
Summary of Tritium Analysis
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 906.0[a]) (pCi/L)	Sample Attributes			Liquid Scintillation Counting (pCi/g)	Liquid Scintillation Counting (pCi/L)[b]
Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Tritium
604554	TA2-2-34-PUCS-003-S	NA	**20,300**	604553	TA2-2-34-PUCS-003-S	NA	**22**	**440,000**
604554	TA2-2-34-PUCS-004-S	NA	**6,540**	604553	TA2-2-34-PUCS-004-S	NA	**19.1**	**382,000**
604554	TA2-2-34-PUCS-005-S	NA	**17,100**	604553	TA2-2-34-PUCS-005-S	NA	**26.8**	**536,000**
604554	TA2-2-38-PUCS-001-S	NA	**216,000**	604553	TA2-2-38-PUCS-001-S	NA	**34.6**	**692,000**
604554	TA2-2-38-PUCS-002-S	NA	**935,000**	604553	TA2-2-38-PUCS-002-S	NA	**72**	**1,440,000**
604554	TA2-2-38-PUCS-003-DU	NA	**407,000**	604553	TA2-2-38-PUCS-003-DU	NA	**40.5**	**810,000**
604554	TA2-2-38-PUCS-003-S	NA	**388,000**	604553	TA2-2-38-PUCS-003-S	NA	**39.8**	**796,000**
604554	TA2-2-38-PUCS-005-S	NA	**401,000**	604553	TA2-2-38-PUCS-005-S	NA	**41.2**	**824,000**
--	--	--	--	604555	TA2-2-31-PUCS-001-S	NA	**30.1**	**602,000**
--	--	--	--	604555	TA2-2-32-PUCS-001-S	NA	**29**	**580,000**
--	--	--	--	604555	TA2-2-34-PUCS-006-S	NA	**14.3**	**286,000**
--	--	--	--	604555	TA2-2-34-PUCS-007-S	NA	**16**	**320,000**
--	--	--	--	604555	TA2-2-34-PUCS-008-S	NA	**26.2**	**524,000**
--	--	--	--	604555	TA2-2-34-PUCS-009-S	NA	**15.3**	**306,000**
--	--	--	--	604555	TA2-2-34-PUCS-010-S	NA	**21.8**	**436,000**
--	--	--	--	604555	TA2-2-34-PUCS-011-S	NA	**10.9**	**218,000**
--	--	--	--	604555	TA2-2-34-PUCS-012-S	NA	**27.5**	**550,000**
--	--	--	--	604555	TA2-2-34-PUCS-013-S	NA	**19.1**	**382,000**
--	--	--	--	604555	TA2-2-34-PUCS-014-S	NA	**26.8**	**536,000**
--	--	--	--	604555	TA2-2-34-PUCS-015-DU	NA	**22.5**	**450,000**
--	--	--	--	604555	TA2-2-34-PUCS-015-S	NA	**12.6**	**252,000**
--	--	--	--	604555	TA2-2-34-PUCS-016-S	NA	**13**	**260,000**
--	--	--	--	604555	TA2-2-34-PUCS-017-S	NA	**21.8**	**436,000**
--	--	--	--	604555	TA2-2-34-PUCS-018-S	NA	**13.8**	**276,000**
--	--	--	--	604555	TA2-2-34-PUCS-019-S	NA	**11.4**	**228,000**
--	--	--	--	604555	TA2-2-34-PUCS-020-S	NA	**15.3**	**306,000**
--	--	--	--	604555	TA2-2-34-PUCS-021-DU	NA	**8.68**	**173,600**
--	--	--	--	604555	TA2-2-34-PUCS-021-S	NA	**22.5**	**450,000**
--	--	--	--	604555	TA2-2-34-PUCS-022-S	NA	**16.7**	**334,000**
--	--	--	--	604555	TA2-2-34-PUCS-023-S	NA	**23.3**	**466,000**
--	--	--	--	604555	TA2-2-34-PUCS-024-S	NA	**12.2**	**244,000**
--	--	--	--	604555	TA2-2-34-PUCS-025-S	NA	**12.4**	**248,000**
--	--	--	--	604555	TA2-2-34-PUCS-026-S	NA	**12.1**	**242,000**
Background Activity[d]			420	NA	NA	NA	0.021	420

Refer to footnotes at end of table.

Table A-7 (Concluded)
Summary of Tritium Analysis
March 1998–June 2001
for Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 906.0[a]) (pCi/L)	Sample Attributes			Liquid Scintillation Counting (pCi/g)	Liquid Scintillation Counting (pCi/L)[b]
Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Tritium
--	--	--	--	604555	TA2-2-34-PUCS-027-DU	NA	**24.7**	**494,000**
--	--	--	--	604555	TA2-2-34-PUCS-027-S	NA	**18**	**360,000**
--	--	--	--	604555	TA2-2-34-PUCS-028-S	NA	**15.1**	**302,000**
--	--	--	--	604555	TA2-2-34-PUCS-029-S	NA	**25.8**	**516,000**
--	--	--	--	604555	TA2-2-34-PUCS-030-S	NA	**24.8**	**496,000**
--	--	--	--	604555	TA2-2-34-PUCS-031-S	NA	**21.8**	**436,000**
--	--	--	--	604555	TA2-2-37-PUCS-001-S	NA	**14**	**280,000**
--	--	--	--	604555	TA2-2-37-PUCS-002-S	NA	**14.8**	**296,000**
--	--	--	--	604555	TA2-2-38-PUCS-031-S	NA	**21.6**	**432,000**
--	--	--	--	604555	TA2-2-38-PUCS-032-S	NA	**38.7**	**774,000**
--	--	--	--	604555	TA2-2-38-PUCS-033-S	NA	**27**	**540,000**
--	--	--	--	604555	TA2-2-38-PUCS-034-DU	NA	**20.9**	**418,000**
--	--	--	--	604555	TA2-2-38-PUCS-034-S	NA	**34.9**	**698,000**
--	--	--	--	604555	TA2-2-38-PUCS-035-S	NA	**22.7**	**454,000**
--	--	--	--	604555	TA2-2-38-PUCS-036-S	NA	**26.9**	**538,000**
--	--	--	--	604555	TA2-2-38-PUCS-037-S	NA	**15.6**	**312,000**
--	--	--	--	604555	TA2-2-38-PUCS-038-S	NA	**24.5**	**490,000**
Background Activity[d]			420	NA	NA	NA	0.021	420
Quality Assurance/Quality Control Samples (pCi/L)								
600059	TA2-2-PTW1-EB	NA	ND (171)	--	--	--	--	--
604554	TA2-2-PUCS-EB1-S	NA	ND (96.9)	--	--	--	--	--
604557	TA2-2-PUCS-EB5	NA	ND (426)	--	--	--	--	--
604557	TA2-2-PUCS-EB6	NA	ND (426)	--	--	--	--	--

Note: Values in **bold** exceed background soil activities.

[a]EPA November 1986.

[b]pCi/L = pCi/g/20,000.

[c]Analysis request/chain-of-custody record.

[d]Tharp February 1999. 420 pCi/L = 0.21 pCi/g, assuming a soil density of 1 gram/cubic centimeter and 5 percent soil moisture.

bgs = Below ground surface.
D = Duplicate sample.
DU = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Sample has no entry for method specified.

Table A-8
Summary of Metals Analytical Results
September 1998–November 2000
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Metals (EPA 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
510697	TA2-2-I600-SORT-SEG-S	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	**ND (11.1)**
600498	TA2-2-I600-SORT-SEG-S	NA	**5.6**	**820**	2	**450**	**170**	**330**	**5.8**	**220**	**1.1 J (1.2)**	**20**	NR
601143	TA2-2-TRC9-SL83-000-S	NA	1.7 J (2.5)	**1500**	0.34	**6.4**	**140**	**39**	**0.23**	8.2	0.76 J (1.2)	**1**	1.2
601594	TA2-2-TRC7-C6-BIN-S	NA	2.6	**430**	0.7	**280**	**110**	**230**	**11**	**400**	0.75 J (1.2)	**110**	0.7
601594	TA2-2-TRC8-C/F-BIN-S	NA	2.7	**300**	4.2	**710**	**99**	**280**	**7.7 E**	**360**	0.84 J (1.3)	**63**	0.76
601594	TA2-2-TRC9-C/F-BIN-S	NA	3	**2500**	0.75	**740**	**89**	**380**	**5.4**	**120**	**1.1**	**8.2**	1.1
601594	TA2-2-TRD8-C/F-BIN-S	NA	3.9	**590**	**0.9**	**510**	**68**	**360**	**4.7**	**290**	**1.1 J (1.2)**	**48**	0.9
601596	TA2-2-I600-SORT-SEG-S	NA	ND (0.6)	28	ND (0.028)	**3.5**	ND (0.7)	0.45 J (1.2)	0.084 J (0.16)	0.93 J (1.2)	ND (0.3)	0.057 J (0.16)	0.04 J (0.11)
601728	TA2-2-TRB2-SL01-000-S	NA	4.4	**230**	0.65	**2.3**	**14**	6	**0.19**	7.7	**38**	0.1 J (0.17)	0.99
601743	TA2-2-TRB3-SL16-000-S	NA	**8.3**	**280**	0.54	**16**	**14**	9.1	**0.72**	13	**250**	0.15 J (0.16)	1
602600	TA2-2-COBL-GRIZ-TRA-DUP	NA	1.4 J (2.4)	110	0.38	**4.1**	6.7	6.2	**7.1**	15	0.41 J (1.2)	**1.2**	1.1
602600	TA2-2-COBL-GRIZ-TRA-S	NA	3.2	190	0.54	**5.7**	10	5.9	**23**	17	**1 J (1.2)**	0.28	0.95
602796	TA2-2-COBL-GRIZ-002-S	NA	2.1 J (2.7)	190	0.42	**5.9**	8	7.4	**0.86**	12	0.56 J (1.3)	0.31	1.2
602796	TA2-2-COBL-GRIZ-003-S	NA	2.4 J (2.5)	170	0.39	**4.4**	9.2	**14**	**1.4**	13	0.51 J (1.2)	**2.8**	0.62
602796	TA2-2-COBL-GRIZ-004-D	NA	2.4 J (2.5)	**890**	0.37	**5.4**	9.1	9.8	**1.5**	9.4	0.54 J (1.2)	**4.3**	0.88
602796	TA2-2-COBL-GRIZ-004-S	NA	2.5	**2700 E**	0.39	**6.8**	9.5	24	**1.5**	12	0.59 J (1.2)	**1.3**	0.91
602796	TA2-2-COBL-GRIZ-005-S	NA	2.8	200	0.43	**9.8**	8.8	8.5	**1**	14	0.75 J (1.2)	0.65	1.1
602796	TA2-2-TRB3-SL16-002-S	NA	2.9	**250**	0.45	**4**	11	6.8	**0.32**	16	0.82 J (1.2)	0.1 J (0.16)	1
602796	TA2-2-TRB3-SL16-003-D	NA	2.4	120	0.38	0.59	6.3	6.9	**0.32**	7.6	0.4 J (1.1)	0.087 J (0.15)	0.81
602796	TA2-2-TRB3-SL16-003-S	NA	2.8	120	0.45	0.9	**13**	6.5	**0.29**	8.9	0.72 J (1.2)	0.36	1.5
602796	TA2-2-TRB3-SL16-004-S	NA	2.9	**230**	0.48	**3.8**	12	7.2	**0.94**	10	**1 J (1.2)**	0.31	1.4
602796	TA2-2-TRB3-SL16-005-S	NA	3.1	**210**	0.46	**2.9**	8.3	8.1	**0.27**	8.9	0.79 J (1.1)	0.073 J (0.15)	1.3
602796	TA2-2-TRC9-SL83-002-S	NA	3.1	200	0.44	**4**	12	8.7	**0.25**	12	0.65 J (1.3)	0.38	1.2
602796	TA2-2-TRC9-SL83-003-S	NA	3.2	**360**	0.45	**2.1**	12	6.9	**0.2**	11	0.58 J (1.1)	0.33	1.1
602796	TA2-2-TRC9-SL83-004-D	NA	3.5	**230**	0.48	**2.9**	**14**	7.8	**0.26**	12	0.5 J (1.1)	0.24	0.96
602796	TA2-2-TRC9-SL83-004-S	NA	3.3	190	0.48	**4.3**	**14**	7.8	**0.24**	14	0.58 J (1.2)	0.24	0.91
602796	TA2-2-TRC9-SL83-005-S	NA	3.1	**350**	0.61	**3**	**13**	10	**0.27**	12	0.56 J (1.3)	0.6	0.98
602804	TA2-2-TR1-P1-SL1-S	NA	2.4	**800**	0.39	**4.6**	9.6	9	**0.17**	10	0.91 J (1.2)	0.23	0.8
602974	TA2-2-P225-2C/F-BIN-S	NA	3.4	**1100**	0.47	**320**	**58**	**620**	**14**	**150**	**1.1**	**6.9**	1
602974	TA2-2-P225-3C/F-BIN-S	NA	2.8	**270**	0.58	**250**	**57**	**450**	**180**	**64**	0.87 J (1.2)	**1.8**	1
602974	TA2-2-TR2-P543-SL1-DU	NA	3.5	**250**	0.38	**15**	**18**	**240**	**6.7**	10	0.72 J (1.2)	0.53	1.2
602974	TA2-2-TR2-P543-SL1-S	NA	2.9	**360**	0.39	**26**	**35**	**340**	**6.8**	**30**	0.71 J (1.2)	0.57	1.1
602975	TA2-2-P225-2C/F-BIN-S	NA	2.51	**1730**	0.588	**316**	**59.4**	**202**	**19.7**	**200**	0.477 J (0.481)	**14.7**	0.841
602978	TA2-2-TR2-P543-SL4-S	NA	3.6	**320**	0.48	**7.4**	**27**	**83**	**4.8**	12	0.8 J (1.2)	0.65	1.2
602978	TA2-2-TR2-P543-SL5-S	NA	3	**640**	0.37	**8.6**	**21**	**61**	**1.3**	9.9	0.71 J (1.2)	0.68	0.94
603068	TA2-2-TR3-P456-SL1-S	NA	3.9	190	0.44	**5.3**	**22**	8.3	**2.2**	17	0.46 J (1.2)	**1.1**	1.2
603068	TA2-2-TR3-P456-SL4-S	NA	3	180	0.33	**3.3**	8.8	6.5	**0.57**	8.6	0.37 J (1.2)	**1.1**	1.2
603068	TA2-2-TR3-P456-SL5-DU	NA	3.6	**210**	0.42	**6**	**13**	7.3	**1.4**	9.5	0.56 J (1.2)	**1.2**	1.2
603068	TA2-2-TR3-P456-SL5-S	NA	4	**240**	0.43	**2.8**	12	11	**0.76**	9.7	0.6 J (1.2)	**1.1**	1.3
603070	TA2-2-TR3-P456-SL1-DU	NA	2.99	**240**	0.379 J (0.502)	**10.6**	9.22	6.37	**1.01**	7.89	0.508	**1.62**	1.14
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-8 (Continued)
Summary of Metals Analytical Results
September 1998–November 2000
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Metals (EPA 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
603070	TA2-2-TR3-P456-SL1-S	NA	3.07	**322**	0.368 J (0.51)	**4.65**	10.1	6.26	**0.811**	8.69	0.569	**7.14**	1.13
603070	TA2-2-TR3-P456-SL4-DU	NA	3.35	**219**	0.353 J (0.497)	**16.1**	9.94	6.14	**1.05**	8.36	0.773	**1.5**	2.03
603070	TA2-2-TR3-P456-SL4-S	NA	2.78	**227**	0.36 J (0.517)	**4.22**	10.1	**11.6**	**0.732**	7.52	0.585	**1.16**	1.08
603070	TA2-2-TR3-P789-SL2-DU	NA	2.8	**207**	0.375 J (0.511)	**7.84**	**14.1**	**14.1**	**1.86**	12.7	0.76	**1.36**	1.05
603070	TA2-2-TR3-P789-SL2-S	NA	3.02	**262**	0.377 J (0.494)	**68.6**	**13**	**77.5**	**2.05**	11.2	0.664	0.931	1.33
603070	TA2-2-TR3-P789-SL3-DU	NA	2.52	175	0.331 J (0.476)	**6.87**	11.1	10.1	**25.3**	10.5	0.71	0.714	1.09
603070	TA2-2-TR3-P789-SL3-S	NA	2.89	184	0.345 J (0.506)	**138**	**33.5**	10.3	**6.31**	16.7	0.694	0.783	1.25
603072	TA2-2-TR3-P789-SL2-S	NA	2.5	170	0.38	**7**	12	9	**2.3**	11	0.49 J (1.2)	0.77	0.85
603072	TA2-2-TR3-P789-SL3-S	NA	3	**220**	0.43	**11**	**16**	**15**	**12**	15	0.5 J (1.2)	0.89	1.1
603073	TA2-2-1LAY-DOWN-BIN-S	NA	2.2 J (2.5)	140	0.41	**4**	**13**	8.6	**0.8**	13	0.96 J (1.2)	0.31	1.4
603073	TA2-2-2LAY-DOWN-BIN-S	NA	**4.6**	**220**	0.66	**15**	**19**	**19**	**5.8**	14	0.6 J (1.2)	**1.9**	1.3
603073	TA2-2-3LAY-DOWN-BIN-S	NA	3.4	**240**	0.6	**9.8**	**17**	**16**	**3.4**	15	**3.7**	0.72	1.2
603073	TA2-2-4LAY-DOWN-BIN-DU	NA	3.2	190	0.47	**8.7**	**21**	**19**	**1.5**	13	0.33 J (1.2)	0.75	0.97
603073	TA2-2-4LAY-DOWN-BIN-S	NA	3.1	**250**	0.45	**8.8**	12	10	**1.6**	11	0.5 J (1.2)	0.97	1
603073	TA2-2-5LAY-DOWN-BIN-S	NA	3.3	160	0.64	**13**	**13**	**15**	**11**	14	0.59 J (1.2)	0.75	1.2
603073	TA2-2-6LAY-DOWN-BIN-S	NA	3.5	**270**	0.59	**4.3**	**17**	**34**	**8.7**	12	0.36 J (1.2)	0.56	1.5
603073	TA2-2-7LAY-DOWN-BIN-DU	NA	3.4	**260**	0.62	**10**	**15**	**19**	**1.8**	16	0.5 J (1.2)	0.79	1.4
603073	TA2-2-7LAY-DOWN-BIN-S	NA	3.3	150	0.6	**11**	**16**	**27**	**9.2**	18	**1.3**	**1**	1.3
603073	TA2-2-8LAY-DOWN-BIN-S	NA	2.8	180	**1**	**11**	**36**	**14**	**1.9**	20	0.45 J (1.3)	0.91	1.3
603073	TA2-2-9LAY-DOWN-BIN-S	NA	3.2	180	0.6	**21**	**19**	**39**	**8.9**	18	0.44 J (1.2)	**1.4**	1.7
603077	TA2-2-2LAY-DOWN-BIN-S	NA	2.86	187	0.38 J (0.5)	**8.92**	11.3	**14.6**	**1.53**	**194**	0.295 J (0.5)	**1.29**	1.08
603077	TA2-2-6LAY-DOWN-BIN-S	NA	2.9	176	0.372 J (0.5)	**5.34**	10.5	**27.1**	**2.54**	10	ND (0.146)	**1.07**	1.24
603186	TA2-2-1LAY-DOWN-BIN-E	NA	3.2	160	0.45	**8.9**	12	**16**	**1.9**	12	0.94 J (1.2)	0.51	1.1
603186	TA2-2-1LAY-DOWN-BIN-N	NA	3.1	160	0.46	**12**	**14**	**29**	**3.2**	12	0.98 J (1.2)	0.43	1.9
603186	TA2-2-1LAY-DOWN-BIN-S	NA	3.3	170	0.47	**7.8**	12	**25**	**2.8**	12	**1 J (1.2)**	0.59	1.9
603186	TA2-2-1LAY-DOWN-BIN-W	NA	3.2	170	0.44	**13**	**17**	**12**	**3**	12	**2.2**	0.68	1.5
603186	TA2-2-1LAY-DOWN-BIN-WDU	NA	2.8	170	0.4	**8**	**15**	**16**	**2.8**	10	**1.6**	0.5	0.89
603186	TA2-2-2LAY-DOWN-BIN-E	NA	3.9	**300**	0.73	**13**	**18**	**17**	**3.2**	18	0.95 J (1.2)	0.76	1.3
603186	TA2-2-2LAY-DOWN-BIN-N	NA	3.3	160	0.51	**22**	**31**	**22**	**1.5**	13	0.82 J (1.2)	0.52	1.2
603186	TA2-2-2LAY-DOWN-BIN-NDU	NA	3.5	**210**	0.66	**13**	**23**	**19**	**2.6**	21	**1.4**	**6.6**	1.6
603186	TA2-2-2LAY-DOWN-BIN-S	NA	3.6	**210**	0.68	**11**	**27**	**380**	**3.9**	16	**1.2**	0.98	1.1
603186	TA2-2-2LAY-DOWN-BIN-W	NA	3.1	180	0.64	**13**	**19**	**19**	**3.5**	24	**1 J (1.2)**	**2**	1.5
603186	TA2-2-3LAY-DOWN-BIN-E	NA	3.8	200	0.62	**19**	**22**	**61**	**2.4**	15	0.89 J (1.2)	**1.2**	**4.4**
603186	TA2-2-3LAY-DOWN-BIN-EDU	NA	3.1	170	0.46	**9.8**	**14**	**28**	**1.7**	10	0.71 J (1.2)	0.8	0.91
603186	TA2-2-3LAY-DOWN-BIN-N	NA	**4.6**	**230**	0.65	**15**	**22**	**30**	**3.5**	17	**1.2**	**1.1**	1.9
603186	TA2-2-3LAY-DOWN-BIN-S	NA	3.7	**210**	**0.9**	**22**	**15**	**16**	**2.6**	15	**1 J (1.2)**	0.67	1.2
603186	TA2-2-3LAY-DOWN-BIN-W	NA	4.1	**230**	**0.93**	**15**	**34**	**22**	**2.6**	16	**1.2**	**1**	**2.4**
603186	TA2-2-4LAY-DOWN-BIN-E	NA	3.5	200	0.44	**6.6**	**14**	9	**2.7**	10	0.89 J (1.2)	0.68	1
603186	TA2-2-4LAY-DOWN-BIN-N	NA	2.7	140	0.42	**8.4**	**13**	**12**	**9.4**	9.5	0.79 J (1.2)	0.56	1.1
603186	TA2-2-4LAY-DOWN-BIN-S	NA	2.9	140	0.43	**5.4**	11	**12**	**2.4**	10	0.67 J (1.2)	0.68	0.71
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-8 (Continued)
Summary of Metals Analytical Results
September 1998–November 2000
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Metals (EPA 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
603186	TA2-2-4LAY-DOWN-BIN-SDU	NA	3.1	**8100**	0.44	**66**	**460**	**22**	**3**	16	0.89 J (1.2)	3.5	1.3
603186	TA2-2-4LAY-DOWN-BIN-W	NA	2.6	160	0.34	**6.2**	11	7.9	**3**	8.3	0.71 J (1.2)	0.72	1.3
603186	TA2-2-5LAY-DOWN-BIN-E	NA	3.2	160	0.47	**6.1**	**13**	**16**	**3.7**	11	**1.8**	0.53	1
603186	TA2-2-5LAY-DOWN-BIN-N	NA	2.8	150	0.48	**16**	**15**	**15**	**2.1**	11	0.84 J (1.2)	0.73	1.3
603186	TA2-2-5LAY-DOWN-BIN-NDU	NA	3.5	150	0.48	**8.4**	**15**	**19**	**2.4**	15	0.68 J (1.2)	0.83	1.2
603186	TA2-2-5LAY-DOWN-BIN-S	NA	2.5	160	0.7	**36**	**15**	**36**	**2**	14	0.96 J (1.2)	0.44	1.3
603186	TA2-2-5LAY-DOWN-BIN-W	NA	3.3	200	0.59	**14**	**18**	**17**	**2.3**	12	0.63 J (1.2)	0.57	1.1
603186	TA2-2-6LAY-DOWN-BIN-E	NA	3.2	200	0.59	**9.1**	12	**16**	**2.4**	11	**1.1 J (1.2)**	0.7	1.4
603186	TA2-2-6LAY-DOWN-BIN-EDU	NA	2 J (2.4)	**240**	0.57	**7.2**	**16**	**21**	**1.8**	11	0.98 J (1.2)	0.38	1.1
603186	TA2-2-6LAY-DOWN-BIN-N	NA	3	130	0.37	**3.4**	11	6.6	**1.5**	11	0.96 J (1.2)	0.29	1.2
603186	TA2-2-6LAY-DOWN-BIN-S	NA	2.6	**210**	0.54	**5.7**	**16**	**27**	**3**	14	**1.4**	0.85	2.2
603186	TA2-2-6LAY-DOWN-BIN-W	NA	2.8	180	0.65	**5**	**15**	**46**	**2.7**	12	0.95 J (1.2)	0.91	1.2
603186	TA2-2-7LAY-DOWN-BIN-E	NA	3.1	**240**	0.69	**13**	**21**	**27**	**3.3**	20	**1 J (1.2)**	**1.1**	1.5
603186	TA2-2-7LAY-DOWN-BIN-N	NA	2.2	190	0.67	**9.9**	**16**	**20**	**1.6**	18	**1.1 J (1.2)**	0.76	1.1
603186	TA2-2-7LAY-DOWN-BIN-S	NA	3.5	**1700**	0.56	**22**	**170**	**24**	**2.4**	15	0.88 J (1.2)	**1.7**	1.2
603186	TA2-2-7LAY-DOWN-BIN-SDU	NA	2.9	200	0.54	**24**	**21**	**19**	**2.7**	18	**3**	0.7	1.2
603186	TA2-2-7LAY-DOWN-BIN-W	NA	2.9	200	0.65	**20**	**20**	**21**	**2.2**	17	**9.6**	**1.8**	1.9
603186	TA2-2-8LAY-DOWN-BIN-E	NA	2.7	**240**	0.76	**23**	**18**	**22**	**2.3**	18	**1.1 J (1.2)**	0.68	1.2
603186	TA2-2-8LAY-DOWN-BIN-N	NA	2.4	140	0.5	**7.3**	**15**	**15**	**2.6**	11	**1 J (1.2)**	0.7	1.2
603186	TA2-2-8LAY-DOWN-BIN-S	NA	2 J (2.4)	160	0.51	**10**	**18**	**16**	**2.1**	16	0.84 J (1.2)	0.9	1.6
603186	TA2-2-8LAY-DOWN-BIN-W	NA	3.1	190	0.65	**9.4**	**16**	**27**	**2.6**	14	0.82 J (1.2)	0.62	**2.6**
603186	TA2-2-8LAY-DOWN-BIN-WDU	NA	3.6	**620**	**0.82**	**11**	**62**	**32**	**5.8**	15	**1.2**	**1.1**	1.3
603186	TA2-2-9LAY-DOWN-BIN-E	NA	3.8	**210**	**0.83**	**13**	**19**	**27**	**3.4**	15	**1.6**	0.77	**2.7**
603186	TA2-2-9LAY-DOWN-BIN-N	NA	3.5	**230**	0.51	**23**	**26**	**86**	**3.5**	17	**1.1 J (1.2)**	**1**	1.2
603186	TA2-2-9LAY-DOWN-BIN-NDU	NA	2.3 J (2.4)	**220**	0.66	**13**	**14**	**19**	**2.9**	13	0.95 J (1.2)	**1.4**	1.2
603186	TA2-2-9LAY-DOWN-BIN-S	NA	2.6	180	0.5	**10**	**16**	**29**	**9.2**	20	**1.3**	0.84	1.2
603186	TA2-2-9LAY-DOWN-BIN-W	NA	3	**210**	0.59	**8.4**	**16**	**15**	**3**	16	0.97 J (1.2)	0.68	1.6
603192	TA2-2-PIT-BURM-MIX-E-S	NA	2.4	**220**	0.54	**1.1**	11	6.7	**0.3**	9.9	0.81 J (1.2)	0.18	1.3
603192	TA2-2-PIT-BURM-MIX-N-S	NA	2.7	180	0.53	**1.1**	9.5	6.8	**0.47**	8.6	0.71 J (1.2)	0.14 J (0.16)	1.1
603192	TA2-2-PIT-BURM-MIX-S-S	NA	1.2 J (2.4)	110	0.31	0.28	6.1	3.9	**0.15 J (0.16)**	5.8	0.37 J (1.2)	ND (0.04)	0.61
603192	TA2-2-PIT-BURM-MIX-W-DU	NA	1.8 J (2.4)	140	0.36	0.73	6.3	6.2	**0.22**	6	0.64 J (1.2)	0.07 J (0.16)	1.3
603192	TA2-2-PIT-BURM-MIX-W-S	NA	2.5	190	0.47	**1.1**	10	5.7	**0.31**	9.2	0.68 J (1.2)	0.15 J (0.16)	1.1
603193	TA2-2-PIT-BURM-MIX-E-S	NA	3.38	**254**	0.349 J (0.485)	**1.36**	6.74	6.05	**0.235**	7.1	ND (0.146)	ND (0.101)	1.18
603193	TA2-2-PIT-BURM-MIX-N-DU	NA	3.05	**232**	0.326 J (0.5)	**1.79**	6.16	5.94	**0.739**	6.73	ND (0.146)	ND (0.101)	0.942
603193	TA2-2-PIT-BURM-MIX-N-S	NA	3.3	**270**	0.38 J (0.49)	**2.45**	6.67	6.95	**1.32**	8.91	ND (0.146)	ND (0.101)	0.932
603193	TA2-2-PIT-BURM-MIX-S-S	NA	3	**223**	0.331 J (0.5)	**1.2**	5.95	5.52	**0.267**	6.41	ND (0.146)	ND (0.101)	1.18
603193	TA2-2-PIT-BURM-MIX-W-S	NA	3.21	**258**	0.345 J (0.49)	**1.41**	6.35	6.89	**0.321**	8.69	ND (0.146)	ND (0.101)	1.21
603196	TA2-2-CWLF-COBL-GRZ-1	NA	3.73	**215**	0.48 J (0.499)	**13.2**	**13.9**	10.4	**3.2**	21	0.313 J (0.499)	**3.31**	0.914
603196	TA2-2-CWLF-COBL-GRZ-2	NA	3.18	186	0.53	**7.28**	9.02	9.89	**1.98**	20.6	0.757	**4.33**	1.11
603196	TA2-2-CWLF-COBL-GRZ-3	NA	3.48	**221**	0.4 J (0.498)	**5.09**	9.3	**13.2**	**1.88**	17.6	ND (0.146)	**24**	0.979
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-8 (Continued)
Summary of Metals Analytical Results
September 1998–November 2000
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Metals (EPA 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
603196	TA2-2-CWLF-COBL-GRZ-4	NA	3.47	189	0.37 J (0.498)	**5.28**	8.57	10.7	**1.46**	13.7	0.338 J (0.498)	**2.93**	1.15
603196	TA2-2-CWLF-COBL-GRZ-4DU	NA	3.99	191	0.394 J (0.495)	**3.95**	9.68	9.49	**1.28**	13.5	0.631	**3.24**	0.946
603196	TA2-2-CWLF-COBL-GRZ-5	NA	3.29	197	0.422 J (0.497)	**4.69**	10	**12.5**	**2.42**	14.6	0.374 J (0.497)	**1.43**	1.02
603196	TA2-2-CWLF-COBL-GRZ-6	NA	3.24	190	0.379 J (0.498)	**5.29**	10.2	**24.4**	**2.75**	12.6	0.296 J (0.498)	**1.63**	0.906
603196	TA2-2-CWLF-COBL-GRZ-7	NA	3.45	193	0.526	**4.77**	10.3	9.42	**4.18**	18.6	0.466 J (0.498)	**4.05**	1.02
603196	TA2-2-CWLF-COBL-GRZ-8	NA	3.5	**240**	0.478 J (0.5)	**36.1**	9.88	10.6	**3.29**	**86.7**	0.465 J (0.5)	**4.05**	0.976
603196	TA2-2-CWLF-COBL-GRZ-8DU	NA	3.7	199	0.46 J (0.499)	**5.75**	10.4	**12.4**	**3.18**	25	0.538	**2.45**	0.946
603196	TA2-2-CWLF-COBL-GRZ-9	NA	3.6	177	0.439 J (0.497)	**4.57**	8.81	**11.7**	**2.46**	16.8	0.641	**2.86**	0.954
603197	TA2-2-CWLF-COBL-GRZ-1	NA	3.3	170	0.46	**9.5**	**21**	9.5	**3.2**	22	0.89 J (1.2)	**2.6**	1.1
603197	TA2-2-CWLF-COBL-GRZ-2	NA	3.2	**210**	0.63	**5.7**	**18**	11	**2.2**	23	**1.1 J (1.2)**	**4**	1.2
603197	TA2-2-CWLF-COBL-GRZ-3	NA	2.8	**460**	0.52	**17**	**20**	**16**	**2.9**	15	0.83 J (1.2)	**7.9**	1
603197	TA2-2-CWLF-COBL-GRZ-4	NA	3.2	**250**	0.58	**20**	**14**	**12**	**4.1**	17	0.98 J (1.2)	**6.3**	1.4
603197	TA2-2-CWLF-COBL-GRZ-4DU	NA	2.9	160	0.48	**3.3**	**13**	8.8	**2.8**	14	**1.1 J (1.2)**	**1.4**	1.2
603197	TA2-2-CWLF-COBL-GRZ-5	NA	2.8	**220**	0.57	**5**	**16**	**12**	**2.5**	16	0.74 J (1.2)	**1.8**	1.2
603197	TA2-2-CWLF-COBL-GRZ-6	NA	2.8	**500**	0.52	**4.5**	**17**	**23**	**2.1**	16	0.88 J (1.2)	**1.6**	1.2
603197	TA2-2-CWLF-COBL-GRZ-7	NA	2.7	**240**	0.62	**4.7**	**17**	11	**4.1**	19	0.85 J (1.2)	**1.9**	1.2
603197	TA2-2-CWLF-COBL-GRZ-8	NA	2.6	200	0.57	**5.1**	**15**	10	**2.8**	16	0.91 J (1.2)	**2.5**	1.2
603197	TA2-2-CWLF-COBL-GRZ-8DU	NA	3.1	**260**	0.59	**7.2**	**18**	**12**	**3.4**	20	0.82 J (1.2)	**2.6**	1.2
603197	TA2-2-CWLF-COBL-GRZ-9	NA	2.8	**220**	0.7	**5.8**	**17**	**14**	**2.3**	20	0.85 J (1.2)	**2.3**	1.3
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	NA	3.07	**223**	0.266 J (0.5)	0.264 J (0.5)	4.75	3.57	0.028	5.03	ND (0.146)	ND (0.101)	0.825
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	NA	2.79	**298**	0.32 J (0.498)	0.134 J (0.498)	4.6	3.58	0.0237	5.57	ND (0.146)	ND (0.101)	0.853
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	NA	3.06	**264**	0.323 J (0.5)	0.119 J (0.5)	5.35	3.49	0.0149	5.25	ND (0.146)	ND (0.101)	0.909
603352	TA2-2-FINAL-FLR-400N-3900E-D	NA	3.39	**347**	0.304 J (0.5)	0.0912 J (0.5)	5.69	3.82	0.0159	5.37	ND (0.146)	ND (0.101)	0.673
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	NA	3.28	**201**	0.285 J (0.5)	0.176 J (0.5)	5.37	3.77	**0.116**	5.23	ND (0.146)	ND (0.101)	0.749
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	NA	3.29	108	0.318 J (0.5)	0.118 J (0.5)	6.11	4.03	0.00794 J (0.009)	5.49	ND (0.146)	ND (0.101)	0.79
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	NA	2.51	197	0.331 J (0.498)	0.275 J (0.498)	6.07	4.82	0.0797	6.63	ND (0.146)	ND (0.101)	1.24
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	NA	2.04	86.1	0.336 J (0.498)	0.158 J (0.498)	5.43	4.07	0.00826 J (0.00972)	6.64	ND (0.146)	ND (0.101)	1.37
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	NA	1.67	85.9	0.275 J (0.499)	0.168 J (0.499)	4.64	3.39	0.0177	6.04	ND (0.146)	ND (0.101)	0.872
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	NA	3.25	**283**	0.344 J (0.499)	0.16 J (0.499)	6.37	4.77	0.00536 J (0.00912)	6.49	ND (0.146)	ND (0.101)	1.57
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	NA	2.11	198	0.311 J (0.5)	0.135 J (0.5)	5.88	4.12	0.00509 J (0.00871)	6.58	ND (0.146)	ND (0.101)	0.891
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	NA	2.59	**237**	0.296 J (0.499)	0.182 J (0.499)	6.54	4.49	0.011	6.03	ND (0.146)	ND (0.101)	0.88
603352	TA2-2-FINAL-FLR-450N-4000E-D	NA	2.34	155	0.316 J (0.5)	0.202 J (0.5)	6.09	3.92	0.0113	5.89	ND (0.146)	ND (0.101)	1.34
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	NA	3.25	**355**	0.307 J (0.499)	0.223 J (0.499)	**12.9**	4.22	0.0887	6.08	0.881	ND (0.101)	0.8
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	NA	2.26	135	0.327 J (0.497)	0.484 J (0.497)	6.29	4.58	0.0288	5.85	0.828	ND (0.101)	1.27
603354	TA2-2-FINAL-FLR-500N-3800E-0.5	NA	2.29	88.6	0.346 J (0.5)	0.14 J (0.5)	6.86	4.94	0.0134	6.61	ND (0.146)	ND (0.101)	0.733
603356	TA2-2-FINAL-FLR-500N-3850E-0.5	NA	1.8	82.8	0.334 J (0.497)	ND (0.0382)	5.54	4.5	0.0151	6.04	ND (0.146)	ND (0.101)	1.4
603356	TA2-2-FINAL-FLR-500N-3850E-D	NA	1.9	83	0.404 J (0.5)	ND (0.0382)	6.92	5.15	0.0175	7.38	ND (0.146)	ND (0.101)	1.1
603356	TA2-2-FINAL-FLR-500N-3900E-0.5	NA	2.64	123	0.373 J (0.5)	0.359 J (0.5)	8.26	**33.4**	0.0215	8.21	ND (0.146)	ND (0.101)	0.788
603356	TA2-2-FINAL-FLR-500N-3950E-0.5	NA	3.73	114	0.579	0.217 J (0.499)	10.1	7.26	0.0421	10.6	ND (0.146)	ND (0.101)	0.866
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-8 (Concluded)
Summary of Metals Analytical Results
September 1998–November 2000
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Metals (EPA 6010/6020/7470/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	NA	2.59	128	0.372 J (0.497)	0.098 J (0.497)	7.36	5.25	0.012	7.32	ND (0.146)	ND (0.101)	0.697
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	NA	2.32	**217**	0.36 J (0.498)	0.335 J (0.498)	5.97	4.88	0.0932	6.02	ND (0.146)	ND (0.101)	0.721
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	NA	2.44	159	0.347 J (0.498)	0.133 J (0.498)	7.1	5.14	0.0231	7.16	ND (0.146)	ND (0.101)	0.877
603356	TA2-2-FINAL-FLR-500N-4100E-D	NA	2.34	109	0.4 J (0.497)	0.124 J (0.497)	8.32	5.65	0.0309	7.87	ND (0.146)	ND (0.101)	0.813
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	NA	4.27	**219**	0.392 J (0.499)	0.138 J (0.499)	7.99	6.02	0.00922 J (0.00923)	8.4	ND (0.146)	ND (0.101)	0.784
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	NA	3.77	**440**	0.369 J (0.497)	0.129 J (0.497)	7.1	4.97	0.00649 J (0.00866)	7.4	0.456 J (0.497)	ND (0.101)	0.645
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	NA	3.13	**328**	0.304 J (0.5)	0.131 J (0.5)	7.55	4.05	0.00718 J (0.00955)	7.57	ND (0.146)	ND (0.101)	0.544
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	NA	3.62	**301**	0.391 J (0.497)	0.153 J (0.497)	6.63	5.01	0.01	6.92	ND (0.146)	ND (0.101)	0.91
603356	TA2-2-FINAL-SDW-550N-3950E-D	NA	4.11	**310**	0.382 J (0.498)	0.151 J (0.498)	7.4	4.96	0.0122	7.51	ND (0.146)	ND (0.101)	0.696
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	NA	4	**241**	0.399 J (0.498)	0.153 J (0.498)	7.44	5.5	ND (0.00455)	8.03	ND (0.146)	ND (0.101)	0.77
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	NA	3.43	**386**	0.47 J (0.5)	ND (0.0382)	9.62	6.19	0.0253	9.42	ND (0.146)	ND (0.101)	1.13
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	NA	3.21	**1110**	0.324 J (0.5)	0.315 J (0.5)	6.4	4.64	0.0579	6.6	ND (0.146)	ND (0.101)	0.756
603843	TA2-2-SORT-SEGN-BIN-S	NA	3	**260**	0.46	**350**	**160**	**150**	**11**	**150**	0.95 J (1.2)	**5.4**	**2.7**
603843	TA2-2-SORT-SEGS-BIN-DU	NA	2.5	**220**	0.59	**230**	**50**	**100**	**370**	**46**	0.87 J (1.2)	**4**	1.3
603843	TA2-2-SORT-SEGS-BIN-S	NA	3.1	**16,000**	0.38	**230**	**2100**	**85**	**140**	**440**	0.61 J (1.2)	**12**	1.1
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3
Quality Assurance/Quality Control Samples (mg/L)													
603356	TA2-2-FINAL-EB1	NA	ND (0.00257)	0.00212 J (0.005)	ND (0.00047)	ND (0.00063)	ND (0.00106)	0.00184 J (0.005)	ND (0.00006)	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603356	TA2-2-FINAL-EB2	NA	ND (0.00257)	0.00177 J (0.005)	ND (0.00047)	ND (0.00063)	ND (0.00106)	ND (0.00183)	ND (0.00006)	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603356	TA2-2-FINAL-EB3	NA	ND (0.00257)	0.00092 J (0.005)	ND (0.00047)	ND (0.00063)	ND (0.00106)	ND (0.00183)	ND (0.00006)	ND (0.00309)	ND (0.00236)	ND (0.00053)	ND (0.00002)
603360	TA2-2-FINAL-EB4	NA	ND (0.00257)	0.00299 J (0.005)	ND (0.00047)	ND (0.00063)	ND (0.00106)	0.00215 J (0.005)	ND (0.00006)	ND (0.00309)	ND (0.00236)	0.0008 J (0.005)	0.00002 J (0.0002)
603360	TA2-2-FINAL-EB5	NA	ND (0.00257)	0.00085 J (0.005)	ND (0.00047)	ND (0.00063)	0.0012 J (0.005)	ND (0.00183)	ND (0.00006)	ND (0.00309)	0.00295 J (0.005)	ND (0.00053)	ND (0.00002)

Note: Values in **bold** exceed background soil concentrations.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.

bgs = Below ground surface.
D = Duplicate sample.
DU = Duplicate sample.
EB = Equipment blank.
EDU = East sample duplicate.
EPA = U.S. Environmental Protection Agency.
ft = Foot (feet).
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
N = Presumptive evidence of the presence of the material.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
NDU = North sample duplicate.
NR = Not reported.
S = Soil sample.
SDU = South sample duplicate.
SWMU = Solid Waste Management Unit.
W = Western pit.
WDU = West sample duplicate.

Table A-9
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
604548	TA2-2-1-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**2.5**	ND (0.00142)
604548	TA2-2-13-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0708**	ND (0.00142)
604548	TA2-2-2-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.977**	ND (0.00142)
604548	TA2-2-3-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.636**	ND (0.00142)
604548	TA2-2-4-PCS-001-DU	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0862**	ND (0.00142)
604548	TA2-2-4-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0593**	ND (0.00142)
604548	TA2-2-5-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**2.83**	ND (0.00142)
604548	TA2-2-6-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.972**	ND (0.00142)
604548	TA2-2-7-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**5.58**	ND (0.00142)
604548	TA2-2-8-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**1.64**	ND (0.00142)
604548	TA2-2-9-PCS-001-DU	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**1.33**	ND (0.00142)
604548	TA2-2-9-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**1.28**	ND (0.00142)
604550	TA2-2-16-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0098**	ND (0.00142)
604550	TA2-2-17-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0072**	ND (0.00142)
604550	TA2-2-18-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0087**	ND (0.00142)
604550	TA2-2-21-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**2.32**	ND (0.00142)
604550	TA2-2-22-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0678**	ND (0.00142)
604550	TA2-2-23-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	**0.014**	ND (0.000898)	**0.0659**	ND (0.00142)
604550	TA2-2-24-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0455**	ND (0.00142)
604550	TA2-2-25-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	**0.0917**	ND (0.000898)	**0.0589**	ND (0.00142)
604550	TA2-2-26-PCS-001-DU	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.4**	ND (0.00142)
604550	TA2-2-26-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.637**	ND (0.00142)
604550	TA2-2-27-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	**0.0394**	ND (0.000898)	**0.0296**	**0.0205**
604550	TA2-2-28-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0298**	ND (0.00142)
604550	TA2-2-29-PCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0346**	ND (0.00142)
604554	TA2-2-35-PUCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.418**	ND (0.00142)
604554	TA2-2-36-PUCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.827**	ND (0.00142)
604554	TA2-2-38-PUCS-001-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0586**	ND (0.00142)
604554	TA2-2-38-PUCS-002-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0218**	ND (0.00142)
604554	TA2-2-38-PUCS-003-DU	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.0599**	ND (0.00142)
604554	TA2-2-38-PUCS-003-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.147**	ND (0.00142)
604554	TA2-2-38-PUCS-004-S	NA	ND (0.000782)	ND (0.00279)	ND (0.000719)	ND (0.00165)	ND (0.000898)	**0.506**	ND (0.00142)
605039	TA2-2-FLR-400N-3800E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0022 H, J (0.00333)**	ND (0.00143)
605039	TA2-2-FLR-400N-3850E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0035 H**	ND (0.00143)
605039	TA2-2-FLR-400N-39000E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0023 H, J (0.00333)**	ND (0.00143)
605039	TA2-2-FLR-400N-39000E-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-FLR-450N-3800E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)

Refer to footnotes at end of table.

Table A-9 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605039	TA2-2-FLR-450N-3850E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0087 H**	**0.00493 H**
605039	TA2-2-FLR-500N-3800E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-FLR-500N-3850E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-FLR-500N-3850E-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-SDW-550N-3800E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605039	TA2-2-SDW-550N-3850E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-FLR-450N-3900E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-FLR-450N-3950E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-FLR-500N-3900E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-FLR-500N-3950E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0102**	**0.0051**
605040	TA2-2-SDW-550N-3900E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605040	TA2-2-SDW-550N-3950E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0079**	ND (0.00143)
605040	TA2-2-SDW-550N-3950E-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0065**	ND (0.00143)
605041	TA2-2-FLR-400N-3950E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-FLR-400N-4000E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0047**	ND (0.00143)
605041	TA2-2-FLR-400N-4050E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0034**	ND (0.00143)
605041	TA2-2-FLR-450N-4000E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-FLR-450N-4000E-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-FLR-450N-4050E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0022 J (0.00333)**	ND (0.00143)
605041	TA2-2-FLR-450N-4100E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0014 J (0.00333)**	ND (0.00143)
605041	TA2-2-FLR-500N-4000E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-FLR-500N-4050E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0025 J (0.00333)**	ND (0.00143)
605041	TA2-2-SDW-550N-4000E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-SDW-550N-4050E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605041	TA2-2-SDW-550N-4100E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0036**	ND (0.00143)
605042	TA2-2-30-PUCS-001	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0547**	**0.0088**
605042	TA2-2-30-PUCS-002	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0694**	**0.0107**
605042	TA2-2-30-PUCS-003	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0814**	**0.0121**
605042	TA2-2-30-PUCS-004	NA	ND (0.00158)	ND (0.00564)	ND (0.00145)	**0.0136**	ND (0.00181)	**0.171**	**0.0201**
605042	TA2-2-30-PUCS-005	NA	ND (0.00158)	ND (0.00564)	ND (0.00145)	**0.0336**	ND (0.00181)	**0.184**	**0.0428**
605042	TA2-2-30-PUCS-006	NA	ND (0.00158)	ND (0.00564)	ND (0.00145)	**0.011**	ND (0.00181)	**0.198**	**0.0253**
605042	TA2-2-30-PUCS-007	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-30-PUCS-008	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0089**	ND (0.000907)	**0.101**	**0.0185**
605042	TA2-2-30-PUCS-008-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605042	TA2-2-FLR-500N-4100E	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0069**	ND (0.000907)	**0.0876**	**0.0117**
605042	TA2-2-FLR-500N-4100E-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0606**	ND (0.00143)
605043	TA2-2-35-PUCS-001	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0531**	ND (0.00453)	**0.204**	**0.0237**
605043	TA2-2-35-PUCS-002	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0152**	ND (0.000907)	**0.0364**	**0.0092**
605043	TA2-2-35-PUCS-003	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0094**	ND (0.000907)	**0.0519**	**0.00957**
605043	TA2-2-35-PUCS-004	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.102**	**0.0136**
605043	TA2-2-35-PUCS-004-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0195**	ND (0.000907)	**0.0906**	**0.0121**

Refer to footnotes at end of table.

Table A-9 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605043	TA2-2-36-PUCS-001	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0516**	ND (0.00453)	**0.314**	**0.0353**
605043	TA2-2-36-PUCS-002	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.118**	ND (0.00907)	**0.827**	**0.0907**
605043	TA2-2-36-PUCS-003	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0971**	ND (0.00907)	**0.709**	**0.0851**
605043	TA2-2-36-PUCS-004	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.137**	ND (0.00907)	**0.999**	**0.0992**
605087	TA2-2-38-PUCS-004-1.0-2.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.157**	ND (0.00453)	**0.425**	**0.224**
605087	TA2-2-38-PUCS-004-1.0-2.0-D	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.113**	ND (0.00907)	**0.452**	**0.153**
605087	TA2-2-38-PUCS-004-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0862**	**0.0143**
605087	TA2-2-38-PUCS-004-4.0-5.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.191**	**0.0298**
605087	TA2-2-38-PUCS-004-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.633**	**0.0737**
605088	TA2-2-38-PUCS-028-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.17**	ND (0.0143)
605088	TA2-2-38-PUCS-028-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0058**	ND (0.00143)
605088	TA2-2-38-PUCS-029-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.352**	ND (0.0143)
605088	TA2-2-38-PUCS-029-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0051**	ND (0.000907)	**0.0231**	**0.007**
605088	TA2-2-38-PUCS-029-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0614**	ND (0.00143)
605088	TA2-2-38-PUCS-029-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.153**	ND (0.0143)
605088	TA2-2-38-PUCS-029-7.0-8.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.031**	ND (0.00143)
605088	TA2-2-38-PUCS-030-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.261**	ND (0.0143)
605088	TA2-2-38-PUCS-030-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0096**	ND (0.000907)	**0.0063**	ND (0.00143)
605088	TA2-2-38-PUCS-030-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.152**	ND (0.0143)
605088	TA2-2-38-PUCS-030-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.168**	ND (0.0143)
605089	TA-2-2-38-PUCS-019-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0334**	ND (0.00907)	**0.217**	**0.0506**
605089	TA-2-2-38-PUCS-019-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.132**	ND (0.0143)
605089	TA-2-2-38-PUCS-019-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0417**	ND (0.00907)	**0.195**	**0.0736**
605089	TA-2-2-38-PUCS-019-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.038**	ND (0.00907)	**0.351**	**0.0879**
605089	TA-2-2-38-PUCS-019-7.0-8.0-D	NA	ND (0.0395)	ND (0.141)	ND (0.0363)	ND (0.0835)	ND (0.0453)	**2.15**	ND (0.0717)
605089	TA-2-2-38-PUCS-025-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0285 J (0.0333)**	ND (0.00907)	**0.137**	**0.0377**
605089	TA-2-2-38-PUCS-025-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.418**	**0.0981**
605089	TA-2-2-38-PUCS-025-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.197**	**0.0522**
605089	TA-2-2-38-PUCS-025-7.0-8.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.699**	**0.15**
605089	TA-2-2-38-PUCS-026-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0472**	ND (0.00907)	**0.217**	**0.053**
605089	TA-2-2-38-PUCS-026-1.0-2.0-D	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0348**	ND (0.00907)	**0.23**	**0.0625**
605089	TA-2-2-38-PUCS-026-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0062**	ND (0.00143)
605089	TA-2-2-38-PUCS-026-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0037**	ND (0.00143)
605089	TA-2-2-38-PUCS-026-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0064**	ND (0.000907)	**0.014**	**0.0046**
605089	TA-2-2-38-PUCS-027-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.123**	**0.0284 J (0.0333)**
605089	TA-2-2-38-PUCS-027-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0141 J (0.0333)**	ND (0.0143)
605089	TA-2-2-38-PUCS-027-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.00657**	ND (0.000907)	**0.0567**	**0.012**
605089	TA-2-2-38-PUCS-027-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0091**	ND (0.000907)	**0.0059**	ND (0.00143)
605089	TA-2-2-38-PUCS-028-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0251**	ND (0.000907)	**0.0158**	ND (0.00143)
605089	TA-2-2-38-PUCS-028-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0854**	ND (0.0143)
605090	TA2-2-38-PUCS-020-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.159**	**0.0285 J (0.0333)**

Refer to footnotes at end of table.

Table A-9 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605090	TA2-2-38-PUCS-020-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0148**	ND (0.00143)
605090	TA2-2-38-PUCS-020-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0072**	ND (0.000907)	**0.0033 J (0.00333)**	ND (0.00143)
605090	TA2-2-38-PUCS-021-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0284 J (0.0333)**	ND (0.00907)	**0.164**	**0.0435**
605090	TA2-2-38-PUCS-021-1.0-2.0-D	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.025 J (0.0333)**	ND (0.00907)	**0.153**	**0.0385**
605090	TA2-2-38-PUCS-021-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0182**	ND (0.00143)
605090	TA2-2-38-PUCS-021-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0717**	**0.0218**
605090	TA2-2-38-PUCS-022-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	**0.0242 J (0.0333)**	ND (0.00907)	**0.363**	ND (0.0143)
605090	TA2-2-38-PUCS-022-4.0-5.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0387**	ND (0.00717)
605090	TA2-2-38-PUCS-022-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.063**	ND (0.00717)
605090	TA2-2-38-PUCS-023-1.0-3.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.218**	ND (0.0143)
605090	TA2-2-38-PUCS-023-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0364**	ND (0.00143)
605090	TA2-2-38-PUCS-023-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0374**	ND (0.00143)
605090	TA2-2-38-PUCS-024-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.196**	ND (0.0143)
605090	TA2-2-38-PUCS-024-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.022**	ND (0.00143)
605090	TA2-2-38-PUCS-024-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0073**	ND (0.000907)	**0.0069**	ND (0.00143)
605091	TA2-2-38-PUCS-002-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0725**	ND (0.00717)
605091	TA2-2-38-PUCS-003-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0574**	ND (0.00717)
605091	TA2-2-38-PUCS-003-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0638**	ND (0.00717)
605091	TA2-2-38-PUCS-016-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.153**	ND (0.00717)
605091	TA2-2-38-PUCS-016-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0025 J (0.00333)**	ND (0.000907)	**0.0536**	ND (0.00143)
605091	TA2-2-38-PUCS-017-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0735**	ND (0.00717)
605091	TA2-2-38-PUCS-017-2.0-3.0-D	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.122**	ND (0.00717)
605091	TA2-2-38-PUCS-017-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0177**	**0.0099**
605091	TA2-2-38-PUCS-018-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.004**	ND (0.000907)	**0.00747**	**0.0044**
605091	TA2-2-38-PUCS-018-17.0-18.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.0736**	ND (0.0143)
605091	TA2-2-38-PUCS-018-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.144**	ND (0.00717)
605091	TA2-2-38-PUCS-018-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0024 J (0.00333)**	ND (0.000907)	**0.0136**	ND (0.00143)
605091	TA2-2-38-PUCS-024-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0067**	ND (0.000907)	**0.0234**	**0.0062**
605091	TA2-2-38-PUCS-024-7.0-8.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0024 J (0.00333)**	ND (0.000907)	**0.0072**	**0.0033 J (0.00333)**
605099	TA2-2-38-PUCS-002-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0429**	**0.0041**
605099	TA2-2-38-PUCS-009-12.0-13.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.136**	**0.0204**
605099	TA2-2-38-PUCS-009-17.0-18.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.158**	**0.0162 J (0.0167)**
605099	TA2-2-38-PUCS-009-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0053**	ND (0.000907)	**0.0723**	**0.0102**
605099	TA2-2-38-PUCS-009-7.0-8.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.741**	**0.0825**
605099	TA2-2-38-PUCS-010-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.107**	**0.0367**
605099	TA2-2-38-PUCS-010-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0684**	**0.0134 J (0.0167)**
605099	TA2-2-38-PUCS-011-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.103**	**0.0134 J (0.0167)**
605099	TA2-2-38-PUCS-011-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0464**	**0.0069**
605099	TA2-2-38-PUCS-015-12.0-13.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.857**	**0.158**
605099	TA2-2-38-PUCS-015-17.0-18.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.027**	**0.0054**
605099	TA2-2-38-PUCS-015-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.006**	ND (0.000907)	**0.0778**	**0.0167**

Refer to footnotes at end of table.

Table A-9 (Continued)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605099	TA2-2-38-PUCS-015-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.188**	**0.0298 J (0.0333)**
605100	TA2-2-38-PUCS-012-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0934**	**0.0192**
605100	TA2-2-38-PUCS-012-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0524**	**0.0179**
605101	TA2-2-38-PUCS-001-2.0-3.0	NA	ND (.00158)	ND (0.00564)	ND (.00145)	**0.0131**	ND (0.00181)	**0.0953**	**0.0226**
605101	TA2-2-38-PUCS-001-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.117**	**0.0327 J (0.0333)**
605101	TA2-2-38-PUCS-007-2.0-3.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.163**	**0.0336**
605101	TA2-2-38-PUCS-007-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.015 J (0.0167)**	ND (0.00453)	**0.0705**	**0.0192**
605101	TA2-2-38-PUCS-008-2.0-3.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0579**	ND (0.00717)
605101	TA2-2-38-PUCS-008-2.0-3.0-D	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0249**	ND (0.00453)	**0.0835**	ND (0.00717)
605101	TA2-2-38-PUCS-008-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0052**	ND (0.00143)
605101	TA2-2-38-PUCS-013-2.0-3.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.117**	**0.0381**
605101	TA2-2-38-PUCS-013-2.0-3.0-D	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.147**	**0.0441**
605101	TA2-2-38-PUCS-013-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.115**	ND (0.0143)
605101	TA2-2-38-PUCS-014-12.0-13.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0047**	ND (0.000907)	**0.0237**	ND (0.00143)
605101	TA2-2-38-PUCS-014-17.0-17.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0466**	**0.0151 J (0.0167)**
605101	TA2-2-38-PUCS-014-2.0-3.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.112**	ND (0.0143)
605101	TA2-2-38-PUCS-014-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.064**	ND (0.00717)
605102	TA2-2-38-PUCS-006-2.0-3.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.032**	**0.0057**
605102	TA2-2-38-PUCS-006-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.00323 J (0.00333)**	ND (0.000907)	**0.0196**	**0.0056**
605102	TA2-2-38-PUCS-048-1.0-2.0	NA	ND (0.00553)	ND (0.0197)	ND (0.00509)	ND (0.0117)	ND (0.00635)	**0.252**	ND (0.01)
605102	TA2-2-38-PUCS-048-10.0-11.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0385**	**0.0076**
605102	TA2-2-38-PUCS-048-4.0-5.0	NA	ND (0.00474)	ND (0.0169)	ND (0.00436)	**0.144**	ND (0.00544)	ND (0.00822)	ND (0.0086)
605102	TA2-2-38-PUCS-048-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0302**	ND (0.000907)	**0.0292**	**0.0061**
605102	TA2-2-38-PUCS-050-1.0-2.0	NA	ND (0.00237)	ND (0.00846)	ND (0.00218)	ND (0.00501)	ND (0.00272)	**0.0839**	ND (0.0043)
605102	TA2-2-38-PUCS-050-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0062**	**0.0047**
605102	TA2-2-38-PUCS-050-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0097**	ND (0.000907)	**0.0275**	**0.0092**
605102	TA2-2-38-PUCS-051-3.0-4.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0102**	ND (0.000907)	**0.0108**	**0.0085**
605103	TA2-2-38-PUCS-045-1.0-2.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0139 J (0.0167)**	ND (0.00453)	**0.102**	ND (0.00717)
605103	TA2-2-38-PUCS-045-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0363**	ND (0.000907)	**0.0484**	**0.0055**
605103	TA2-2-38-PUCS-045-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.137**	**0.0199**
605103	TA2-2-38-PUCS-046-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0582**	ND (0.000907)	**0.0406**	ND (0.00143)
605103	TA2-2-38-PUCS-046-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0454**	ND (0.000907)	**0.0258**	ND (0.00143)
605103	TA2-2-38-PUCS-046-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0492**	ND (0.000907)	**0.0215**	ND (0.00143)
605103	TA2-2-38-PUCS-047-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0386**	ND (0.000907)	**0.0152**	ND (0.00143)
605103	TA2-2-38-PUCS-047-1.0-2.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.0585**	ND (0.000907)	**0.0189**	ND (0.00143)
605103	TA2-2-38-PUCS-047-4.0-5.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0904**	ND (0.00453)	**0.0315**	ND (0.00717)
605103	TA2-2-38-PUCS-047-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0846**	ND (0.00453)	**0.0357**	ND (0.00717)
605103	TA2-2-38-PUCS-049-1.0-2.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	**0.015**	ND (0.000907)	**0.0337**	**0.0041**
605103	TA2-2-38-PUCS-049-10.0-11.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.129**	ND (0.0143)
605103	TA2-2-38-PUCS-049-4.0-5.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.031**	ND (0.00143)
605103	TA2-2-38-PUCS-049-7.0-8.0	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0265**	ND (0.00143)

Refer to footnotes at end of table.

Table A-9 (Concluded)
Summary of PCB Analytical Results
June–November 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605103	TA2-2-38-PUCS-049-7.0-8.0-D	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.0274**	**0.004**
605104	TA2-2-38-PUCS-040-2.0-3.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.284**	**0.0487**
605104	TA2-2-38-PUCS-041-3.0-4.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.405**	**0.0609 J (0.0667)**
605104	TA2-2-38-PUCS-041-6.0-7.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.555**	ND (0.0287)
605104	TA2-2-38-PUCS-042-1.0-2.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0183**	ND (0.00453)	**0.0623**	**0.0102 J (0.0167)**
605104	TA2-2-38-PUCS-042-1.0-2.0-D	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0174**	ND (0.00453)	**0.0921**	**0.0167**
605104	TA2-2-38-PUCS-042-10.0-11.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.87**	**0.116**
605104	TA2-2-38-PUCS-042-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.181**	**0.0285 J (0.0333)**
605104	TA2-2-38-PUCS-042-7.0-8.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.287**	**0.038**
605104	TA2-2-38-PUCS-043-1.0-2.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	ND (0.00835)	ND (0.00453)	**0.0845**	**0.0133 J (0.0167)**
605104	TA2-2-38-PUCS-043-4.0-5.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.426**	**0.0673**
605104	TA2-2-38-PUCS-043-7.0-8.0	NA	ND (0.0158)	ND (0.0564)	ND (0.0145)	ND (0.0334)	ND (0.0181)	**0.653**	**0.082**
605104	TA2-2-38-PUCS-044-1.0-2.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.233**	**0.0291 J (0.0333)**
605104	TA2-2-38-PUCS-044-4.0-5.0	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.207**	**0.0295 J (0.0333)**
605104	TA2-2-38-PUCS-044-7.0-8.0	NA	ND (0.00395)	ND (0.0141)	ND (0.00363)	**0.0102 J (0.0167)**	ND (0.00453)	**0.138**	**0.0188**
605104	TA2-2-38-PUCS-044-7.0-8.0-D	NA	ND (0.0079)	ND (0.0282)	ND (0.00727)	ND (0.0167)	ND (0.00907)	**0.15**	**0.0259 J (0.0333)**
Quality Assurance/Quality Control Samples (mg/L)									
604548	TA2-2-PCS-EB1-S	NA	ND (0.0000175)	ND (0.0000833)	ND (0.000038)	ND (0.0000444)	ND (0.000027)	ND (0.0000251)	ND (0.0000134)
604550	TA2-2-PCS-EB2-S	NA	ND (0.0000175)	ND (0.0000833)	ND (0.000038)	ND (0.0000444)	ND (0.000027)	ND (0.0000251)	ND (0.0000134)
605040	TA2-2-EB1-001	NA	ND (0.0000163)	ND (0.0000775)	ND (0.0000353)	ND (0.0000413)	ND (0.0000251)	ND (0.0000233)	ND (0.0000125)
605041	TA2-2-EB2-001	NA	ND (0.0000168)	ND (0.0000801)	ND (0.0000365)	ND (0.0000427)	ND (0.000026)	ND (0.0000241)	ND (0.0000129)
605042	TA2-2-EB3-001	NA	ND (0.0000168)	ND (0.0000801)	ND (0.0000365)	ND (0.0000427)	ND (0.000026)	ND (0.0000241)	ND (0.0000129)
605044	TA2-2-EB4-001	NA	ND (0.0000162)	ND (0.0000771)	ND (0.0000352)	ND (0.0000411)	ND (0.000025)	ND (0.0000232)	ND (0.0000124)
605046	TA2-2-EB5-001	NA	ND (0.0000162)	ND (0.0000771)	ND (0.0000352)	ND (0.0000411)	ND (0.000025)	ND (0.0000232)	ND (0.0000124)
605082	TA2-2-EB6-001	NA	ND (0.0000167)	ND (0.0000793)	ND (0.0000362)	ND (0.0000423)	ND (0.0000257)	ND (0.0000239)	ND (0.0000128)
605084	TA2-2-EB7-001	NA	ND (0.0000168)	ND (0.0000801)	ND (0.0000365)	ND (0.0000427)	ND (0.000026)	ND (0.0000241)	ND (0.0000129)
605086	TA2-2-EB8-001	NA	ND (0.0000168)	ND (0.0000801)	ND (0.0000365)	ND (0.0000427)	ND (0.000026)	ND (0.0000241)	ND (0.0000129)
605088	TA2-2-EB9-001	NA	ND (0.0000162)	ND (0.0000771)	ND (0.0000352)	ND (0.0000411)	ND (0.000025)	ND (0.0000232)	ND (0.0000124)
605090	TA2-2-EB10-001	NA	ND (0.0000168)	ND (0.0000801)	ND (0.0000365)	ND (0.0000427)	ND (0.000026)	ND (0.0000241)	ND (0.0000129)
605099	TA2-2-EB11-001	NA	ND (0.0000168)	ND (0.0000801)	ND (0.0000365)	ND (0.0000427)	ND (0.000026)	ND (0.0000241)	ND (0.0000129)
605101	TA2-2-EB12-001	NA	ND (0.0000162)	ND (0.0000771)	ND (0.0000352)	ND (0.0000411)	ND (0.000025)	ND (0.0000232)	ND (0.0000124)
605103	TA2-2-EB13-001	NA	ND (0.0000162)	ND (0.0000771)	ND (0.0000352)	ND (0.0000411)	ND (0.000025)	ND (0.0000232)	ND (0.0000124)

Note: Values in **bold** indicate detected PCBs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
D = Duplicate sample.
DU = Duplicate sample.
E = Value exceeds the calibrated range of the analytical instrument.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
H = The holding time was exceeded for the associated sample analysis.
HJ = Holding time was exceeded. The associated value is an estimated quantity.
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
PCB = Polychlorinated biphenyl.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-10
Summary of VOC Analytical Results
January 1999–June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			VOCs (EPA Method 8260[a]) (mg/kg)								
Record Number[b]	ER Sample ID	Sample Depth (ft)	Acetone	Ethylbenzene	2-Hexanone	Methylene chloride	Toluene	Trichloroethene	Xylene	o-Xylene	p-xylene, m-Xylene
601143	TA2-2-TRC9-SL83-000-S	NA	ND (0.026)	ND (0.010)	ND (0.052)	ND (0.0052)	ND (0.0052)	ND (0.0052)	NR	ND (0.010)	ND (0.016)
604548	TA2-2-1-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000735 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-13-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00086 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-2-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00187 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-3-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00138 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-4-PCS-001-DU	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00047 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-4-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000605 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-5-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00111 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-6-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	ND (0.00044)	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-7-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000558 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-8-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000475 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-9-PCS-001-DU	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000993 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604548	TA2-2-9-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00149 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-16-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00356 J (0.00472)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-17-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00366 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-18-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00389 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-21-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00317 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-22-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00454 J (0.0049)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-23-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00341 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-24-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00386 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-25-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00366 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-26-PCS-001-DU	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00302 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-26-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00353 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-27-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00283 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-28-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00264 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604550	TA2-2-29-PCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00307 J (0.0049)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-35-PUCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.000651 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-36-PUCS-001-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	**0.00358 J (0.005)**	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
604554	TA2-2-38-PUCS-003-S	NA	NR	NR	NR	NR	NR	NR	ND (0.00105)	NR	NR
604554	TA2-2-38-PUCS-004-S	NA	ND (0.001)	ND (0.00035)	ND (0.00094)	ND (0.00044)	ND (0.0005)	ND (0.00072)	ND (0.00105)	NR	NR
Quality Assurance/Quality Control Samples (mg/L)											
604548	TA2-2-PCS-EB1-S	NA	ND (0.00082)	ND (0.00015)	ND (0.00079)	ND (0.00063)	ND (0.00022)	ND (0.00016)	ND (0.00044)	NR	NR
604550	TA2-2-PCS-EB2-S	NA	ND (0.00082)	ND (0.00015)	ND (0.00079)	**0.000947 J (0.005)**	ND (0.00022)	ND (0.00016)	ND (0.00044)	NR	NR
604548	TA2-2-PCS-TB1-S	NA	ND (0.00082)	ND (0.00015)	ND (0.00079)	ND (0.00063)	ND (0.00022)	ND (0.00016)	ND (0.00044)	NR	NR
604550	TA2-2-PCS-TB2-S	NA	ND (0.00082)	ND (0.00015)	ND (0.00079)	ND (0.00063)	ND (0.00022)	ND (0.00016)	ND (0.00044)	NR	NR

Note: Values in **bold** indicate detected VOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
DU = Duplicate sample.
ft = Foot (feet).
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
NR = Not reported.
S = Soil sample.
SWMU = Solid Waste Management Unit.
VOC = Volatile organic compound.

Table A-11
Summary of SVOC Analytical Results
June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			SVOCs (EPA Method 8270[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Butylbenzyl phthalate	2-Chlorophenol	Di-n-butyl phthalate
604548	TA2-2-1-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-13-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-2-PCS-001-S	NA	ND (0.00466)	**0.00586 J (0.0333)**	**0.16**	**0.00549 J (0.0333)**	ND (0.0127)	ND (0.005)	**0.0555 J (0.333)**
604548	TA2-2-3-PCS-001-S	NA	ND (0.00466)	ND (0.002)	**0.161**	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-4-PCS-001-DU	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-4-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-5-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-6-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-7-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	**0.0345 J (0.333)**
604548	TA2-2-8-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604548	TA2-2-9-PCS-001-DU	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	**0.0417 J (0.333)**
604548	TA2-2-9-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-16-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	**0.0237 J (0.333)**	ND (0.005)	ND (0.0206)
604550	TA2-2-17-PCS-001-S	NA	ND (0.00466)	ND (0.002)	**0.00494 J (0.0333)**	**0.00649 J (0.0333)**	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-18-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-21-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	**0.243 J (0.333)**	ND (0.005)	**0.082 J (0.333)**
604550	TA2-2-22-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-23-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	**0.168 J (0.333)**
604550	TA2-2-24-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-25-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-26-PCS-001-DU	NA	**0.00478 J (0.0333)**	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	**0.0217 J (0.333)**
604550	TA2-2-26-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-27-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-28-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604550	TA2-2-29-PCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-35-PUCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-36-PUCS-001-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
604554	TA2-2-38-PUCS-004-S	NA	ND (0.00466)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0206)
Quality Assurance/Quality Control Samples (mg/L)									
604548	TA2-2-PCS-EB1-S	NA	ND (0.00013)	ND (0.00013)	ND (0.00013)	ND (0.00023)	ND (0.00182)	ND (0.00124)	ND (0.00182)
604550	TA2-2-PCS-EB2-S	NA	ND (0.00013)	ND (0.00013)	ND (0.00013)	ND (0.00023)	ND (0.00182)	ND (0.00124)	ND (0.00182)

Refer to footnotes at end of table.

Table A-11 (Concluded)
Summary of SVOC Analytical Results
June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			SVOCs (EPA Method 8270[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Diphenylamine	bis(2-Ethylhexyl) phthalate	Fluoranthene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
604548	TA2-2-1-PCS-001-S	NA	**0.0809 J (0.333)**	**0.112**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-13-PCS-001-S	NA	ND (0.0157)	**0.0521**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-2-PCS-001-S	NA	ND (0.0157)	**0.0307 J (0.0333)**	**0.00446 J (0.0333)**	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-3-PCS-001-S	NA	ND (0.0157)	**0.0534**	**0.0074 J (0.0333)**	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-4-PCS-001-DU	NA	ND (0.0157)	**0.0415**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-4-PCS-001-S	NA	**0.0474 J (0.333)**	**0.0347**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-5-PCS-001-S	NA	ND (0.0157)	**0.32**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-6-PCS-001-S	NA	ND (0.0157)	**0.0493**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-7-PCS-001-S	NA	ND (0.0157)	**0.175**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-8-PCS-001-S	NA	ND (0.0157)	**0.127**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-9-PCS-001-DU	NA	ND (0.0157)	**0.105**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604548	TA2-2-9-PCS-001-S	NA	ND (0.0157)	**0.246**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-16-PCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-17-PCS-001-S	NA	ND (0.0157)	**0.0668**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-18-PCS-001-S	NA	ND (0.0157)	**0.141**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-21-PCS-001-S	NA	ND (0.0157)	ND (0.00699)	**0.0141 J (0.0333)**	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-22-PCS-001-S	NA	ND (0.0157)	**0.0474**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-23-PCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-24-PCS-001-S	NA	ND (0.0157)	**0.0832**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-25-PCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-26-PCS-001-DU	NA	ND (0.0157)	**0.0693**	**0.0203 J (0.0333)**	ND (0.0609)	**0.0213 J (0.0333)**	ND (0.00366)	**0.0234 J (0.0333)**
604550	TA2-2-26-PCS-001-S	NA	ND (0.0157)	**0.0235 J (0.0333)**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-27-PCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-28-PCS-001-S	NA	ND (0.0157)	ND (0.00699)	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604550	TA2-2-29-PCS-001-S	NA	ND (0.0157)	**0.0957**	**0.011 J (0.0333)**	ND (0.0609)	**0.017 J (0.0333)**	ND (0.00366)	**0.00942 J (0.0333)**
604554	TA2-2-35-PUCS-001-S	NA	ND (0.0157)	**0.0536**	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
604554	TA2-2-36-PUCS-001-S	NA	ND (0.0157)	**0.0548**	ND (0.00333)	ND (0.0609)	ND (0.004)	**0.0122 J (0.333)**	ND (0.00866)
604554	TA2-2-38-PUCS-004-S		ND (0.0157)	ND (0.00699)	ND (0.00333)	ND (0.0609)	ND (0.004)	ND (0.00366)	ND (0.00866)
Quality Assurance/Quality Control Samples (mg/L)									
604548	TA2-2-PCS-EB1-S	NA	ND (0.00102)	ND (0.00004)	ND (0.00012)	ND (0.00158)	ND (0.00012)	ND (0.00084)	ND (0.00014)
604550	TA2-2-PCS-EB2-S	NA	ND (0.00102)	ND (0.00004)	ND (0.00012)	ND (0.00158)	ND (0.00012)	ND (0.00084)	ND (0.00014)

Note: Values in **bold** indicate detected SVOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
DU = Duplicate sample.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
S = Soil sample.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.

Table A-12
Summary of Gross Alpha and Beta Analysis
June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Activity (pCi/g)			
			Gross Alpha		Gross Beta	
Record Number[a]	ER Sample ID	Sample Depth (ft)	Result	Error[b]	Result	Error[b]
604547	TA2-2-1-PCS-001-S	NA	ND (2.25)	1.14	5.41	3.83
604547	TA2-2-13-PCS-001-S	NA	0.68	1.18	5.61	3.84
604547	TA2-2-2-PCS-001-S	NA	ND (2.25)	1.16	9.48	4.26
604547	TA2-2-3-PCS-001-S	NA	0.0742	1.14	9.17	4.21
604547	TA2-2-4-PCS-001-DU	NA	0.729	1.18	3.98	3.67
604547	TA2-2-4-PCS-001-S	NA	0.732	1.18	4.72	3.75
604547	TA2-2-5-PCS-001-S	NA	ND (2.25)	1.15	4.93	3.79
604547	TA2-2-6-PCS-001-S	NA	ND (2.25)	1.19	6.7	4
604547	TA2-2-7-PCS-001-S	NA	0.0559	1.14	5.83	3.88
604547	TA2-2-8-PCS-001-S	NA	ND (2.25)	1.16	6.84	3.98
604547	TA2-2-9-PCS-001-DU	NA	ND (2.25)	1.17	4.21	3.75
604547	TA2-2-9-PCS-001-S	NA	ND (2.25)	1.15	4.51	3.77
604548	TA2-2-13-PCS-001-S	NA	5.22	3.62	22.5	4.27
604548	TA2-2-5-PCS-001-S	NA	11.9	4.8	20.6	3.71
604549	TA2-2-16-PCS-001-S	NA	0.349	1.12	2.9	3.56
604549	TA2-2-17-PCS-001-S	NA	1.06	1.18	4.97	3.76
604549	TA2-2-18-PCS-001-S	NA	1.51	1.23	2.76	3.54
604549	TA2-2-21-PCS-001-S	NA	ND (2.18)	1.15	7.65	4.09
604549	TA2-2-22-PCS-001-S	NA	0.469	1.16	5.32	3.83
604549	TA2-2-23-PCS-001-S	NA	1.31	1.21	1.53	3.41
604549	TA2-2-24-PCS-001-S	NA	ND (2.18)	1.1	5.25	3.8
604549	TA2-2-25-PCS-001-S	NA	0.0901	1.08	ND (5.72)	3.36
604549	TA2-2-26-PCS-001-DU	NA	0.817	1.18	5.04	3.79
604549	TA2-2-26-PCS-001-S	NA	0.129	1.1	6.62	3.94
604549	TA2-2-27-PCS-001-S	NA	1.38	1.24	2.39	3.52
604549	TA2-2-28-PCS-001-S	NA	1.64	1.26	4.15	3.7
604549	TA2-2-29-PCS-001-S	NA	0.315	1.13	7.95	4.08
604550	TA2-2-23-PCS-001-DU	NA	6.26	3.42	20.9	4.7
604550	TA2-2-23-PCS-001-S	NA	7.24	4.09	22.2	4.85
604553	TA2-2-35-PUCS-001-S	NA	1.18	1.2	8.71	4.13
604553	TA2-2-36-PUCS-001-S	NA	0.239	1.08	9.05	4.15
604554	TA2-2-35-PUCS-001-S	NA	11	4.62	23.4	5.49
604554	TA2-2-36-PUCS-001-S	NA	10.4	4.23	20.9	5.07
604554	TA2-2-38-PUCS-004-S	NA	16.1	6.73	17.7	4.86
604555	TA2-2-30-PUCS-00-S	NA	ND (2.14)	1.21	6.1	3.93
604555	TA2-2-30-PUCS-002-S	NA	ND (2.14)	1.22	8.42	4.19
604555	TA2-2-38-PUCS-026-S	NA	0.201	1.05	5.65	3.81
604555	TA2-2-38-PUCS-027-S	NA	ND (2)	1.05	5.51	3.8
604555	TA2-2-38-PUCS-028-S	NA	ND (2)	1.04	5.89	3.84
604555	TA2-2-38-PUCS-029-S	NA	0.546	1.08	6.11	3.85
604555	TA2-2-38-PUCS-030-DU	NA	0.83	1.13	8.48	4.11
604556	TA2-2-38-PUCS-019-S	NA	1.32	0.962	2.01	3.81
604556	TA2-2-38-PUCS-024-DU	NA	1.38	0.964	ND (6.08)	4.35
604556	TA2-2-38-PUCS-024-S	NA	1.17	0.942	ND (6.08)	3.85
604556	TA2-2-38-PUCS-025-S	NA	0.245	0.845	ND (6.08)	4.03
604557	TA2-2-38-PUCS-009-S	NA	0.984	1.18	ND (5.7)	3.5
604557	TA2-2-38-PUCS-014-DU	NA	0.276	1.12	ND (5.7)	3.46
604557	TA2-2-38-PUCS-014-S	NA	0.0183	1.09	ND (5.7)	3.62
604557	TA2-2-38-PUCS-015-S	NA	0.526	1.13	ND (5.7)	3.61
604557	TA2-2-38-PUCS-018-S	NA	0.893	1.17	0.175	3.45
604557	TA2-2-38-PUCS-040-S	NA	0.256	1.11	ND (5.7)	3.79
604557	TA2-2-38-PUCS-041-S	NA	0.678	1.15	1.73	3.61
604557	TA2-2-38-PUCS-042-S	NA	0.11	1.1	ND (5.7)	3.6
604557	TA2-2-38-PUCS-048-S	NA	0.366	1.12	ND (5.7)	3.49
604557	TA2-2-38-PUCS-049-S	NA	1.18	1.12	ND (5.7)	3.58

Refer to footnotes at end of table.

Table A-12 (Concluded)
Summary of Gross Alpha and Beta Analysis
June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

[a]Analysis request/chain-of-custody record.
[b]Two standard deviations about the mean detected activity.
bgs = Below ground surface.
DU = Duplicate sample.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-13
Summary of Gamma Spectroscopy Analytical Results
June 1999–June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
600497	TA2-2-I600-SORT-SEG-S	NA	0.0384	0.0235	0.763	0.394	0.0265	0.148	0.911	0.654
601140	TA2-2-TRC9-SL83-000-S	NA	ND (0.0327)	--	0.853	0.46	**ND (0.234)**	--	ND (0.799)	--
601146	TA2-2-TRC7-C6-BIN-S	NA	**0.136**	0.0604	0.815	0.489	**0.248**	0.199	0.476	0.437
601146	TA2-2-TRC8-C/F-BIN-S	NA	0.0508	0.04	0.746	0.459	**ND (0.224)**	--	ND (0.619)	--
601146	TA2-2-TRC9-C/F-BIN-S	NA	0.0308	0.0328	0.708	0.379	0.138	0.172	**1.61**	1.29
601146	TA2-2-TRD8-C/F-BIN-S	NA	0.0626	0.0338	0.591	0.366	**ND (0.194)**	--	ND (0.533)	--
601727	TA2-2-TRB2-SL01-000-S	NA	ND (0.0142)	--	0.746	0.387	**ND (0.201)**	--	ND (0.672)	--
601742	TA2-2-TRB3-SL16-000-S	NA	ND (0.0259)	--	0.744	0.382	0.169	0.16	**2.88**	1.5
602599	TA2-2-COBL-GRIZ-TRA-S	NA	ND (0.0343)	--	0.684	0.38	**ND (0.199)**	--	ND (0.526)	--
602795	TA2-2-COBL-GRIZ-001-S	NA	ND (0.0405)	--	0.689	0.37	**ND (0.213)**	--	ND (0.579)	--
602795	TA2-2-TRB3-SL16-001-S	NA	ND (0.0371)	--	0.805	0.429	**ND (0.192)**	--	ND (0.522)	--
602795	TA2-2-TRC9-SL83-001-S	NA	ND (0.0353)	--	0.716	1.06	**ND (0.19)**	--	ND (0.527)	--
602801	TA2-2-TR1-P1-SL1-S	NA	ND (0.0277)	--	ND (0.116)	--	**ND (0.196)**	--	ND (0.681)	--
602973	TA2-2-P225-2C/F-BIN-S	NA	0.0296	0.0247	0.709	0.858	0.131	0.16	ND (0.716)	--
602973	TA2-2-P225-3C/F-BIN-S	NA	0.0764	0.0212	0.807	0.38	**ND (0.198)**	--	ND (0.71)	--
602973	TA2-2-TR2-P543-SL1-S	NA	ND (0.0264)	--	0.788	0.4	**ND (0.192)**	--	ND (0.655)	--
602973	TA2-2-TR2-P543-SL4-S	NA	ND (0.0252)	--	0.597	0.351	0.125	0.0202	ND (0.67)	--
602973	TA2-2-TR2-P543-SL5-S	NA	ND (0.0266)	--	0.627	0.327	**ND (0.193)**	--	ND (0.644)	--
603059	TA2-2-TR3-P456-SL1-S	NA	ND (0.0294)	--	0.774	0.436	0.099	0.149	ND (0.484)	--
603059	TA2-2-TR3-P456-SL4-S	NA	ND (0.0358)	--	0.616	0.319	0.13	0.236	ND (0.527)	--
603059	TA2-2-TR3-P456-SL5-S	NA	ND (0.0323)	--	0.731	0.391	**ND (0.187)**	--	0.831	0.46
603069	TA2-2-TR3-P789-SL2-S	NA	ND (0.0259)	--	0.711	0.388	0.135	0.156	ND (0.648)	--
603069	TA2-2-TR3-P789-SL3-S	NA	ND (0.0287)	--	0.652	0.349	**ND (0.198)**	--	ND (0.683)	--
603071	TA2-2-1LAY-DOWN-BIN-S	NA	ND (0.0172)	--	0.599	0.708	**0.274**	0.17	ND (0.727)	--
603071	TA2-2-2LAY-DOWN-BIN-S	NA	ND (0.0305)	--	0.589	0.346	**ND (0.211)**	--	ND (0.72)	--
603071	TA2-2-3LAY-DOWN-BIN-S	NA	ND (0.0306)	--	0.692	0.39	0.104	0.165	ND (0.741)	--
603071	TA2-2-4LAY-DOWN-BIN-S	NA	ND (0.0289)	--	0.717	0.773	**ND (0.203)**	--	ND (0.718)	--
603071	TA2-2-5LAY-DOWN-BIN-S	NA	0.012	0.0146	0.827	0.44	0.128	0.175	ND (0.773)	--
603071	TA2-2-6LAY-DOWN-BIN-S	NA	ND (0.0335)	--	0.742	0.379	**ND (0.212)**	--	ND (0.736)	--
603071	TA2-2-7LAY-DOWN-BIN-S	NA	ND (0.0391)	--	ND (0.166)	--	0.0903	0.172	ND (0.56)	--
603071	TA2-2-8LAY-DOWN-BIN-S	NA	ND (0.036)	--	0.759	0.426	**ND (0.193)**	--	0.869	0.481
603071	TA2-2-9LAY-DOWN-BIN-S	NA	ND (0.0388)	--	0.802	0.453	**ND (0.21)**	--	ND (0.584)	--
603187	TA2-2-PIT-BURM-MIX-E-S	NA	ND (0.0276)	--	0.748	0.692	**ND (0.195)**	--	ND (0.699)	--
603187	TA2-2-PIT-BURM-MIX-N-S	NA	ND (0.0262)	--	0.68	0.363	0.0863	0.152	ND (0.667)	--
603187	TA2-2-PIT-BURM-MIX-S-S	NA	ND (0.0273)	--	0.696	0.384	**ND (0.194)**	--	ND (0.667)	--
603187	TA2-2-PIT-BURM-MIX-W-S	NA	ND (0.0264)	--	0.706	1.21	**ND (0.196)**	--	ND (0.667)	--
603195	TA2-2-CWLF-COBL-GRIZ-1	NA	0.0345	0.0336	0.782	0.404	0.0826	0.154	ND (0.542)	--
603195	TA2-2-CWLF-COBL-GRIZ-2	NA	ND (0.0169)	--	ND (0.114)	--	0.0971	0.149	ND (0.665)	--
603195	TA2-2-CWLF-COBL-GRIZ-3	NA	0.0256	0.0227	0.746	0.395	**ND (0.187)**	--	ND (0.515)	--
603195	TA2-2-CWLF-COBL-GRIZ-4	NA	0.0231	0.0288	0.741	0.375	**ND (0.192)**	--	ND (0.661)	--
603195	TA2-2-CWLF-COBL-GRIZ-5	NA	0.0329	0.024	0.752	0.4	**ND (0.188)**	--	ND (0.673)	--
Background Activity—North Area Subsurface[c]			0.084	--	1.54	--	0.18	--	1.3	--

Refer to footnotes at end of table.

Table A-13 (Continued)
Summary of Gamma Spectroscopy Analytical Results
June 1999–June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
603195	TA2-2-CWLF-COBL-GRIZ-6	NA	0.023	0.0257	ND (0.124)	--	**ND (0.192)**	--	ND (0.7)	--
603195	TA2-2-CWLF-COBL-GRIZ-7	NA	0.0386	0.0147	0.973	0.737	**ND (0.211)**	--	ND (0.757)	--
603195	TA2-2-CWLF-COBL-GRIZ-8	NA	ND (0.0217)	--	0.806	0.436	0.119	0.144	ND (0.512)	--
603195	TA2-2-CWLF-COBL-GRIZ-9	NA	0.0332	0.022	0.838	0.436	**ND (0.182)**	--	ND (0.501)	--
603351	TA2-2-FINAL-FLR-400N-3800E-0.5	NA	ND (0.0263)	--	ND (0.122)	--	0.14	0.151	ND (0.68)	--
603351	TA2-2-FINAL-FLR-400N-3850E-0.5	NA	ND (0.0244)	--	0.496	0.299	0.14	0.147	ND (0.626)	--
603351	TA2-2-FINAL-FLR-400N-3900E-0.5	NA	ND (0.0281)	--	0.721	0.401	**ND (0.202)**	--	ND (0.686)	--
603351	TA2-2-FINAL-FLR-400N-3900E-D	NA	ND (0.0252)	--	0.595	0.324	**ND (0.181)**	--	ND (0.61)	--
603351	TA2-2-FINAL-FLR-400N-3950E-0.5	NA	ND (0.0258)	--	0.603	0.331	**ND (0.19)**	--	ND (0.643)	--
603351	TA2-2-FINAL-FLR-400N-4000E-0.5	NA	ND (0.026)	--	0.737	0.678	0.154	0.154	ND (0.682)	--
603351	TA2-2-FINAL-FLR-400N-4050E-0.5	NA	ND (0.0273)	--	0.966	0.474	**ND (0.206)**	--	ND (0.707)	--
603351	TA2-2-FINAL-FLR-450N-3800E-0.5	NA	ND (0.0358)	--	1.12	0.577	ND (0.16)	--	ND (0.565)	--
603351	TA2-2-FINAL-FLR-450N-3850E-0.5	NA	ND (0.032)	--	0.793	1.5	**ND (0.193)**	--	0.503	0.51
603351	TA2-2-FINAL-FLR-450N-3900E-0.5	NA	ND (0.0361)	--	0.922	0.51	0.127	0.171	ND (0.523)	--
603351	TA2-2-FINAL-FLR-450N-3950E-0.5	NA	ND (0.0321)	--	0.726	0.389	0.171	0.161	ND (0.511)	--
603351	TA2-2-FINAL-FLR-450N-4000E-0.5	NA	ND (0.0331)	--	0.798	0.434	0.0945	0.17	ND (0.511)	--
603351	TA2-2-FINAL-FLR-450N-4000E-D	NA	ND (0.0332)	--	0.855	0.459	**ND (0.185)**	--	ND (0.505)	--
603353	TA2-2-FINAL-FLR-450N-4050E-0.5	NA	ND (0.0336)	--	0.853	0.456	**ND (0.188)**	--	ND (0.503)	--
603353	TA2-2-FINAL-FLR-450N-4100E-0.5	NA	ND (0.034)	--	0.976	0.487	**0.254**	0.172	ND (0.553)	--
603353	TA2-2-FINAL-FLR-500N-3800E-0.5	NA	ND (0.0448)	--	0.866	0.496	**ND (0.233)**	--	ND (0.643)	--
603355	TA2-2-FINAL-FLR-500N-3850E-0.5	NA	ND (0.0361)	--	0.701	1.05	0.114	0.168	ND (0.53)	--
603355	TA2-2-FINAL-FLR-500N-3850E-D	NA	ND (0.0376)	--	0.684	1.27	0.129	0.176	ND (0.509)	--
603355	TA2-2-FINAL-FLR-500N-3900E-0.5	NA	ND (0.0364)	--	ND (0.14)	--	**ND (0.192)**	--	0.505	0.434
603355	TA2-2-FINAL-FLR-500N-3950E-0.5	NA	ND (0.0396)	--	ND (0.167)	--	**0.228**	0.184	0.705	0.647
603355	TA2-2-FINAL-FLR-500N-4000E-0.5	NA	ND (0.0397)	--	0.895	0.625	**ND (0.215)**	--	ND (0.588)	--
603355	TA2-2-FINAL-FLR-500N-4050E-0.5	NA	ND (0.0414)	--	0.792	1.18	0.106	0.182	ND (0.591)	--
603355	TA2-2-FINAL-FLR-500N-4100E-0.5	NA	ND (0.0357)	--	0.786	0.446	0.0973	0.174	0.544	0.487
603355	TA2-2-FINAL-FLR-500N-4100E-D	NA	ND (0.0285)	--	0.936	0.438	**ND (0.211)**	--	ND (0.72)	--
603355	TA2-2-FINAL-SDW-550N-3800E-1.0	NA	ND (0.0281)	--	0.665	0.316	**ND (0.21)**	--	ND (0.732)	--
603355	TA2-2-FINAL-SDW-550N-3850E-1.0	NA	ND (0.0283)	--	0.638	0.362	0.166	0.163	ND (0.713)	--
603355	TA2-2-FINAL-SDW-550N-3900E-1.0	NA	ND (0.0235)	--	ND (0.105)	--	ND (0.177)	--	ND (0.621)	--
603355	TA2-2-FINAL-SDW-550N-3950E-1.0	NA	ND (0.0296)	--	0.682	0.324	0.103	0.167	ND (0.747)	--
603355	TA2-2-FINAL-SDW-550N-3950E-D	NA	ND (0.0259)	--	0.69	0.381	**ND (0.201)**	--	ND (0.704)	--
603355	TA2-2-FINAL-SDW-550N-4000E-1.0	NA	ND (0.0285)	--	0.701	0.374	**ND (0.215)**	--	ND (0.757)	--
603355	TA2-2-FINAL-SDW-550N-4050E-1.0	NA	ND (0.0285)	--	0.835	1.5	**ND (0.217)**	--	ND (0.756)	--
603355	TA2-2-FINAL-SDW-550N-4100E-1.0	NA	ND (0.0282)	--	0.743	0.362	0.0981	0.103	ND (0.708)	--
603841	TA2-2-SORT-SEGN-BIN-S	NA	0.0148	0.0138	0.673	0.32	**ND (0.22)**	--	ND (0.682)	--
603841	TA2-2-SORT-SEGS-BIN-S	NA	ND (0.0286)	--	0.816	0.383	0.142	0.154	ND (0.695)	--
604547	TA2-2-1-PCS-001-S	NA	0.0226	0.0128	0.778	0.384	**ND (0.184)**	--	ND (0.629)	--
604547	TA2-2-13-PCS-001-S	NA	ND (0.0437)	--	0.679	0.347	**ND (0.323)**	--	ND (1.11)	--
604547	TA2-2-2-PCS-001-S	NA	0.0108	0.0109	0.786	0.365	**ND (0.2)**	--	ND (0.7)	--
Background Activity—North Area Subsurface[c]			0.084	--	1.54	--	0.18	--	1.3	--

Refer to footnotes at end of table.

Table A-13 (Concluded)
Summary of Gamma Spectroscopy Analytical Results
June 1999–June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
604547	TA2-2-3-PCS-001-S	NA	ND (0.0265)	--	0.691	0.319	**ND (0.182)**	--	ND (0.615)	--
604547	TA2-2-4-PCS-001-DU	NA	ND (0.0261)	--	0.713	0.34	**ND (0.182)**	--	ND (0.648)	--
604547	TA2-2-4-PCS-001-S	NA	ND (0.0257)	--	0.669	0.314	**ND (0.187)**	--	ND (0.636)	--
604547	TA2-2-5-PCS-001-S	NA	0.0104	0.0111	0.62	0.293	ND (0.174)	--	ND (0.607)	--
604547	TA2-2-6-PCS-001-S	NA	0.0123	0.0147	0.924	0.427	0.0754	0.141	ND (0.618)	--
604547	TA2-2-7-PCS-001-S	NA	0.00878	0.0105	0.744	0.351	ND (0.174)	--	ND (0.615)	--
604547	TA2-2-8-PCS-001-S	NA	0.0161	0.0074	0.676	0.309	0.0782	0.149	ND (0.648)	--
604547	TA2-2-9-PCS-001-DU	NA	ND (0.0547)	--	0.531	0.307	0.173	0.276	ND (1.18)	--
604547	TA2-2-9-PCS-001-S	NA	ND (0.0481)	--	0.744	0.362	**ND (0.342)**	--	ND (1.18)	--
604549	TA2-2-16-PCS-001-S	NA	ND (0.046)	--	0.686	0.371	**ND (0.337)**	--	ND (1.17)	--
604549	TA2-2-17-PCS-001-S	NA	ND (0.0512)	--	0.779	0.409	**ND (0.348)**	--	ND (1.21)	--
604549	TA2-2-18-PCS-001-S	NA	0.0341	0.0227	0.874	0.448	0.172	0.317	**ND (1.51)**	--
604549	TA2-2-21-PCS-001-S	NA	ND (0.0411)	--	0.679	0.356	**0.19**	0.228	ND (0.997)	--
604549	TA2-2-22-PCS-001-S	NA	ND (0.049)	--	0.705	0.405	**ND (0.347)**	--	ND (1.15)	--
604549	TA2-2-23-PCS-001-S	NA	ND (0.0535)	--	0.724	0.397	**ND (0.377)**	--	ND (1.27)	--
604549	TA2-2-24-PCS-001-S	NA	ND (0.0464)	--	0.834	0.433	**ND (0.357)**	--	ND (1.27)	--
604549	TA2-2-25-PCS-001-S	NA	ND (0.0468)	--	0.693	0.347	**0.295**	0.275	ND (1.19)	--
604549	TA2-2-26-PCS-001-DU	NA	ND (0.0475)	--	0.714	0.379	**ND (0.336)**	--	ND (1.18)	--
604549	TA2-2-26-PCS-001-S	NA	ND (0.0458)	--	0.655	0.354	**ND (0.336)**	--	ND (1.14)	--
604549	TA2-2-27-PCS-001-S	NA	ND (0.0538)	--	0.802	0.429	**ND (0.355)**	--	ND (1.23)	--
604549	TA2-2-28-PCS-001-S	NA	ND (0.0471)	--	0.795	0.411	**ND (0.36)**	--	ND (1.27)	--
604549	TA2-2-29-PCS-001-S	NA	ND (0.053)	--	0.888	0.449	**ND (0.315)**	--	ND (1.03)	--
604553	TA2-2-35-PUCS-001-S	NA	0.0474	0.0257	0.795	0.384	**ND (0.201)**	--	ND (0.547)	--
604553	TA2-2-36-PUCS-001-S	NA	ND (0.0336)	--	0.678	0.33	0.103	0.151	ND (0.494)	--
604553	TA2-2-38-PUCS-004-S	NA	ND (0.0538)	--	0.531	0.305	**ND (0.362)**	--	ND (1.24)	--
Background Activity[c]			0.084	--	1.54	--	0.18	--	1.3	--
Quality Assurance/Quality Control Samples (mg/L)					--					
603355	TA2-2-FINAL-EB2	NA	ND (16.9)	--	ND (121)	--	ND (124)	--	ND (317)	--
603355	TA2-2-FINAL-EB3	NA	ND (18.3)	--	ND (138)	--	ND (140)	--	ND (375)	--
603359	TA2-2-FINAL-EB4	NA	ND (17)	--	ND (114)	--	ND (133)	--	ND (358)	--
603359	TA2-2-FINAL-EB5	NA	ND (18.7)	--	ND (114)	--	ND (129)	--	ND (331)	--
604547	TA2-2-PCS-EB1-S	NA	ND (30)	--	ND (184)	--	ND (132)	--	ND (308)	--
604553	TA2-2-36-PUCS-EB3-S	NA	ND (28.3)	--	ND (174)	--	ND (148)	--	ND (349)	--

Note: Values in **bold** exceed background soil activities.

[a]Analysis request/chain-of-custody record.

[b]Two standard deviations about the mean detected activity.

[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.

bgs = Below ground surface.
D = Duplicate sample.
DU = Duplicate sample.
EB = Equipment blank.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not calculated for nondetected results.

Table A-14
Summary of Tritium Analysis
October 1999–June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 906.0[a]) (pCi/L)	Sample Attributes			Liquid Scintillation Counting (pCi/g)	Liquid Scintillation Counting (pCi/L)[b]
Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Tritium
602797	TA2-2-COBL-GRIZ-006-S	NA	**172,000**	--	--	--	--	--
602797	TA2-2-TRB3-SL16-006-S	NA	**20,300**	--	--	--	--	--
602797	TA2-2-TRC9-SL83-006-S	NA	**46,100**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-400N-3800E-0.5	NA	**15,200**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-400N-3850E-0.5	NA	**21,400**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-400N-3900E-0.5	NA	**742**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-400N-3900E-D	NA	**618**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-400N-3950E-0.5	NA	**46,700**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-400N-4000E-0.5	NA	**43,900**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-400N-4050E-0.5	NA	**21,200**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-450N-3800E-0.5	NA	**13,400**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-450N-3850E-0.5	NA	**8,720**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-450N-3900E-0.5	NA	**1,230**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-450N-3950E-0.5	NA	**271,000**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-450N-4000E-0.5	NA	**17,700**	--	--	--	--	--
603352	TA2-2-FINAL-FLR-450N-4000E-D	NA	**15,200**	--	--	--	--	--
603354	TA2-2-FINAL-FLR-450N-4050E-0.5	NA	**923,000**	--	--	--	--	--
603354	TA2-2-FINAL-FLR-450N-4100E-0.5	NA	**905**	--	--	--	--	--
603354	TA2-2-FINAL-FLR-500N-3800E-0.5	NA	**15,000**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-3850E-0.5	NA	**38,500**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-3850E-D	NA	**30,500**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-3900E-0.5	NA	**1,490**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-3950E-0.5	NA	**1,780**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-4000E-0.5	NA	**9,860**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-4050E-0.5	NA	**36,200**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-4100E-0.5	NA	**91,500**	--	--	--	--	--
603356	TA2-2-FINAL-FLR-500N-4100E-D	NA	**78,100**	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-3800E-1.0	NA	ND (118)	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-3850E-1.0	NA	7.3 U	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-3900E-1.0	NA	**788**	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-3950E-1.0	NA	356	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-3950E-D	NA	311	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-4000E-1.0	NA	239	--	--	--	--	--
603356	TA2-2-FINAL-SDW-550N-4050E-1.0	NA	**3,000**	--	--	--	--	--
Background Activity[d]			420	NA	NA	NA	0.021	420

Refer to footnotes at end of table.

Table A-14 (Continued)
Summary of Tritium Analysis
October 1999–June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 906.0[a]) (pCi/L)	Sample Attributes			Liquid Scintillation Counting (pCi/g)	Liquid Scintillation Counting (pCi/L)[b]
Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Tritium
603356	TA2-2-FINAL-SDW-550N-4100E-1.0	NA	**571**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-370N-4000E-1.0	NA	**827**	--	--	--	--	--
603358	TA2-2-FINAL-SDW-375N-4050E-1.0	NA	**1150**	--	--	--	--	--
604548	TA2-2-13-PCS-001-S	NA	**82,500**	604547	TA2-2-13-PCS-001-S	NA	**20.6**	**412,000**
604548	TA2-2-5-PCS-001-S	NA	**60,000**	604547	TA2-2-5-PCS-001-S	NA	**21.9**	**438,000**
604550	TA2-2-23-PCS-001-DU	NA	**394,000**	--	--	--	--	--
604550	TA2-2-23-PCS-001-S	NA	**327,000**	604549	TA2-2-23-PCS-001-S	NA	**31.6**	**632,000**
604554	TA2-2-35-PUCS-001-S	NA	**25,900**	604553	TA2-2-35-PUCS-001-S	NA	**29.9**	**598,000**
604554	TA2-2-36-PUCS-001-S	NA	**199,000**	604553	TA2-2-36-PUCS-001-S	NA	**24.6**	**492,000**
604554	TA2-2-38-PUCS-004-S	NA	**94,800**	604553	TA2-2-38-PUCS-004-S	NA	**30.1**	**602,000**
--	--	--	--	604547	TA2-2-1-PCS-001-S	NA	**15.1**	**302,000**
--	--	--	--	604547	TA2-2-2-PCS-001-S	NA	**17.9**	**358,000**
--	--	--	--	604547	TA2-2-3-PCS-001-S	NA	**14.3**	**286,000**
--	--	--	--	604547	TA2-2-4-PCS-001-DU	NA	**22.8**	**456,000**
--	--	--	--	604547	TA2-2-4-PCS-001-S	NA	**24.7**	**494,000**
--	--	--	--	604547	TA2-2-6-PCS-001-S	NA	**19.2**	**384,000**
--	--	--	--	604547	TA2-2-7-PCS-001-S	NA	**21.2**	**424,000**
--	--	--	--	604547	TA2-2-8-PCS-001-S	NA	**23.3**	**466,000**
--	--	--	--	604547	TA2-2-9-PCS-001-DU	NA	**30.9**	**618,000**
--	--	--	--	604547	TA2-2-9-PCS-001-S	NA	**22.6**	**452,000**
--	--	--	--	604549	TA2-2-16-PCS-001-S	NA	**25.6**	**512,000**
--	--	--	--	604549	TA2-2-17-PCS-001-S	NA	**25.3**	**506,000**
--	--	--	--	604549	TA2-2-18-PCS-001-S	NA	**21.3**	**426,000**
--	--	--	--	604549	TA2-2-21-PCS-001-S	NA	**34.7**	**694,000**
--	--	--	--	604549	TA2-2-22-PCS-001-S	NA	**23.9**	**478,000**
--	--	--	--	604549	TA2-2-24-PCS-001-S	NA	**40.4**	**808,000**
--	--	--	--	604549	TA2-2-25-PCS-001-S	NA	**32.4**	**648,000**
--	--	--	--	604549	TA2-2-26-PCS-001-DU	NA	**27**	**540,000**
--	--	--	--	604549	TA2-2-26-PCS-001-S	NA	**23.1**	**462,000**
--	--	--	--	604549	TA2-2-27-PCS-001-S	NA	**24**	**480,000**
--	--	--	--	604549	TA2-2-28-PCS-001-S	NA	**16.2**	**324,000**
--	--	--	--	604549	TA2-2-29-PCS-001-S	NA	**21.3**	**426,000**
--	--	--	--	604555	TA2-2-30-PUCS-00-S	NA	**18.1**	**362,000**
--	--	--	--	604555	TA2-2-30-PUCS-002-S	NA	**25.5**	**510,000**
--	--	--	--	604555	TA2-2-38-PUCS-026-S	NA	**15.6**	**312,000**
Background Activity[d]			420	NA	NA	NA	0.021	420

Refer to footnotes at end of table.

Table A-14 (Concluded)
Summary of Tritium Analysis
October 1999–June 2001
for Soil Placed in the SWMU 2 Excavation from 5 ft bgs to Depth

Sample Attributes			(EPA Method 906.0[a]) (pCi/L)	Sample Attributes			Liquid Scintillation Counting (pCi/g)	Liquid Scintillation Counting (pCi/L)[b]
Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Record Number[c]	ER Sample ID	Sample Depth (ft)	Tritium	Tritium
--	--	--	--	604555	TA2-2-38-PUCS-027-S	NA	**19.2**	**384,000**
--	--	--	--	604555	TA2-2-38-PUCS-028-S	NA	**19.4**	**388,000**
--	--	--	--	604555	TA2-2-38-PUCS-029-S	NA	**21.7**	**434,000**
--	--	--	--	604555	TA2-2-38-PUCS-030-DU	NA	**19.6**	**392,000**
Background Activity[d]			420	NA	NA	NA	0.021	420
Quality Assurance/Quality Control Samples (pCi/L)								
603356	TA2-2-FINAL-EB1	NA	ND (225)	--	--	--	--	--
603356	TA2-2-FINAL-EB2	NA	ND (225)	--	--	--	--	--
603356	TA2-2-FINAL-EB3	NA	ND (227)	--	--	--	--	--
603360	TA2-2-FINAL-EB4	NA	ND (227)	--	--	--	--	--
603360	TA2-2-FINAL-EB5	NA	ND (229)	--	--	--	--	--
604548	TA2-2-PCS-EB1-S	NA	ND (96)	--	--	--	--	--
604550	TA2-2-PCS-EB2-S	NA	54.2 U	--	--	--	--	--

Note: Values in **bold** exceed background soil activities.
[a]EPA November 1986.
[b]pCi/L = pCi/g/20,000.
[c]Analysis request/chain-of-custody record.
[d]Tharp February 1999. 420 pCi/L = 0.21 pCi/g, assuming a soil density of 1 gram/cubic centimeter and 5 percent soil moisture.
bgs = Below ground surface.
D = Duplicate sample.
DU = Duplicate sample.
EB = Equipment blank.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
U = The analyte was analyzed for but was not detected.
-- = Sample has no entry for method specified.

Table A-15
Summary of Metals Analytical Results
June 2003
for Soil Pile 39 Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 6010B/6020/7471[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
606392	TA2-2-BLST-BERM-001-3-S	NA	3.51	136	0.39 J (0.5)	0.237 J (0.5)	9.58	5.02	0.0903	7.17	ND (0.162)	ND (0.0902)	1.09
606392	TA2-2-BLST-BERM-001-6-S	NA	3.37	167	0.378 J (0.463)	0.198 J (0.463)	8.99	4.82	0.0606	7.17	ND (0.15)	ND (0.0835)	0.997
606392	TA2-2-BLST-BERM-002-5-S	NA	3.56	170	0.384 J (0.485)	0.278 J (0.485)	9	5.21	**0.512**	7.34	0.158 J (0.485)	0.125 J (0.485)	0.721
606392	TA2-2-BLST-BERM-002-9-S	NA	3.57	177	0.442 J (0.5)	0.299 J (0.5)	9.97	5.52	0.0974	7.82	ND (0.162)	ND (0.0902)	0.771
606392	TA2-2-BLST-BERM-003-4-S	NA	3.57	154	0.416 J (0.49)	0.435 J (0.49)	11.8	6.2	**0.11**	7.82	ND (0.159)	ND (0.0884)	1.01
606392	TA2-2-BLST-BERM-003-8-S	NA	2.86	162	0.365 J (0.5)	0.374 J (0.5)	8.58	4.99	**0.146**	6.64	ND (0.162)	ND (0.0902)	1.02
606392	TA2-2-BLST-BERM-004-10-S	NA	3.39	149	0.438 J (0.5)	0.15 J (0.5)	9.14	5.02	0.0116	7.46	ND (0.162)	ND (0.0902)	0.859
606392	TA2-2-BLST-BERM-004-6-S	NA	3.52	135	0.388 J (0.49)	0.298 J (0.49)	8.95	4.48	0.0802	7.18	0.215 J (0.49)	ND (0.0884)	0.739
606392	TA2-2-BLST-BERM-005-4-S	NA	3.5	163	0.41 J (0.49)	0.236 J (0.49)	10.2	5	0.0747	7.91	ND (0.159)	ND (0.0884)	0.801
606392	TA2-2-BLST-BERM-005-8-S	NA	3.45	148	0.405 J (0.495)	0.191 J (0.495)	9.47	5.23	0.0302	7.3	ND (0.16)	ND (0.0893)	0.775
606392	TA2-2-BLST-BERM-006-5-S	NA	3.2	107	0.383 J (0.459)	0.193 J (0.459)	9.08	5.04	0.031	6.91	ND (0.149)	ND (0.0828)	0.877
606392	TA2-2-BLST-BERM-006-9-S	NA	3.32	126	0.39 J (0.485)	0.138 J (0.485)	8.84	4.32	0.0176	7.61	ND (0.157)	ND (0.0876)	0.808
606392	TA2-2-BLST-BERM-007-0-S	NA	3.46	149	0.412 J (0.481)	0.227 J (0.481)	8.86	5.12	0.0291	7.16	ND (0.156)	ND (0.0867)	0.892
606392	TA2-2-BLST-BERM-008-1-S	NA	2.86	136	0.371 J (0.485)	0.217 J (0.485)	8.65	4.64	0.0665	7.95	ND (0.157)	ND (0.0876)	0.958
606392	TA2-2-BLST-BERM-009-0-S	NA	3.82	112	0.465 J (0.5)	0.173 J (0.5)	8.94	5.01	0.0321	7.01	ND (0.162)	ND (0.0902)	1.12
606392	TA2-2-BLST-BERM-010-2-S	NA	2.72	102	0.336 J (0.467)	0.116 J (0.467)	8.39	4.21	0.0255	6.72	ND (0.151)	ND (0.0843)	0.916
606392	TA2-2-BLST-BERM-011-0-S	NA	3.69	164	0.431 J (0.5)	0.331 J (0.5)	12	5.32	**0.102**	8.28	ND (0.162)	ND (0.0902)	0.687
606392	TA2-2-BLST-BERM-012-3-S	NA	3.61	144	0.457 J (0.495)	0.201 J (0.495)	10.2	5.4	**0.491**	7.62	ND (0.16)	ND (0.0893)	0.971
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Note: Values in **bold** exceed background soil concentrations.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.

bgs = Below ground surface.
EPA = U.S. Environmental Protection Agency.
ft = Foot (feet).
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-16
Summary of PCB Analytical Results
June 2003
for Soil Pile 39 Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
606392	TA2-2-BLST-BERM-001-3-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0048**	ND (0.001)
606392	TA2-2-BLST-BERM-001-6-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0029 J (0.00333)**	ND (0.001)
606392	TA2-2-BLST-BERM-002-5-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0036**	ND (0.001)
606392	TA2-2-BLST-BERM-002-9-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0051**	ND (0.001)
606392	TA2-2-BLST-BERM-003-4-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0055**	ND (0.001)
606392	TA2-2-BLST-BERM-003-8-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0096**	**0.0021 J (0.00333)**
606392	TA2-2-BLST-BERM-004-10-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	ND (0.0005)	ND (0.001)
606392	TA2-2-BLST-BERM-004-6-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0048**	ND (0.001)
606392	TA2-2-BLST-BERM-005-4-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0047**	ND (0.001)
606392	TA2-2-BLST-BERM-005-8-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0025 J (0.00333)**	ND (0.001)
606392	TA2-2-BLST-BERM-006-5-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0022 H, J (0.00333)**	**0.0017 H, J (0.00333)**
606392	TA2-2-BLST-BERM-006-9-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	ND (0.0005)	ND (0.001)
606392	TA2-2-BLST-BERM-007-0-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.002 J (0.00333)**	ND (0.001)
606392	TA2-2-BLST-BERM-008-1-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0052**	ND (0.001)
606392	TA2-2-BLST-BERM-009-0-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0017 J (0.00333)**	ND (0.001)
606392	TA2-2-BLST-BERM-010-2-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0012 J (0.00333)**	ND (0.001)
606392	TA2-2-BLST-BERM-011-0-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0069**	ND (0.001)
606392	TA2-2-BLST-BERM-012-3-S	NA	ND (0.001)	ND (0.00282)	ND (0.00167)	ND (0.00167)	ND (0.001)	**0.0043**	ND (0.001)

Note: Values in **bold** indicate detected PCBs.

[a]Analysis request/chain-of-custody record.
bgs = Below ground surface.
ER = Environmental Restoration.
ft = Foot (feet).
HJ ( ) = Holding time was exceeded. The associated value is an estimated quantity.
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
PCB = Polychlorinated biphenyl.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-17
Summary of Gross Alpha and Beta Analysis
June 2003
for Soil Pile 39 Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)			
			Gross Alpha		Gross Beta	
Record Number[a]	ER Sample ID	Sample Depth (ft)	Result	Error[b]	Result	Error[b]
606392	TA2-2-BLST-BERM-001-3-S	NA	4.53	2.15	27.9	3.86
606392	TA2-2-BLST-BERM-001-6-S	NA	5.9	2.01	21.9	2.36
606392	TA2-2-BLST-BERM-002-5-S	NA	4.05	2.08	24.9	2.64
606392	TA2-2-BLST-BERM-002-9-S	NA	6.59	2.25	21.1	2.3
606392	TA2-2-BLST-BERM-003-4-S	NA	9.46	2.16	32.8	3.43
606392	TA2-2-BLST-BERM-003-8-S	NA	5.32	1.7	23.1	3.2
606392	TA2-2-BLST-BERM-004-10-S	NA	5.74	1.81	25.1	3.27
606392	TA2-2-BLST-BERM-004-6-S	NA	5.05	1.52	21.5	3.21
606392	TA2-2-BLST-BERM-005-4-S	NA	8	1.82	43.6	4.63
606392	TA2-2-BLST-BERM-005-8-S	NA	2.86	0.961	10.1	2.79
606392	TA2-2-BLST-BERM-006-5-S	NA	7.66	2.02	33.4	3.32
606392	TA2-2-BLST-BERM-006-9-S	NA	9.4	2	36	3.69
606392	TA2-2-BLST-BERM-007-0-S	NA	4.33	1.67	23.7	3.22
606392	TA2-2-BLST-BERM-008-1-S	NA	14.2	2.37	24.5	3.67
606392	TA2-2-BLST-BERM-009-0-S	NA	5.76	1.57	22.8	3.46
606392	TA2-2-BLST-BERM-010-2-S	NA	4.95	1.44	20.5	2.88
606392	TA2-2-BLST-BERM-011-0-S	NA	5.3	1.7	13	3.75
606392	TA2-2-BLST-BERM-012-3-S	NA	8.59	2.12	21.4	4.06

[a]Analysis request/chain-of-custody record.
[b]Two standard deviations about the mean detected activity.
bgs = Below ground surface.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
pCi/g = Picocurie(s) per gram.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-18
Summary of Gamma Spectroscopy Analytical Results
June 2003
for Soil Pile 39 Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)							
Record Number[a]	ER Sample ID	Sample Depth (ft)	Cesium-137		Thorium-232		Uranium-235		Uranium-238	
			Result	Error[b]	Result	Error[b]	Result	Error[b]	Result	Error[b]
606393	TA2-2-BLST-BERM-001-3-S	NA	ND (0.0244)	--	0.766	0.353	**ND (0.19)**	--	ND (0.6)	--
606393	TA2-2-BLST-BERM-001-6-S	NA	ND (0.0239)	--	0.816	0.375	0.116	0.152	ND (0.581)	--
606393	TA2-2-BLST-BERM-002-5-S	NA	ND (0.023)	--	0.701	0.325	**ND (0.182)**	--	ND (0.578)	--
606393	TA2-2-BLST-BERM-002-9-S	NA	ND (0.024)	--	0.655	0.309	**ND (0.186)**	--	ND (0.592)	--
606393	TA2-2-BLST-BERM-003-4-S	NA	ND (0.0236)	--	0.795	0.367	**ND (0.181)**	--	ND (0.566)	--
606393	TA2-2-BLST-BERM-003-8-S	NA	ND (0.0248)	--	0.79	0.364	**ND (0.187)**	--	ND (0.591)	--
606393	TA2-2-BLST-BERM-004-10-S	NA	ND (0.0246)	--	0.953	0.435	**ND (0.199)**	--	ND (0.618)	--
606393	TA2-2-BLST-BERM-004-6-S	NA	ND (0.0224)	--	0.761	0.362	**ND (0.185)**	--	ND (0.603)	--
606393	TA2-2-BLST-BERM-005-4-S	NA	ND (0.0229)	--	0.849	0.388	0.0975	0.148	ND (0.578)	--
606393	TA2-2-BLST-BERM-005-8-S	NA	ND (0.0258)	--	0.85	0.392	**ND (0.191)**	--	ND (0.607)	--
606393	TA2-2-BLST-BERM-006-5-S	NA	ND (0.0236)	--	0.68	0.314	**ND (0.181)**	--	ND (0.554)	--
606393	TA2-2-BLST-BERM-006-9-S	NA	ND (0.0258)	--	0.787	0.366	0.0851	0.16	ND (0.617)	--
606393	TA2-2-BLST-BERM-007-0-S	NA	ND (0.0298)	--	0.669	0.322	ND (0.174)	--	ND (0.446)	--
606393	TA2-2-BLST-BERM-008-1-S	NA	ND (0.0312)	--	0.73	0.344	**ND (0.186)**	--	ND (0.471)	--
606393	TA2-2-BLST-BERM-009-0-S	NA	ND (0.0298)	--	0.842	0.393	**ND (0.184)**	--	0.687	0.257
606393	TA2-2-BLST-BERM-010-2-S	NA	ND (0.0294)	--	0.809	0.379	0.0837	0.15	ND (0.43)	--
606393	TA2-2-BLST-BERM-011-0-S	NA	ND (0.0319)	--	0.754	0.357	0.0983	0.154	0.626	0.243
606393	TA2-2-BLST-BERM-012-3-S	NA	ND (0.0305)	--	0.612	0.297	**ND (0.182)**	--	0.426	0.223
Background Activity[c]			0.084	NA	1.54	NA	0.18	NA	1.3	NA

[a]Analysis request/chain-of-custody record.
[b]Two standard deviations about the mean detected activity.
[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.
bgs = Below ground surface.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
S = Soil sample.
SWMU = Solid Waste Management Unit.
-- = Error not calculated for nondetected results.

Table A-19
Summary of Tritium Analysis
June 2003
for Pile 39 Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method LSC[a]) (pCi/L)
Record Number[b]	ER Sample ID	Sample Depth (ft)	Tritium
606393	TA2-2-BLST-BERM-001-3-S	NA	**18,100**
606393	TA2-2-BLST-BERM-001-6-S	NA	**28,600**
606393	TA2-2-BLST-BERM-002-5-S	NA	**2,460**
606393	TA2-2-BLST-BERM-002-9-S	NA	**5,940**
606393	TA2-2-BLST-BERM-003-4-S	NA	**6,630**
606393	TA2-2-BLST-BERM-003-8-S	NA	**9,440**
606393	TA2-2-BLST-BERM-004-10-S	NA	**8,420**
606393	TA2-2-BLST-BERM-004-6-S	NA	**1,500**
606393	TA2-2-BLST-BERM-005-4-S	NA	**1,930**
606393	TA2-2-BLST-BERM-005-8-S	NA	**14,900**
606393	TA2-2-BLST-BERM-006-5-S	NA	**1,500**
606393	TA2-2-BLST-BERM-006-9-S	NA	**6,550**
606393	TA2-2-BLST-BERM-007-0-S	NA	**6,180**
606393	TA2-2-BLST-BERM-008-1-S	NA	**897**
606393	TA2-2-BLST-BERM-009-0-S	NA	301
606393	TA2-2-BLST-BERM-010-2-S	NA	409
606393	TA2-2-BLST-BERM-011-0-S	NA	**18,700**
606393	TA2-2-BLST-BERM-012-3-S	NA	**31,200**
Background Activity[c]			420

Note: Values in **bold** exceed background soil activities.
[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Tharp February 1999. 420 pCi/L = 0.21 pCi/g, assuming a soil density of 1 gram/cubic centimeter and 5 percent soil moisture.
bgs = Below ground surface.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-20
Summary of Metals Analytical Results
October 2003
for Verification Samples from Soil Pile Storage Areas

Sample Attributes			Metals (EPA Method 6010B/7471A[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
606893	TA2-2-FINL-VER-001-S	0–0.5	3.6	165	0.4 J (0.51)	**4**	11 E	**11.9**	**1.6**	15.7	ND (0.213)	**2.6**	ND (0.971)
606893	TA2-2-FINL-VER-002-S	0–0.5	3.8	110	0.36 J (0.51)	0.17 J (0.51)	5.8 E	5.9	0.079	6	ND (0.213)	ND (0.0393)	ND (0.971)
606893	TA2-2-FINL-VER-003-S	0–0.5	3.5	138	0.34 J (0.51)	**2.2**	8.3 E	8.7	**1.1**	10.6	ND (0.213)	0.91 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-004-S	0–0.5	3.4	117	0.4 J (0.51)	ND (0.037)	7.5 E	8.6	**3.1**	7.3	ND (0.213)	ND (0.0393)	ND (0.971)
606893	TA2-2-FINL-VER-005-S	0–0.5	3.4	120	0.38 J (0.51)	0.62	8.1 E	6.6	**0.76**	7.8	ND (0.213)	0.042 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-006-S	0–0.5	3.7	175	0.4 J (0.51)	**1.5**	8.1 E	6.1	**0.27**	7.6	ND (0.213)	ND (0.0393)	ND (0.971)
606893	TA2-2-FINL-VER-007-S	0–0.5	3.5	159	0.38 J (0.51)	**1.4**	8.9 E	10.5	**0.53**	7.9	ND (0.213)	0.15 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-008-S	0–0.5	3.8	175	0.42 J (0.51)	**1.7**	10 E	**11.4**	**0.94**	13.5	ND (0.213)	0.48 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-009-S	0–0.5	3.8	182	0.38 J (0.51)	**1.6**	8.3 E	7.8	**1.2**	7.5	ND (0.213)	ND (0.0393)	ND (0.971)
606893	TA2-2-FINL-VER-010-S	0–0.5	3.7	144	0.36 J (0.51)	**2**	9.1 E	7.4	**1.4**	8	ND (0.213)	0.043 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-011-S	0–0.5	3.4	167	0.36 J (0.51)	**1.9**	9.2 E	5.8	**0.45**	7.9	ND (0.213)	0.055 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-012-S	0–0.5	3.8	171	0.41 J (0.51)	0.51	9 E	7.6	0.084	8.6	ND (0.213)	ND (0.0393)	ND (0.971)
606893	TA2-2-FINL-VER-013-S	0–0.5	3.6	133	0.4 J (0.51)	**0.96**	10 E	**13.3**	**1.1**	17.3	ND (0.213)	0.17 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-014-S	0–0.5	3.8	**236**	0.4 J (0.51)	**2.8**	11.5 E	**75.6**	**3**	16.5	ND (0.213)	0.28 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-015-S	0–0.5	4.1	200	0.41 J (0.51)	**2.3**	10.3 E	**11.5**	**0.91**	14.1	ND (0.213)	0.16 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-016-S	0–0.5	3.4	138	0.39 J (0.51)	**1.2**	9.2 E	9	**1.7**	11.3	ND (0.213)	0.16 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-030-S	0–0.5	3.8	189	0.38 J (0.51)	**5.9**	9.4 E	**13**	**0.47**	11.5	ND (0.213)	0.45 J (1)	ND (0.971)
606893	TA2-2-FINL-VER-035-S	0–0.5	4.2	183	0.41 J (0.51)	**3.6**	11.3 E	9	**0.73**	14.1	ND (0.213)	0.3 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-017-S	0–0.5	3.4	124	0.37 J (0.51)	**1.1**	7.4	7.7	**0.52**	10	ND (0.213)	0.19 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-018-S	0–0.5	3.6	162	0.38 J (0.51)	0.37 J (0.51)	8.7	6.2	**0.39**	9	ND (0.213)	0.12 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-019-S	0–0.5	4.2	122	0.35 J (0.51)	ND (0.037)	6.2	5.6	0.044	5.9	ND (0.213)	ND (0.0393)	ND (0.971)
606894	TA2-2-FINL-VER-020-S	0–0.5	3.9	105	0.36 J (0.51)	ND (0.037)	5.4	5	0.038	5.4	ND (0.213)	ND (0.0393)	ND (0.971)
606894	TA2-2-FINL-VER-021-S	0–0.5	3.9	143	0.41 J (0.51)	**3.1**	8.4	8	**0.42**	8.9	ND (0.213)	0.1 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-022-S	0–0.5	4.4	100	0.38 J (0.51)	ND (0.037)	6.3	6.3	0.022 J (0.034)	5.9	ND (0.213)	ND (0.0393)	ND (0.971)
606894	TA2-2-FINL-VER-023-S	0–0.5	3.8	104	0.37 J (0.51)	ND (0.037)	6.1	6.8	0.027 J (0.034)	6.4	ND (0.213)	ND (0.0393)	ND (0.971)
606894	TA2-2-FINL-VER-024-S	0–0.5	**5.3**	106	0.38 J (0.51)	ND (0.037)	5.8	6.8	ND (0.0167)	5.8	ND (0.213)	ND (0.0393)	ND (0.971)
606894	TA2-2-FINL-VER-025-S	0–0.5	3.5	157	0.36 J (0.51)	**2**	8.9	10.1	**0.45**	8.2	ND (0.213)	0.17 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-026-S	0–0.5	3.9	186	0.45 J (0.51)	**5.6**	10.4	**14.7**	**1.5**	11.1	ND (0.213)	0.46 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-027-S	0–0.5	4.1	155	0.39 J (0.51)	**2.6**	8.2	**38.6**	**0.6**	8.2	ND (0.213)	0.15 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-028-S	0–0.5	3.8	192	0.39 J (0.52)	**3.6**	10.5	**14.1**	**2**	11.9	ND (0.213)	0.48 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-029-S	0–0.5	3.6	191	0.4 J (0.51)	**2.7**	11.4	**15.1**	**0.54**	15.6	ND (0.213)	0.35 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-031-S	0–0.5	3.5	184	0.36 J (0.51)	0.88	8.3	5.9	**0.38**	8	**4.5**	0.091 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-032-S	0–0.5	3.7	179	0.38 J (0.5)	**2.2**	8.9	8.2	**0.54**	9.9	ND (0.213)	0.15 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-033-S	0–0.5	3.5	**211**	0.37 J (0.51)	**3.4**	8.1	6.3	**0.43**	8.1	ND (0.213)	0.098 J (1)	ND (0.971)
606894	TA2-2-FINL-VER-034-S	0–0.5	3.8	**208**	0.45 J (0.51)	**6.4**	12.1	**15.1**	**1.8**	17.3	ND (0.213)	**3.4**	ND (0.971)
606894	TA2-2-FINL-VER-036-S	0–0.5	3.4	126	0.36 J (0.51)	0.9	7.7	7.1	**0.23**	7	ND (0.213)	0.085 J (1)	ND (0.971)
606895	TA2-2-FINL-VER-037-S	0–0.5	2.6	120	0.36 J (0.51)	0.79	9.2	7.9	**0.28**	7.3	ND (0.213)	0.062 J (1)	ND (0.971)
606895	TA2-2-FINL-VER-038-S	0–0.5	3.4	**235**	0.39 J (0.51)	**5.4**	12.1	**17.3**	**1.9**	13.5	ND (0.213)	0.75 J (1)	ND (0.971)
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Refer to footnotes at end of table.

Table A-20 (Concluded)
Summary of Metals Analytical Results
October 2003
for Verification Samples from Soil Pile Storage Areas

Sample Attributes			Metals (EPA Method 6010B/7471A[a]) (mg/kg)										
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Uranium
606895	TA2-2-FINL-VER-039-S	0–0.5	3.6	180	0.4 J (0.51)	**6.3**	10.7	9.2	**0.79**	10.4	ND (0.213)	0.6 J (1)	ND (0.971)
606895	TA2-2-FINL-VER-040-S	0–0.5	2.8	155	0.4 J (0.51)	0.85	9.5	6.5	**0.34**	8.6	ND (0.213)	0.1 J (1)	ND (0.971)
606895	TA2-2-FINL-VER-041-S	0–0.5	3.7	**220**	0.4 J (0.51)	**49.4**	**16.6**	11.1	**1.5**	12.2	ND (0.213)	0.92 J (1)	ND (0.971)
606895	TA2-2-FINL-VER-042-S	0–0.5	3.6	185	0.43 J (0.51)	**5**	**13**	10.2	**0.89**	10.8	ND (0.213)	**2.5**	ND (0.971)
606895	TA2-2-FINL-VER-043-S	0–0.5	3.1	126	0.43 J (0.51)	ND (0.037)	10.3	**12.7**	**0.12**	8.1	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-044-S	0–0.5	3.4	190	0.4 J (0.51)	**7.8**	**18.2**	**20.4**	**0.97**	17.9	ND (0.213)	**1.3**	ND (0.971)
606895	TA2-2-FINL-VER-045-S	0–0.5	2.5	90.6	0.39 J (0.51)	ND (0.037)	10.5	6.5	ND (0.0167)	8	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-046-S	0–0.5	3.4	135	0.46 J (0.51)	ND (0.037)	11.6	6.8	0.08	9.9	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-047-S	0–0.5	3.3	**280**	0.42 J (0.51)	0.43 J (0.51)	10.5	6.6	**0.27**	8.4	ND (0.213)	0.048 J (1)	ND (0.971)
606895	TA2-2-FINL-VER-048-S	0–0.5	3.3	126	0.4 J (0.51)	0.1 J (0.51)	10.4	8.2	0.055	8.2	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-049-S	0–0.5	3.1	115	0.41 J (0.51)	ND (0.037)	10.4	7.6	0.062	7.8	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-050-S	0–0.5	3.4	113	0.44 J (0.51)	ND (0.037)	12.8	7.2	0.025 J (0.034)	9.4	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-051-S	0–0.5	2.9	106	0.48 J (0.51)	ND (0.037)	11.9	7.6	0.028 J (0.034)	8.9	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-052-S	0–0.5	2.8	116	0.39 J (0.5)	ND (0.037)	11.8	8.7	0.088	7.9	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-053-S	0–0.5	3.6	**208**	0.37 J (0.51)	0.088 J (0.51)	8	4.4	0.021 J (0.034)	6.8	ND (0.213)	ND (0.0393)	ND (0.971)
606895	TA2-2-FINL-VER-054-S	0–0.5	3.3	152	0.51 J (0.51)	ND (0.037)	12.5	7.7	**0.17**	10	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-055-S	0–0.5	3.2	186	0.38 J (0.51)	0.79	9.2	4.7	0.049	7.2	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-056-S	0–0.5	3	125	0.36 J (0.51)	0.84	8.4	7.9	**0.4**	8.9	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-057-S	0–0.5	2.8	96.6	0.42 J (0.51)	ND (0.037)	9	7.8	ND (0.0167)	7.9	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-058-S	0–0.5	2.9	114	0.49 J (0.51)	ND (0.037)	9.9	8.5	0.053	9	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-059-S	0–0.5	3.2	148	0.4 J (0.51)	0.68	9.8	7.5	**0.37**	9.5	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-060-S	0–0.5	2.8	115	0.36 J (0.51)	0.89	8.9	7.5	**0.43**	8.6	ND (0.213)	0.095 J (1)	ND (0.971)
606896	TA2-2-FINL-VER-061-S	0–0.5	2.9	167	0.39 J (0.51)	**5.5**	12.3	9.9	**1.2**	10.4	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-062-S	0–0.5	3.3	117	0.48 J (0.51)	ND (0.037)	9.9	6.9	**1.6**	8.5	0.22 J (0.51)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-063-S	0–0.5	3.3	167	0.38 J (0.51)	**1.4**	8.1	6.5	**0.69**	8.6	ND (0.213)	0.96 J (1)	ND (0.971)
606896	TA2-2-FINL-VER-064-S	0–0.5	3.2	123	0.41 J (0.51)	0.76	10.2	8.8	**0.1**	8.2	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-065-S	0–0.5	3.5	133	0.49 J (0.51)	ND (0.037)	10.9	8.5	0.029 J (0.034)	9.4	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-066-S	0–0.5	3.8	113	0.41 J (0.51)	0.35 J (0.51)	6.8	7.2	**0.1**	6.7	ND (0.213)	ND (0.0393)	ND (0.971)
606896	TA2-2-FINL-VER-067-S	0–0.5	3.2	182	0.41 J (0.51)	**7.1**	10.8	**11.7**	**1.2**	10.1	ND (0.213)	0.48 J (1)	ND (0.971)
606896	TA2-2-FINL-VER-068-S	0–0.5	3.6	142	0.46 J (0.51)	**1.1**	9.9	**15.6**	**1.4**	8.3	ND (0.213)	0.14 J (1)	ND (0.971)
606896	TA2-2-FINL-VER-069-S	0–0.5	3.6	182	0.56	**7.1**	**14.3**	**15.9**	**2.2**	14.9	0.27 J (0.51)	0.69 J (1)	ND (0.971)
606896	TA2-2-FINL-VER-070-S	0–0.5	4.3	**215**	0.39 J (0.51)	**7.9**	11.5	**10.9**	**1.5**	13.1	ND (0.213)	**3.1**	ND (0.971)
606896	TA2-2-FINL-VER-071-S	0–0.5	3.4	182	0.38 J (0.51)	**4.9**	10	**12.6**	**1.4**	11.7	**1.3**	0.79 J (1)	ND (0.971)
606896	TA2-2-FINL-VER-072-S	0–0.5	3.2	193	0.39 J (0.51)	**3.9**	10.3	**51.9**	**1.4**	9.7	ND (0.213)	0.52 J (1)	ND (0.971)
Background Concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1	2.3

Note: Values in **bold** exceed background soil concentrations.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.

E = Value exceeds the calibrated range of the analytical instrument.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-21
Summary of PCB Analytical Results
October 2003–February 2004
for Verification Samples from Soil Pile Storage Areas

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
606893	TA2-2-FINL-VER-001-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.14**	ND (0.0075)
606893	TA2-2-FINL-VER-002-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606893	TA2-2-FINL-VER-003-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.077**	ND (0.0075)
606893	TA2-2-FINL-VER-004-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606893	TA2-2-FINL-VER-005-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.044**	ND (0.0075)
606893	TA2-2-FINL-VER-006-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.057**	ND (0.0075)
606893	TA2-2-FINL-VER-007-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.033**	ND (0.0075)
606893	TA2-2-FINL-VER-008-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.037**	ND (0.0075)
606893	TA2-2-FINL-VER-009-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.061**	ND (0.0075)
606893	TA2-2-FINL-VER-010-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.074**	ND (0.0075)
606893	TA2-2-FINL-VER-011-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.12**	ND (0.0075)
606893	TA2-2-FINL-VER-012-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606893	TA2-2-FINL-VER-013-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.057**	ND (0.0075)
606893	TA2-2-FINL-VER-014-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.097**	ND (0.0075)
606893	TA2-2-FINL-VER-015-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.1**	ND (0.0075)
606893	TA2-2-FINL-VER-016-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.12**	ND (0.0075)
606893	TA2-2-FINL-VER-030-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.4**	ND (0.0075)
606893	TA2-2-FINL-VER-035-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.068**	ND (0.0075)
606894	TA2-2-FINL-VER-017-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.41 P**	ND (0.0075)
606894	TA2-2-FINL-VER-018-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.075 P**	ND (0.0075)
606894	TA2-2-FINL-VER-019-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606894	TA2-2-FINL-VER-020-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606894	TA2-2-FINL-VER-021-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.23**	ND (0.0075)
606894	TA2-2-FINL-VER-022-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606894	TA2-2-FINL-VER-023-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606894	TA2-2-FINL-VER-024-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606894	TA2-2-FINL-VER-025-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.18**	ND (0.0075)
606894	TA2-2-FINL-VER-026-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.82**	ND (0.0075)
606894	TA2-2-FINL-VER-027-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.65**	ND (0.0075)
606894	TA2-2-FINL-VER-028-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.91**	ND (0.0075)
606894	TA2-2-FINL-VER-029-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.29**	ND (0.0075)
606894	TA2-2-FINL-VER-031-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.11**	ND (0.0075)
606894	TA2-2-FINL-VER-032-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.22**	ND (0.0075)
606894	TA2-2-FINL-VER-033-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.23**	ND (0.0075)
606894	TA2-2-FINL-VER-036-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.21**	ND (0.0075)
606895	TA2-2-FINL-VER-037-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.12**	ND (0.0075)
606895	TA2-2-FINL-VER-038-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.28**	ND (0.0075)
606895	TA2-2-FINL-VER-039-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.17**	ND (0.0075)

Refer to footnotes at end of table.

Table A-21 (Continued)
Summary of PCB Analytical Results
October 2003–February 2004
for Verification Samples from Soil Pile Storage Areas

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
606895	TA2-2-FINL-VER-040-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.13**	ND (0.0075)
606895	TA2-2-FINL-VER-041-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.13**	ND (0.0075)
606895	TA2-2-FINL-VER-042-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.36**	ND (0.0075)
606895	TA2-2-FINL-VER-043-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-044-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.56**	ND (0.0075)
606895	TA2-2-FINL-VER-045-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-046-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-047-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.083**	ND (0.0075)
606895	TA2-2-FINL-VER-048-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-049-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-050-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-051-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-052-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-053-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606895	TA2-2-FINL-VER-054-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606896	TA2-2-FINL-VER-055-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606896	TA2-2-FINL-VER-056-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.11**	ND (0.0075)
606896	TA2-2-FINL-VER-057-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606896	TA2-2-FINL-VER-058-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606896	TA2-2-FINL-VER-059-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.11**	ND (0.0075)
606896	TA2-2-FINL-VER-060-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.13**	ND (0.0075)
606896	TA2-2-FINL-VER-061-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.34**	ND (0.0075)
606896	TA2-2-FINL-VER-062-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606896	TA2-2-FINL-VER-063-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.120**	ND (0.0075)
606896	TA2-2-FINL-VER-064-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606896	TA2-2-FINL-VER-065-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
606896	TA2-2-FINL-VER-066-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.069**	ND (0.0075)
606896	TA2-2-FINL-VER-067-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.83**	ND (0.0075)
606896	TA2-2-FINL-VER-068-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.078**	ND (0.0075)
606896	TA2-2-FINL-VER-070-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.096**	ND (0.0075)
606896	TA2-2-FINL-VER-071-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.56**	ND (0.0075)
606896	TA2-2-FINL-VER-072-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.55**	ND (0.0075)
607170	TA2-2-FINL-VER-034-R	0.5–0.75	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
607170	TA2-2-FINL-VER-069-R	0.5–0.75	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)
607170	TA2-2-FINL-VER-073-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.73**	ND (0.0075)
607170	TA2-2-FINL-VER-074-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.048**	ND (0.0075)
607170	TA2-2-FINL-VER-075-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.33**	ND (0.0075)
607251	TA2-2-FINL-VER-076-R	0 .5-0.75	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	ND (0.0079)	ND (0.0075)

Refer to footnotes at end of table.

Table A-21 (Concluded)
Summary of PCB Analytical Results
October 2003–February 2004
for Verification Samples from Soil Pile Storage Areas

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
607251	TA2-2-FINL-VER-077-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.48**	ND (0.0075)
607251	TA2-2-FINL-VER-078-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.12**	ND (0.0075)
607251	TA2-2-FINL-VER-079-S	0–0.5	ND (0.0064)	ND (0.0071)	ND (0.0081)	ND (0.0076)	ND (0.0095)	**0.37**	ND (0.0075)

Note: Values in **bold** indicate detected PCBs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
mg/kg = Milligram(s) per kilogram.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
P = Laboratory precision measurements for the laboratory control sample and duplicate do not meet acceptance criteria.
PCB = Polychlorinated biphenyl.
R = Resample (soil) location.
S = Soil sample.
SWMU = Solid Waste Management Unit.

Table A-22
Summary of Metals Analytical Results
April 2002
for TA-III Borrow Pit Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Metals (EPA Method 7471[a]) (mg/kg)									
Record Number[b]	ER Sample ID	Sample Depth (ft)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver
605434	74-A3-BP-001-S	NA	3.85	60.3	0.393 J (0.472)	0.0464 J (0.472)	8.45	8.33	0.00907 J (0.00993)	5.98	ND (0.255)	ND (0.109)
605434	74-A3-BP-002-S	NA	3.2	92.5	0.655	ND (0.0249)	12.1	8.69	0.0148	8.76	ND (0.26)	ND (0.111)
605434	74-A3-BP-003-S	NA	2.22	59.5	0.385 J (0.5)	0.0753 J (0.5)	8.5	8.95	0.00651 J (0.00982)	5.73	ND (0.27)	ND (0.116)
605434	74-A3-BP-004-S	NA	3.79	64.9	0.395 J (0.485)	0.0659 J (0.485)	8.96	8.1	0.00918	6.06	ND (0.262)	ND (0.112)
605434	74-A3-BP-005-S	NA	2.52	77.3	0.449 J (0.455)	0.0884 J (0.455)	9.86	9.8	0.00949	7.39	ND (0.246)	ND (0.105)
605434	74-A3-BP-006-S	NA	2.87	77.1	0.496	0.0377 J (0.472)	10.2	8.11	0.0122	7.24	ND (0.255)	ND (0.109)
605434	74-A3-BP-007-DU	NA	2.36	68.5	0.454 J (0.467)	0.07 J (0.467)	9.59	8.29	0.0406	6.65	ND (0.253)	ND (0.108)
605434	74-A3-BP-007-S	NA	2.71	74	0.491 J (0.495)	0.0639 J (0.495)	10.3	9.13	0.0111	7.31	ND (0.268)	ND (0.114)
605434	74-A3-JPP-001-S	NA	3.45	99	0.437 J (0.481)	0.0312 J (0.481)	8.81	6.16	0.00988	6.45	ND (0.26)	ND (0.111)
Background concentration[c]			4.4	200	0.8	0.9	12.8	11.2	<0.1	25.4	<1	<1

[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Dinwiddie September 1986, North Area Supergroup, Subsurface.
bgs = Below ground surface.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
S = Soil sample.
SWMU = Solid Waste Management Unit.
TA = Technical Area.

Table A-23
Summary of PCB Analytical Results
April 2002
for TA-III Borrow Pit Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 8082[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
605434	74-A3-BP-001-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605434	74-A3-BP-002-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605434	74-A3-BP-003-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605434	74-A3-BP-004-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605434	74-A3-BP-005-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	**0.003 J (0.00333)**	ND (0.00143)
605434	74-A3-BP-006-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605434	74-A3-BP-007-DU	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605434	74-A3-BP-007-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)
605434	74-A3-JPP-001-S	NA	ND (0.00079)	ND (0.00282)	ND (0.000727)	ND (0.00167)	ND (0.000907)	ND (0.00137)	ND (0.00143)

Note: Values in **bold** indicate detected PCBs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
DU = Duplicate sample.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
PCB = Polychlorinated biphenyl.
S = Soil sample.
SWMU= Solid Waste Management Unit.
TA = Technical Area.

Table A-24
Summary of VOC Analytical Results
April 2002
for TA-III Borrow Pit Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			VOCs (EPA Method 8260[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Acetone	Ethylbenzene	2-Hexanone	Methylene chloride	Toluene	Trichloroethene	Xylene
605434	74-A3-BP-001-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000438 J (0.001)**	ND (0.00026)
605434	74-A3-BP-002-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000863 J (0.001)**	ND (0.00026)
605434	74-A3-BP-003-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000547 J (0.001)**	ND (0.00026)
605434	74-A3-BP-004-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000653 J (0.001)**	ND (0.00026)
605434	74-A3-BP-005-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000625 J (0.001)**	ND (0.00026)
605434	74-A3-BP-006-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000623 J (0.001)**	ND (0.00026)
605434	74-A3-BP-007-DU	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000626 J (0.001)**	ND (0.00026)
605434	74-A3-BP-007-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	ND (0.00056)	ND (0.00029)	**0.000662 J (0.001)**	ND (0.00026)
605434	74-A3-JPP-001-S	NA	ND (0.00421)	ND (0.00029)	ND (0.00278)	**0.000889 J (0.005)**	**0.000432 J (0.001)**	**0.00088 J (0.001)**	ND (0.00026)
Quality Assurance/Quality Control Samples (mg/L)									
605434	74-A3-BP-TB	NA	0.00505	ND (0.00021)	ND (0.00145)	ND (0.0019)	ND (0.00039)	ND (0.00036)	ND (0.00083)

Note: Values in **bold** indicate detected VOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
DU = Duplicate sample.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
mg/L = Milligram(s) per liter.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
S = Soil sample.
SWMU = Solid Waste Management Unit.
TA = Technical Area.
TB = Trip blank.
VOC = Volatile organic compound.

Table A-25
Summary of SVOC Analytical Results
April 2002
for TA-III Borrow Pit Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			SVOCs (EPA Method 8270[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Butylbenzyl phthalate	2-Chlorophenol	Di-n-butyl phthalate
605434	74-A3-BP-001-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)
605434	74-A3-BP-002-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)
605434	74-A3-BP-003-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	**0.0266 J (0.333)**
605434	74-A3-BP-004-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)
605434	74-A3-BP-005-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)
605434	74-A3-BP-006-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)
605434	74-A3-BP-007-DU	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)
605434	74-A3-BP-007-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)
605434	74-A3-JPP-001-S	NA	ND (0.000467)	ND (0.002)	ND (0.00233)	ND (0.005)	ND (0.0127)	ND (0.005)	ND (0.0207)

Sample Attributes			SVOCs (EPA Method 8270[a]) (mg/kg)						
Record Number[b]	ER Sample ID	Sample Depth (ft)	Diphenylamine	bis(2-Ethylhexyl) phthalate	Fluoranthene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
605434	74-A3-BP-001-S	NA	ND (0.007)	**0.0227 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-BP-002-S	NA	ND (0.007)	**0.0252 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-BP-003-S	NA	ND (0.007)	**0.0537 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-BP-004-S	NA	ND (0.007)	**0.0257 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-BP-005-S	NA	ND (0.007)	**0.026 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-BP-006-S	NA	ND (0.007)	**0.0201 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-BP-007-DU	NA	ND (0.007)	**0.0607 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-BP-007-S	NA	ND (0.007)	**0.0321 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)
605434	74-A3-JPP-001-S	NA	ND (0.007)	**0.0336 J (0.333)**	ND (0.00333)	ND (0.061)	ND (0.004)	ND (0.00367)	ND (0.00867)

Note: Values in **bold** indicate detected SVOCs.

[a]EPA November 1986.

[b]Analysis request/chain-of-custody record.

bgs = Below ground surface.
DU = Duplicate sample.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
J ( ) = The reported value is greater than or equal to the method detection limit, but is less than the practical quantitation limit, shown in parentheses.
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
ND ( ) = Not detected above the method detection limit, and also less than the practical quantitation limit, shown in parentheses.
S = Soil sample.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
TA = Technical Area.

Table A-26
Summary of Gamma Spectroscopy Analytical Results
April 2002
for TA-III Borrow Pit Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			Activity (pCi/g)					
			Cesium-137		Uranium-235		Uranium-238	
Record Number[a]	ER Sample ID	Sample Depth (ft)	Result	Error[b]	Result	Error[b]	Result	Error[b]
605434	74-A3-BP-001-S	NA	**0.135**	0.0349	ND (0.0671)	--	1.23	0.544
605434	74-A3-BP-002-S	NA	0.017	0.0142	0.114	0.128	--	--
605434	74-A3-BP-003-S	NA	**0.355**	0.0519	ND (0.0671)	--	1.13	1.06
605434	74-A3-BP-004-S	NA	**0.296**	0.0522	**0.196**	0.153	1.06	0.587
605434	74-A3-BP-005-S	NA	**0.378**	0.0517	0.117	0.085	0.715	1.12
605434	74-A3-BP-006-S	NA	**0.118**	0.0269	ND (0.0691)	--	0.66	0.712
605434	74-A3-BP-007-DU	NA	**0.26**	0.0398	ND (0.0584)	--	0.79	0.879
605434	74-A3-BP-007-S	NA	**0.332**	0.0594	0.112	0.173	1.18	0.56
605434	74-A3-JPP-001-S	NA	0.0589	0.0157	0.0703	0.105	1.04	0.585
Background Activity[c]			0.084	NA	0.18	NA	1.3	NA

Note: Values in **bold** exceed background soil activities.

[a]Analysis request/chain-of-custody record.

[b]Two standard deviations about the mean detected activity.

[c]Dinwiddie September 1997, North Area Supergroup, Subsurface.

bgs = Below ground surface.
DU = Duplicate sample.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/g = Picocurie(s) per gram.
S = Soil sample.
SWMU = Solid Waste Management Unit.
TA = Technical Area.
-- = Error not calculated for nondetected results.

Table A-27
Summary of Tritium Analysis
April 2002
for TA-III Borrow Pit Soil Placed in the SWMU 2 Excavation from 0 to 5 ft bgs

Sample Attributes			(EPA Method 906.0[a]) (pCi/L)
Record Number[b]	ER Sample ID	Sample Depth (ft)	Tritium
605434	74-A3-BP-001-S	NA	258
605434	74-A3-BP-002-S	NA	237
605434	74-A3-BP-003-S	NA	ND (212)
605434	74-A3-BP-004-S	NA	ND (216)
605434	74-A3-BP-005-S	NA	ND (217)
605434	74-A3-BP-006-S	NA	ND (212)
605434	74-A3-BP-007-DU	NA	ND (221)
605434	74-A3-BP-007-S	NA	ND (218)
605434	74-A3-JPP-001-S	NA	250
Background Activity[c]			420

[a]EPA November 1986.
[b]Analysis request/chain-of-custody record.
[c]Tharp February 1999. 420 pCi/L = 0.021 pCi/g, assuming a soil density of 1 gram/cubic centimeter and 5 percent soil moisture.
bgs = Below ground surface.
DU = Duplicate sample.
EPA = U.S. Environmental Protection Agency.
ER = Environmental Restoration.
ft = Foot (feet).
ID = Identification.
NA = Not applicable.
ND ( ) = Not detected above the minimum detectable activity, and also less than the practical quantitation limit, shown in parentheses.
pCi/L = Picocurie(s) per liter.
S = Soil sample.
SWMU = Solid Waste Management Unit.
TA = Technical Area.

Appendix B

APPENDIX B
SWMU 2 Risk Assessment Report

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SWMU 2: RISK ASSESSMENT REPORT

I. Site Description and History

Solid Waste Management Unit (SWMU) 2, the Classified Waste Landfill, Operable Unit 1303, at Sandia National Laboratories/New Mexico (SNL/NM), comprises approximately 1.5 acres at an average elevation of 5,415 feet above mean sea level. The site is located on the piedmont-slope alluvium immediately west of the northern rim of Tijeras Arroyo on land owned by Kirtland Air Force Base (KAFB) and leased to the U.S. Department of Energy (DOE). The Classified Waste Landfill (SWMU 2) was established inside SNL/NM Technical Area (TA)-II and was used for nearly 40 years as a burial site.

Environmental concern about SWMU 2 is based upon the disposal of weapons components and material in unlined pits and trenches from the 1950s to 1987, although the earliest burials may have been in 1947. The individual trenches measured approximately 8 to 12 feet wide and 12 feet deep and varied in length from approximately 100 to 300 feet. The individual pits were between 12 and 18 feet deep. The trenches and pits were covered with 1 to 4 feet of soil.

The annual precipitation for the area, as measured at Albuquerque International Sunport, is 8.1 inches (NOAA 1990). No springs or perennial surface-water bodies are located in the vicinity of the site. During most rainfall events, rainfall quickly infiltrates the soil at SWMU 2. However, virtually all of the moisture subsequently undergoes evapotranspiration (Thompson and Smith 1985, SNL/NM February 1998a). The estimates of evapotranspiration for the KAFB area range from 95 to 99 percent of the annual rainfall.

The vicinity of SWMU 2 is unpaved with little native vegetation and has been heavily disturbed. The area is essentially flat, and no storm sewers are used to direct surface water in this area. Tijeras Arroyo is the most significant surface-water drainage feature at KAFB. The location of SWMU 2 is approximately 60 feet above the floodplain. The arroyo originates in Tijeras Canyon, which is bounded by the Sandia Mountains to the north and the Manzano Mountains to the south. The arroyo trends southwest and eventually drains into the Rio Grande.

Based upon data from monitoring wells at TA-II, a perched groundwater zone occurs above the regional aquifer beneath SWMU 2. The depth to the perched zone is approximately 320 feet below ground surface (bgs), while the depth to the regional aquifer is approximately 520 feet bgs. The closest downgradient production well is KAFB-1, located approximately 1.4 miles northwest of the site.

II. Data Quality Objectives

The Data Quality Objectives (DQOs) presented in the SWMU 2 Voluntary Corrective Measure (VCM) Plan (SNL/NM December 1997) identified the excavated soil field-screening, sampling, and confirmatory sample locations, sample depths, sampling procedures, and analytical requirements. The DQOs outlined the quality assurance (QA)/quality control (QC) requirements necessary to produce defensible analytical data suitable for risk assessment purposes.

The excavated soil characterization and confirmatory sampling conducted during the SWMU 2 VCM were designed to:

- Determine whether hazardous waste or hazardous constituents had been released at the site
- Characterize the nature and extent of any releases
- Monitor constituent of concern (COC) concentrations for health and safety and waste management decisions
- Provide analytical data of sufficient quality to support risk assessments and justify using the excavated soil as backfill for the excavation

Additional data were collected after completion of the VCM to verify the acceptability of the soil as backfill material and to support risk assessments. After completion of the backfill activities, verification samples were collected from the areas where the soil piles had been located to ensure that all polychlorinated biphenyl (PCB)-contaminated soil had been removed during the backfill operations. Samples from the TA-III borrow pit soil were also collected to verify that this soil could be used as clean fill material.

Table B-1 summarizes the rationale for the sampling pattern. The source of potential COCs at SWMU 2 was the material buried in pits and trenches at the landfill.

Samples of the excavated soil were collected for field-screening and laboratory analysis throughout the project. Field-screening included volatile organic compound (VOC) headspace analysis by photoionization detector, metals by x-ray fluorescence, and radionuclides by large-area gamma spectroscopy. Laboratory analyses included VOCs, semivolatile organic compounds (SVOCs), high explosives (HE), metals, radionuclides by gamma spectroscopy, and H-3. Sample numbers and frequency changed throughout the project based upon number of nondetections, indications of possible contamination, or waste characterization requirements.

VCM and post-VCM confirmatory and TA-III borrow pit soil samples were analyzed for metals, VOCs, SVOCs, radionuclides, and H-3 by General Engineering Laboratories, Inc. (GEL) and the on-site SNL/NM Radiation Protection Sample Diagnostics (RPSD) Laboratory. The overburden soil samples from Soil Pile 39 were analyzed for metals, PCBs, and radionuclides at Severn Trent Laboratories (STL) and the SNL/NM RPSD Laboratory. Verification samples collected in the areas where the excavated soil had been stockpiled were analyzed for metals and PCBs at STL. Table B-2 summarizes the number and types of samples used for characterization of the backfill materials or for verification at SWMU 2. Table B-3 summarizes the analytical methods and some of the data quality requirements from the SWMU 2 VCM Plan.

QA/QC samples were collected during the VCM and confirmatory sampling efforts in accordance with the Environmental Restoration (ER) Project Quality Assurance Project Plan. The QA/QC samples consisted of duplicates and off-site laboratory splits. Equipment-wash (aqueous rinsate) blanks were collected at the start of the project and during the confirmatory sampling phase of the project. No significant QA/QC problems were identified in the QA/QC samples.

Table B-1
Summary of Sampling Performed to Meet DQOs

Sampling	Potential COC Source	Number of Sampling Locations	Sample Density (samples/acre)	Sampling Location Rationale
Excavated soil from pits and trenches	Buried material	1 sample per 10 or 50 cubic yards	NA	Evaluate excavated soil for evidence of COC release, waste management, H&S, and for possible use as backfill.
Bottom of nine individual pits and bottom and sidewalls of excavation after material and soil removal	Buried material	50	0.05	Evaluate soil at the bottom of the excavation and pits to ensure the VCM was complete.
Excavated soil from stockpiles	Buried material	1 sample per 400 cubic yards	NA	Evaluate excavated soil for evidence of COC release, waste management, H&S, and for possible use as backfill.
Excavated soil from stockpiles	Buried material	1 sample per 100 cubic yards	NA	Characterize soils for PCBs.
Bottom and sidewalls of excavation	Buried material	1 sample per 50-foot grid	NA	Characterize soil at the bottom and sidewalls of the excavation for PCBs.
Soil from CLWL Overburden (Soil Pile 39)	Buried material	1 sample per 100 cubic yards	NA	Evaluate overburden soil for evidence of COC release, waste management, H&S, and for possible use as backfill.
Final Verification	Buried material	1 sample per 100-foot grid for large soil piles or 1 sample per 20- to 30-foot grid for small soil piles	NA	Evaluate areas where the soil piles had been located to ensure that all contaminated soil had been removed during the backfill operations.
TA-III Borrow Pit Soil	NA	1 sample per 3,000 cubic yards	NA	Evaluate excavated soil for evidence of COC release, waste management, H&S, and for possible use as backfill.

CLWL = Classified Waste Landfill.
COC = Constituent of concern.
DQO = Data Quality Objective.
H&S = Health and Safety.
NA = Not applicable.
PCB = Polychlorinated biphenyl.
TA = Technical Area.
VCM = Voluntary Corrective Measure.

Table B-2
Number of Soil Samples Collected for SWMU 2 Backfill Material Characterization and Confirmatory Sampling March 1998 to March 2004

Sample Type	RCRA Metals + Be, Ni, U	PCBs	VOCs	SVOCs	HE	Gamma Spectroscopy	H-3
Excavated Soil	294–314[a]	410	104	1	4	407–416	93
VCM Confirmatory	42	42	8	8	–	42	44
VCM Duplicates	50	50	10	–	4	18	19
Off-Site Splits	15	–	9	–	2	–	–
Equipment Blanks (includes Trip Blanks for VOCs only)	11	16	23	6	–	13	9
CLWL Overburden (Soil Pile 39)	18	18	–	–	–	18	18
Final Verification	72	79	–	–	–	–	–
TA-III Borrow Pit Soil (Not Analyzed for U; Not Analyzed for Th-232)	8	8	8	8	–	8	8
TA-III Borrow Pit Soil Duplicates	1	1	1	1	–	1	1
Total Samples	511–531[a]	624	163	24	10	507-516[a]	192
Analytical Laboratory	ERCL, GEL, STL	GEL, STL	ERCL, GEL	GEL	ERCL, GEL	RPSD, GEL	RPSD, GEL

[a]Not all soil samples analyzed for all analytes.
CLWL = Classified Waste Landfill.
ERCL = Environmental Restoration Chemistry Laboratory.
GEL = General Engineering Laboratories, Inc.
HE = High explosive(s).
PCB = Polychlorinated biphenyl
RCRA = Resource Conservation and Recovery Act.
RPSD = Radiation Protection Sample Diagnostics.
STL = Severn Trent Laboratories.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
TA = Technical Area.
VCM = Voluntary Corrective Measure.
VOC = Volatile organic compound.
– = No samples collected.

Table B-3
Summary of SWMU 2 Data Quality Requirements

Analytical Method[a]	Data Quality Level	ERCL	GEL	STL	RPSD
RCRA metals + Be, Ni, U EPA Method 6010/7000	Defensible	261 samples[b]	101 samples	72 samples	–
PCBs EPA Method 8082	Defensible	–	473 samples	85 samples	–
VOCs EPA Method 8260	Defensible	109 samples	47 samples	8 samples	–
SVOCs EPA Method 8270	Defensible	–	46 samples	8 samples	–
HE Compounds EPA Methods 8330, 8095	Defensible	4 samples	2 samples	–	–
Gamma Spectroscopy EPA Method 901.1	Defensible	–	8 samples	–	476 samples
H-3 EPA Method 906.0	Defensible	–	67 samples	–	
H-3 Liquid Scintillation Counting	Defensible	–	–	–	147 samples

Note: The number of samples does not include QA/QC samples such as duplicates, trip blanks, and equipment blanks.
[a]EPA November 1986.
[b]Not all soil samples analyzed for all analytes.
EPA = U.S. Environmental Protection Agency.
ERCL = Environmental Restoration Chemistry Laboratory.
GEL = General Engineering Laboratories, Inc.
HE = High explosive(s).
PCB = Polychlorinated biphenyl.
QA = Quality assurance.
QC = Quality control.
RCRA = Resource Conservation and Recovery Act.
RPSD = Radiation Protection Sample Diagnostics.
STL = Severn Trent Laboratories.
SVOC = Semivolatile organic compound.
SWMU = Solid Waste Management Unit.
VOC = Volatile organic compound.
– = No samples analyzed.

All of the excavated soil characterization and confirmatory soil sample results were verified/validated by SNL/NM. The off-site laboratory results from GEL and STL were validated according to "Data Validation Procedure for Chemical and Radiochemical Data," SNL/NM ER Project Administrative Operating Procedure (AOP) 00-03 (SNL/NM December 1999). The data validation reports are presented in the associated SWMU 2 proposal for no further action (NFA) (SNL/NM September 2001). The gamma spectroscopy data from the RPSD Laboratory were reviewed according to "Laboratory Data Review Guidelines, Procedure No. RPSD-02-11, Issue No. 2" (SNL/NM July 1996). The gamma spectroscopy results are presented in the addendum to the SWMU 2 NFA proposal (SNL/NM December 2002). The reviews confirmed that the analytical data are defensible and therefore acceptable for use in the NFA proposal. Therefore, the DQOs have been fulfilled.

III. Determination of Nature, Rate, and Extent of Contamination

III.1 Introduction

The determination of the nature, migration rate, and extent of contamination at SWMU 2 is based upon an initial conceptual model validated with characterization of VCM excavated soil and confirmatory sampling conducted at the site. The initial conceptual model was developed from archival research and aerial photographs. The DQOs contained in the SWMU 2 VCM Plan (SNL/NM December 1997) identified the excavated soil sample frequency, VCM confirmatory sample locations, sample depth, and analytical requirements. The sample data were subsequently used to develop the final conceptual model for SWMU 2, which is presented in Chapter 10.0 of the NFA Proposal Addendum and Final Report. The quality of the data specifically used to determine the nature, migration rate, and extent of contamination is described in the following sections.

III.2 Nature of Contamination

Both the nature of contamination and the potential for the degradation of COCs at SWMU 2 are evaluated using laboratory analyses of the soil samples (Section IV). The analytical requirements include analyses for metals, VOCs, SVOCs, HE, and radionuclides. The analyses characterized potential contaminants at the site. The analytes and methods listed in Tables B-2 and B-3 are appropriate to characterize the COCs and potential degradation products at SWMU 2.

III.3 Rate of Contaminant Migration

SWMU 2 is an inactive landfill that has been excavated and contains only minor amounts of subsurface COCs. It has been backfilled with the previously excavated soil and covered with a 5-foot layer of clean fill material. The rate of COC migration from subsurface soil is therefore predominantly dependent upon infiltrating precipitation, as described in Section V. Data available from the SNL/NM Tijeras Arroyo Groundwater Investigation; numerous SNL/NM monitoring programs for air, water, and radionuclides; various biological surveys; and meteorological monitoring are adequate to characterize the rate of COC migration at SWMU 2.

III.4 Extent of Contamination

Samples were collected of the soil excavated during pit and landfill excavation. Confirmatory soil samples were collected from the base of nine isolated burial pits and from the floor and sidewalls of the landfill excavation. Excavated soil samples were collected to assess whether contaminants had been released into the surrounding soil, and the confirmatory samples were collected to verify the adequacy of the VCM. The samples were collected using the sampling frequency or density shown in Table B-1.

Confirmatory soil samples were collected from undisturbed soil at the base of the excavation, which was considered to be the base or sidewall of the pits or landfill. Sampling at more extensive depths was not required because the sample results showed no significant

contamination. Furthermore, the vertical rate of contaminant migration is expected to be extremely low for SWMU 2 because of the low precipitation, high evapotranspiration, and relatively low solubility of the COCs. Therefore, the excavated soil and confirmatory soil samples are considered representative of the soil potentially contaminated with the COCs and sufficient to determine the suitability of the excavated soil for use as backfill.

In summary, the sampling conducted during the VCM excavations as well as the confirmatory soil sampling after completion of the VCM are appropriate and adequate to determine the nature, migration rate, and extent of residual COCs in the soil at SWMU 2.

IV. Comparison of COCs to Background Screening Levels

Site history and characterization activities are used to identify potential COCs. The SWMU 2 NFA proposal addendum describes the identification of COCs and the sampling that was conducted in order to determine the concentration levels of those COCs across the site. Generally, COCs evaluated in this risk assessment include all detected organic, inorganic, and radiological COCs for which samples were analyzed. When the detection limit of an organic compound is too high (i.e., could possibly cause an adverse effect to human health or the environment), the compound is retained. Nondetected organic compounds not included in this assessment were determined to have detection limits low enough to ensure protection of human health and the environment. In order to provide conservatism in this risk assessment, the calculation uses only the maximum concentration value of each COC found for the entire site after the backfill operations were completed. The data set used for the risk assessment calculations is based upon the analytical results for all backfill materials used at SWMU 2 and includes samples collected from the TA-III borrow pit and verification samples collected in the areas where the soil piles were located. The SNL/NM maximum background concentration (Dinwiddie September 1997) was selected to provide the background screen listed in Tables B-4 through B-7.

Nonradiological inorganic constituents that are essential nutrients, such as iron, magnesium, calcium, potassium, and sodium, are not included in this risk assessment (EPA 1989). Both radiological and nonradiological COCs are evaluated. The nonradiological COCs included in the risk assessment consist of both inorganic and organic compounds.

Tables B-4 and B-5 list the nonradiological COCs for the human health and ecological risk assessments at SWMU 2, respectively. Tables B-6 and B-7 list the radiological COCs for the human health and ecological risk assessments, respectively. All tables show the associated SNL/NM maximum background screening values (Dinwiddie September 1997). Section VI.4 discusses the results presented in Tables B-4 and B-6; Sections VII.2 and VII.3 discuss the results presented in Tables B-5 and B-7.

V. Fate and Transport

The primary releases of COCs at SWMU 2 were to the subsurface soil resulting from buried materials. Subsequent excavation of this site and reburial of excavated soil has resulted in COCs being confined to the subsurface soil beneath a 5-foot layer of clean fill soil. Therefore, the COCs in the soil are not exposed to surficial transport mechanisms of wind, surface water, and biota at this site.

Table B-4
Nonradiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

COC	Maximum Concentration (All Samples) (mg/kg)	SNL/NM Background Concentration (mg/kg)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Log K_{ow} (for organic COCs)	Bioaccumulator?[b] (BCF>40, Log K_{ow}>4)
Inorganic						
Arsenic	8.3	4.4	**No**	44[c]	NA	**Yes**
Barium	16,000	200	**No**	170[d]	NA	**Yes**
Beryllium	4.2	0.80	**No**	19[c]	NA	No
Cadmium	740	<1	**No**	64[c]	NA	**Yes**
Chromium, total	2,100	12.8	**No**	16[c]	NA	No
Lead	620	11.2	**No**	49[c]	NA	**Yes**
Mercury	370	<0.1	**No**	5,500[c]	NA	**Yes**
Nickel	440	25.4	**No**	47[c]	NA	**Yes**
Selenium	250	<1	**No**	800[e]	NA	**Yes**
Silver	110	<1	**No**	0.5[c]	NA	No
Uranium	4.5	2.3	**No**	20[d]	NA	No
Organic						
Acetone	0.019	NA	**NA**	0.69[f]	-0.24[f]	No
Anthracene	0.085[g]	NA	**NA**	917[c]	4.45[c]	**Yes**
Benzo(b)fluoranthene	0.161	NA	**NA**	10,000[h]	5.61[h]	**Yes**
Benzo(k)fluoranthene	0.085[g]	NA	**NA**	93,325[h]	6.84[h]	**Yes**
Benzo(a)pyrene	0.085[g]	NA	**NA**	3,000[c]	6.04[c]	**Yes**
Butylbenzylphthalate	0.243 J	NA	**NA**	663[f]	4.77[h]	**Yes**
2-Chlorophenol	0.085[g]	NA	**NA**	214[i]	2.15[i]	**Yes**
Di-n-butylphthalate	0.168 J	NA	**NA**	6,761[i]	4.61[h]	**Yes**
Diphenylamine	0.0809 J	NA	**NA**	83.0[h]	3.5[h]	**Yes**
Ethylbenzene	0.0055[g]	NA	**NA**	15.5[i]	3.15[i]	No

Refer to footnotes at end of table.

Table B-4 (Concluded)
Nonradiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

COC	Maximum Concentration (All Samples) (mg/kg)	SNL/NM Background Concentration (mg/kg)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Log K_{ow} (for organic COCs)	Bioaccumulator?[b] (BCF>40, Log K_{ow}>4)
bis(2-Ethylhexyl) phthalate	0.32	NA	**NA**	851[i]	7.6[h]	**Yes**
Fluoranthene	0.085[g]	NA	**NA**	12,302[h]	4.90[h]	**Yes**
2-Hexanone	0.027[g]	NA	**NA**	6[j]	1.38[j]	No
Methylene chloride	0.653 J	NA	**NA**	5[f]	1.25[f]	No
PCBs, total	5.58	NA	**NA**	31,200[c]	6.72[c]	**Yes**
Pentachlorophenol	0.15	NA	**NA**	776[k]	5.09[h]	**Yes**
Phenanthrene	0.085[g]	NA	**NA**	23,800[c]	4.63[c]	**Yes**
Phenol	0.085[g]	NA	**NA**	277[i]	1.46[i]	**Yes**
Pyrene	0.085[g]	NA	**NA**	36,300[c]	5.32[h]	**Yes**
Toluene	0.0027[g]	NA	**NA**	10.7[c]	2.69[c]	No
Trichloroethene	0.0027[g]	NA	**NA**	10.6[c]	2.29[c]	No
o-Xylene	0.014	NA	**NA**	23.4[f]	1.5[h]	No
p-,m-Xylenes	0.021	NA	**NA**	23.4[f]	1.5[h]	No

Note: **Bold** indicates the COCs that exceed the background screening values and/or are bioaccumulators.

[a]Dinwiddie September 1997, North Area Supergroup.
[b]NMED March 1998.
[c]Yanicak March 1997.
[d]Neumann 1976.
[e]Callahan et al. 1979.
[f]Howard 1990.
[g]Maximum concentration is one-half the detection limit.
[h]Micromedex, Inc. 1998.
[i]Howard 1989.
[j]Howard 1993.
[k]Howard 1991.

BCF = Bioconcentration factor.
COC = Constituent of concern.
J = Estimated concentration.
K_{ow} = Octanol-water partition coefficient.
Log = Logarithm (base 10).
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
NMED = New Mexico Environment Department.
PCB = Polychlorinated biphenyl.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

Table B-5
Nonradiological COCs for Ecological Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

COC	Maximum Concentration (Samples ≤ 5 ft bgs) (mg/kg)	SNL/NM Background Concentration (mg/kg)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Log K_{ow} (for organic COCs)	Bioaccumulator?[b] (BCF>40, Log K_{ow}>4)
Inorganic						
Arsenic	5.86	4.4	**No**	44[c]	NA	**Yes**
Barium	620	200	**No**	170[d]	NA	**Yes**
Beryllium	0.655	0.80	Yes	19[c]	NA	No
Cadmium	49.4	<1	**No**	64[c]	NA	**Yes**
Chromium, total	70	12.8	**No**	16[c]	NA	No
Lead	170	11.2	**No**	49[c]	NA	**Yes**
Mercury	23	<0.1	**No**	5,500[c]	NA	**Yes**
Nickel	230	25.4	**No**	47[c]	NA	**Yes**
Selenium	4.5	<1	**No**	800[e]	NA	**Yes**
Silver	64	<1	**No**	0.5[c]	NA	No
Uranium	4.5	2.3	**No**	20[d]	NA	No
Organic						
Acetone	0.019	NA	**NA**	0.69[f]	-0.24[f]	No
2-Chlorophenol	0.085[g]	NA	**NA**	214[h]	2.15[h]	**Yes**
Di-n-butylphthalate	0.085[g]	NA	**NA**	6,761[h]	4.61[i]	**Yes**
Ethylbenzene	0.0055[g]	NA	**NA**	15.5[h]	3.15[h]	No
bis(2-Ethylhexyl) phthalate	0.27	NA	**NA**	851[h]	7.6[i]	**Yes**
Fluoranthene	0.085[g]	NA	**NA**	12,302[i]	4.90[i]	**Yes**
2-Hexanone	0.027[g]	NA	**NA**	6[j]	1.38[j]	No
Methylene chloride	0.0073	NA	**NA**	5[f]	1.25[f]	No
PCBs, total	0.91	NA	**NA**	31,200[c]	6.72[c]	**Yes**
Pentachlorophenol	0.15[g]	NA	**NA**	776[k]	5.09[i]	**Yes**
Phenanthrene	0.085[g]	NA	**NA**	23,800[c]	4.63[c]	**Yes**

Refer to footnotes at end of table.

Table B-5 (Concluded)
Nonradiological COCs for Ecological Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value, BCF, and Log K_{ow}

COC	Maximum Concentration (Samples ≤ 5 ft bgs) (mg/kg)	SNL/NM Background Concentration (mg/kg)[a]	Is Maximum COC Concentration Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Log K_{ow} (for organic COCs)	Bioaccumulator?[b] (BCF>40, Log K_{ow}>4)
Toluene	0.0027[g]	NA	**NA**	10.7[c]	2.69[c]	No
Trichloroethene	0.0027[g]	NA	**NA**	10.6[c]	2.29[c]	No
o-Xylene	0.014	NA	**NA**	23.4[f]	1.5[i]	No
p-,m-Xylenes	0.021	NA	**NA**	23.4[f]	1.5[i]	No

Note: **Bold** indicates the COCs that exceed the background screening values and/or are bioaccumulators.
[a]Dinwiddie September 1997, North Area Supergroup.
[b]NMED March 1998.
[c]Yanicak March 1997.
[d]Neumann 1976.
[e]Callahan et al. 1979.
[f]Howard 1990.
[g]Maximum concentration is one-half the detection limit.
[h]Howard 1989.
[i]Micromedex, Inc. 1998.
[j]Howard 1993.
[k]Howard 1991.
BCF = Bioconcentration factor.
bgs = Below ground surface.
COC = Constituent of concern.
ft = Foot (feet).
K_{ow} = Octanol-water partition coefficient.
Log = Logarithm (base 10).
mg/kg = Milligram(s) per kilogram.
NA = Not applicable.
NMED = New Mexico Environment Department.
PCB = Polychlorinated biphenyl.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

Table B-6
Radiological COCs for Human Health Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value and BCF

COC	Maximum Activity (All Samples) (pCi/g)	SNL/NM Background Activity (pCi/g)[a]	Is Maximum COC Activity Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Is COC a Bioaccumulator?[b] (BCF >40)
Cs-137	0.378	0.084	**No**	3,000[c]	**Yes**
H-3	132.3	0.021[d]	**No**	NA	No[e]
Th-232	3.58	1.54	**No**	3,000[f]	**Yes**
U-235	3.28	0.18	**No**	900[f]	**Yes**
U-238	208	1.3	**No**	900[f]	**Yes**

Note: **Bold** indicates COCs that exceed the background screening values and/or are bioaccumulators.
[a]Dinwiddie September 1997, North Area Supergroup.
[b]NMED March 1998.
[c]Whicker and Schultz 1982.
[d]Tharp February 1999.
[e]Yanicak March 1997.
[f]Baker and Soldat 1992.
BCF = Bioconcentration factor.
COC = Constituent of concern.
NA = Not applicable.
NMED = New Mexico Environment Department.
pCi/g = Picocurie(s) per gram.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

Table B-7
Radiological COCs for Ecological Risk Assessment at SWMU 2 with Comparison to the Associated SNL/NM Background Screening Value and BCF

COC	Maximum Activity (Samples ≤ 5 ft bgs) (pCi/g)	SNL/NM Background Activity (pCi/g)[a]	Is Maximum COC Activity Less Than or Equal to the Applicable SNL/NM Background Screening Value?	BCF (maximum aquatic)	Is COC a Bioaccumulator?[b] (BCF >40)
Cs-137	0.378	0.084	**No**	3,000[c]	**Yes**
H-3	46.75	0.021[d]	**No**	NA	No[e]
Th-232	3.58	1.54	**No**	3,000[f]	**Yes**
U-235	3.28	0.18	**No**	900[f]	**Yes**
U-238	208	1.3	**No**	900[f]	**Yes**

Note: **Bold** indicates COCs that exceed the background screening values and/or are bioaccumulators.
[a]Dinwiddie September 1997, North Area Supergroup.
[b]NMED March 1998.
[c]Whicker and Schultz 1982.
[d]Tharp February 1999.
[e]Yanicak March 1997.
[f]Baker and Soldat 1992.
BCF = Bioconcentration factor.
bgs = Below ground surface.
COC = Constituent of concern.
ft = Foot (feet).
NA = Not applicable.
NMED = New Mexico Environment Department.
pCi/g = Picocurie(s) per gram.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.

Water at SWMU 2 is received as precipitation (rain and occasionally snow). Approximately 8.1 inches of precipitation is received annually. Precipitation will either evaporate at or near the point of contact, infiltrate into the soil, or form runoff. Infiltration at the site is enhanced by the sandy nature of the soil (the soil in the area of the site is primarily Wink fine sandy [USDA 1977]) and the generally flat terrain, which will limit the extent of lateral transport of soil particles by runoff. However, because the contaminated material at this site has been reburied beneath a 5-foot layer of clean fill soil, the COCs in the soil will not be exposed to surface-water runoff.

Water that infiltrates into the soil will continue to percolate through the soil until field capacity is reached. The effective rooting depths of the natural (undisturbed) soil at SWMU 2 is about 60 inches (USDA 1977). This indicates the depth of the system's transient water cycling zone (the dynamic balance between percolation/infiltration and evapotranspiration). Because the soil that potentially contains COCs has been buried at a depth of more than 5 feet bgs, it is unlikely that the buried COCs will be exposed to water percolating from the surface. As noted in Section I, it is estimated that approximately 95 to 99 percent of the annual precipitation is lost to evapotranspiration in this area. Because groundwater at this site is at a depth greater than 320 feet bgs, the potential for COCs to reach groundwater through the unsaturated zone above the water table is extremely low.

COCs can enter the food chain through uptake by plant roots. COCs taken up by plant roots can be transported to aboveground tissues where they may be consumed by herbivores, which may, in turn, be eaten by predators. Once in the food web, COCs can be transported from the site by the movements of the organisms that contain them or other surficial transport mechanisms. However, because the soil at SWMU 2 that potentially contains COCs will be buried deeper than the effective rooting depth of 60 inches, food chain transport is expected to be negligible at this site.

The COCs at SWMU 2 include both organic and inorganic constituents. The inorganic COCs (including radionuclides) are elemental in form and are not considered to be degradable, although radiological COCs will undergo decay to stable isotopes or radioactive daughter elements. Other possible transformations of inorganic constituents could include changes in valence (oxidation/reduction reactions) or incorporation into organic forms (e.g., the conversion of selenite or selenate from soil to seleno-amino acids in plants). However, because of the long half lives of the radionuclides, the aridity of the environment at this site, and the lack of potential contact with biota, none of these mechanisms are expected to result in significant losses or transformations of the inorganic COCs. Organic compounds may be degraded through photolysis, hydrolysis, and biotransformation. Photolysis requires light and therefore takes place in the air, at the ground surface, or in surface water. Hydrolysis includes chemical transformations in water and may occur in the soil solution. Biotransformation is the transformation of chemicals caused by plants, animals, and microorganisms. Because these COCs are limited to subsurface soil, photolysis is unlikely to occur, although some hydrolysis and biotransformation may occur if the soil becomes moist. The prevalence of these mechanisms of COC loss, however, is lessened by the arid environment at this site. Although the organic COCs at this site are volatile in nature, the subsurface location of the COCs will prevent significant loss through volatilization.

Table B-8 summarizes the fate and transport processes that can occur at SWMU 2. The COCs at this site include both inorganic (including radionuclides) and organic constituents. Because the potentially contaminated soil has been buried with an overlying layer of clean fill material, no potential exists for transport of COCs by wind or surface-water runoff. Because of the depth of

the overlying layer, the potential for uptake into the food chain is low. Significant leaching into the subsurface soil is unlikely, and leaching into the groundwater at this site is highly unlikely. The potential for transformation is low, and loss through decay of radiological COCs is insignificant because of their long half lives.

Table B-8
Summary of Fate and Transport at SWMU 2

Transport and Fate Mechanism	Existence at Site	Significance
Wind	Yes	None
Surface runoff	Yes	None
Migration to groundwater	No	None
Food chain uptake	Yes	Low
Transformation/degradation	Yes	Low

SWMU = Solid Waste Management Unit.

VI. Human Health Risk Assessment

VI.1 Introduction

The human health risk assessment of this site includes a number of steps that culminate in a quantitative evaluation of the potential adverse human health effects caused by constituents located at the site. The steps to be discussed include the following:

Step 1.	Site data are described that provide information on the potential COCs, as well as the relevant physical characteristics and properties of the site.
Step 2.	Potential pathways are identified by which a representative population might be exposed to the COCs.
Step 3.	The potential intake of these COCs by the representative population is calculated using a tiered approach. The first component of the tiered approach is a screening procedure that compares the maximum concentration of the COC to an SNL/NM maximum background screening value. COCs that are not eliminated during the first screening procedure are carried forward in the risk assessment process.
Step 4.	Toxicological parameters are identified and referenced for COCs that were not eliminated during the screening procedure.
Step 5.	Potential toxicity effects (specified as a hazard index [HI]) and estimated excess cancer risks are calculated for nonradiological COCs and background. For radiological COCs, the incremental total effective dose equivalent (TEDE) and incremental estimated cancer risk are calculated by subtracting applicable background concentrations directly from maximum on-site contaminant values. This background subtraction applies only when a radiological COC occurs as contamination and exists as a natural background radionuclide.
Step 6.	These values are compared with guidelines established by the U.S. Environmental Protection Agency (EPA), New Mexico Environment Department (NMED), and DOE to determine whether further evaluation and potential site cleanup are required. Nonradiological COC risk values also are compared to background risk so that an incremental risk can be calculated.
Step 7.	Uncertainties of the above steps are addressed.

VI.2 Step 1. Site Data

Section I of this risk assessment provides the site description and history for SWMU 2. Section II presents a comparison of results to DQOs. Section III discusses the nature, rate, and extent of contamination.

VI.3 Step 2. Pathway Identification

SWMU 2 has been designated with a future land-use scenario of industrial (DOE et al. September 1995) (see Addendum 1 for default exposure pathways and parameters). However, the residential land-use scenario is also considered in the pathway analysis. Because of the location and characteristics of the potential contaminants, the primary pathway for human exposure is considered to be soil ingestion for the nonradiological COCs and direct gamma exposure for the radiological COCs. The inhalation pathway for both nonradiological and radiological COCs is included because the potential exists to inhale dust. Soil ingestion is included for the radiological COCs as well. The dermal pathway is included for the nonradiological COCs because of the potential for the receptor to be exposed to contaminated soil. No water pathways to the groundwater are considered; depth to groundwater at SWMU 2 is greater than 320 feet bgs. No intake routes through plant, meat, or milk ingestion are considered appropriate for either the industrial or residential land-use scenarios. Figure B-1 shows the conceptual site model flow diagram for SWMU 2.

Pathway Identification

Nonradiological Constituents	Radiological Constituents
Soil ingestion	Soil ingestion
Inhalation (dust)	Inhalation (dust)
Dermal contact	Direct gamma

VI.4 Step 3. Background Screening Procedure

This section discusses Step 3, the background screening procedure, which compares the maximum COC concentrations to the background screening levels. The methodology and results are described in the following sections.

VI.4.1 Methodology

Maximum concentrations of the nonradiological COCs were compared to the approved SNL/NM maximum screening levels for this area. The SNL/NM maximum background concentration was selected to provide the background screen in Table B-4 and used to calculate risk attributable to background in Section VI.6.2. Only the COCs that were detected above the corresponding SNL/NM maximum background screening levels or did not have either a quantifiable or calculated background screening level were considered in further risk assessment analyses.

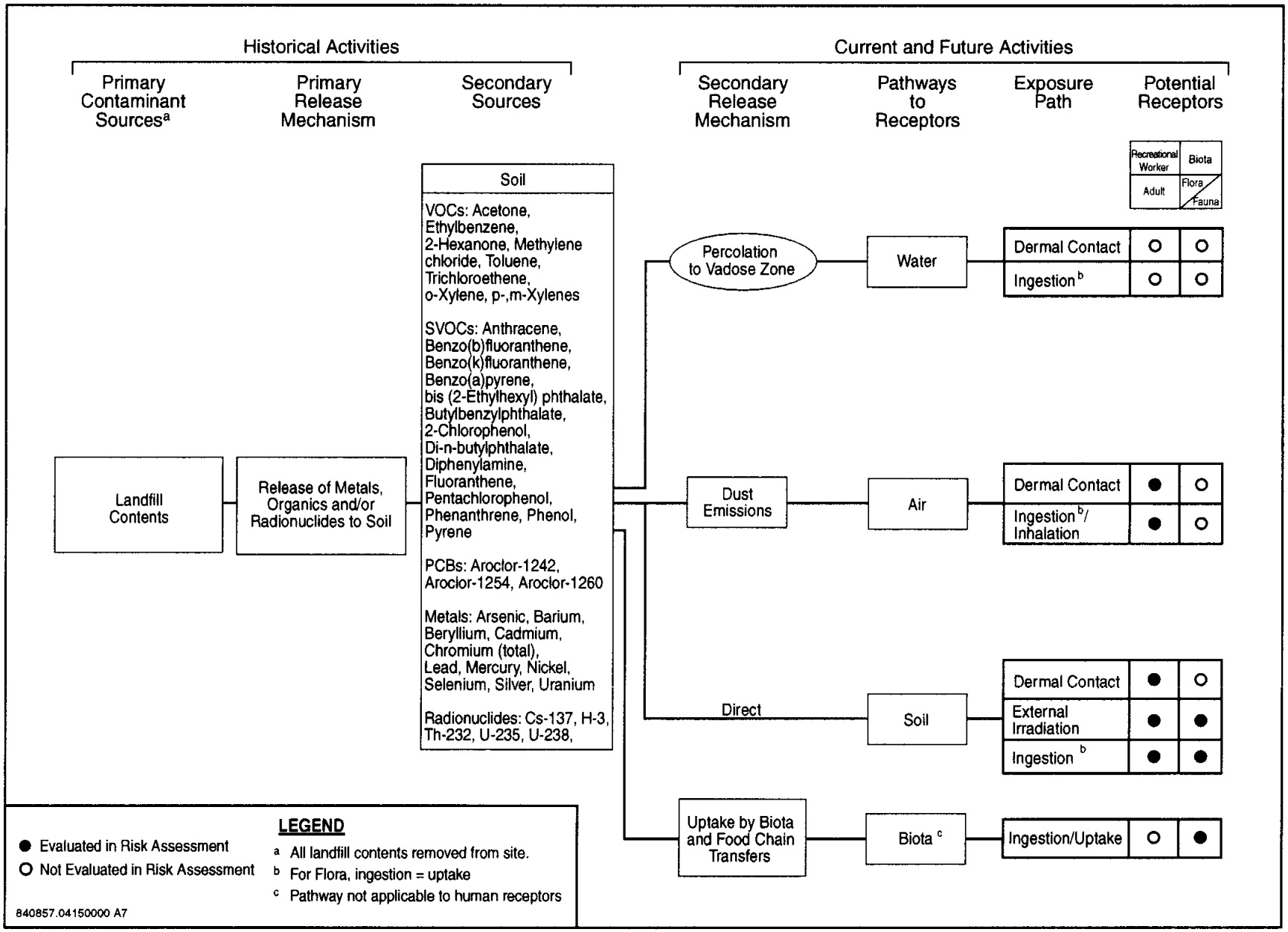

Figure B-1

Conceptual Site Model Flow Diagram for SWMU 2, Classified Waste Landfill

For the radiological COCs that exceed the SNL/NM background screening levels, background values are subtracted from the individual maximum radionuclide concentrations. Those that do not exceed these background levels are not carried any further in the risk assessment. This approach is consistent with DOE Order 5400.5, "Radiation Protection of the Public and the Environment" (DOE 1993). Radiological COCs that do not have background screening values and were detected above the analytical minimum detectable activity are carried through the risk assessment at the maximum levels. The resultant radiological COCs remaining after this step are referred to as background-adjusted radiological COCs.

VI.4.2 Results

Tables B-4 and B-6 show the SWMU 2 maximum COC concentrations/activities that were compared to the SNL/NM maximum background values (Dinwiddie September 1997) for the human health risk assessment. For the nonradiological COCs, 11 constituents were measured at concentrations greater than the background screening values. Twenty-three nonradiological COCs are organic compounds that do not have corresponding background screening values.

The maximum concentration value for lead is 620 milligrams (mg)/kilogram (kg). The EPA intentionally does not provide any human health toxicological data on lead; therefore, no risk parameter values could be calculated. The NMED guidance for lead screening concentrations for construction and industrial land-use scenarios are 750 and 1,500 mg/kg, respectively (Olson and Moats March 2000). The EPA screening guidance value for a residential land-use scenario is 400 mg/kg (Laws July 1994). The maximum lead concentration at this site is less than the NMED industrial screening value. Using the maximum concentration, lead exceeds the residential screening level for SWMU 2. However, because the site has been adequately characterized, average concentrations are more representative of actual site conditions. The upper confidence limit (UCL) of the mean lead concentration is 52.6 mg/kg (Addendum 2), which is below the residential land-use screening level. Thus, lead is eliminated from further consideration in the human health risk assessment.

PCBs are eliminated from further consideration in the human health risk assessment according to the Toxic Substances Control Act screening procedure. The requirements of Title 40, Code of Federal Regulations, Part 761 state that high occupancy areas where bulk PCB remediation waste remains at greater than 1 part per million (ppm) and less than or equal to 10 ppm shall be covered with a cap meeting certain specifications. The maximum concentration of total PCBs contained in the soil placed from 5 feet bgs to depth (approximately 16 feet bgs) is 5.58 ppm. The EPA approval for risk-based disposal of the PCB-contaminated soil at SWMU 2 stipulates that the final 5 feet of backfill, which serves as an overlying cap, will be clean fill soil (Edlund June 2003). This requirement has been met as the maximum concentration of total PCBs contained in the soil placed in the 0- to 5-foot-bgs interval is less than 1 ppm; the maximum concentration of total PCBs in the soil comprising the overlying layer is 0.91 mg/kg.

For the radiological COCs, five constituents (Cs-137, H-3, Th-232, U-235, and U-238) had measured activity greater than the background screening values.

VI.5 Step 4. Identification of Toxicological Parameters

Tables B-9 and B-10 list the COCs retained in the risk assessment and provide the values for the available toxicological information. The toxicological values for the nonradiological COCs presented in Table B-9 were obtained from the Integrated Risk Information System (IRIS) (EPA 2003), the Health Effects Assessment Summary Tables (HEAST) (EPA 1997a), the Technical Background Document for Development of Soil Screening Levels (NMED December 2000), Risk Assessment Information System (ORNL 2003), and the EPA Regions 6, 9, and 3 (EPA 2002a, EPA 2002b, EPA 2002c) electronic databases. Dose conversion factors (DCFs) used in determining the excess TEDE values for the radiological COCs for the individual pathways are the default values provided in the RESRAD computer code (Yu et al. 1993a) as developed in the following documents:

- DCFs for ingestion and inhalation were taken from "Federal Guidance Report No. 11, Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion" (EPA 1988).
- DCFs for surface contamination of the site were taken from DOE/EH-0070, "External Dose-Rate Conversion Factors for Calculation of Dose to the Public" (DOE 1988).
- DCFs for volume contamination (exposure to contamination deeper than the immediate surface of the site) were calculated using the methods discussed in "Dose-Rate Conversion Factors for External Exposure to Photon Emitters in Soil" (Kocher 1983) and in ANL/EAIS-8, "Data Collection Handbook to Support Modeling the Impacts of Radioactive Material in Soil" (Yu et al. 1993b).

VI.6 Step 5. Exposure Assessment and Risk Characterization

Section VI.6.1 describes the exposure assessment for this risk assessment. Section VI.6.2 provides the risk characterization, including the HI and excess cancer risk for both the potential nonradiological COCs and associated background for the industrial and residential land-use scenarios. The incremental TEDE and incremental estimated cancer risk are provided for the background-adjusted radiological COCs for both industrial and residential land-use scenarios.

VI.6.1 Exposure Assessment

Addendum 1 provides the equations and parameter input values used to calculate intake values and subsequent HI and excess cancer risk values for the individual exposure pathways. The addendum shows parameters for both industrial and residential land-use scenarios. The equations for nonradiological COCs are based upon the Risk Assessment Guidance for Superfund (RAGS) (EPA 1989). Parameters are based upon information from the RAGS (EPA 1989), the Technical Background Document for Development of Soil Screening Levels (NMED December 2000), as well as other EPA and NMED guidance documents. Parameters reflect the reasonable maximum exposure (RME) approach advocated by the RAGS (EPA 1989). For the radiological COCs, the coded equations provided in RESRAD computer code are used to estimate the incremental TEDE and cancer risk for individual exposure pathways. Further

Table B-9
Toxicological Parameter Values for SWMU 2 Nonradiological COCs

COC	RfD_o (mg/kg-d)	Confidence[a]	RfD_{inh} (mg/kg-d)	Confidence[a]	SF_o $(mg/kg\text{-}d)^{-1}$	SF_{inh} $(mg/kg\text{-}d)^{-1}$	Cancer Class[b]	ABS
Inorganic								
Arsenic	3.0E-4[c]	M	–	–	1.5E+0[c]	1.5E+1[c]	A	0.03[d]
Barium	7.0E-2[c]	M	1.4E-4[e]	–	–	–	D	0.01[d]
Beryllium	2.0E-3[c]	L to M	5.7E-6[c]	M	–	8.4E+0[c]	B1	0.001[d]
Cadmium	5.0E-4[c]	H	5.7E-5[e]	–	–	6.3E+0[c]	B1	0.001[d]
Chromium III	1.5E+0[c]	L	–	–	–	–	D	0.01[d]
Chromium VI	3.0E-3[c]	L	2.3E-6[c]	L	–	4.2E+1[c]	A	0.01[d]
Mercury	3.0E-4[f]	–	8.6E-5[c]	M	–	–	D	0.1[d]
Nickel	2.0E-2[c]	M	–	–	–	–	–	0.01[d]
Selenium	5.0E-3[c]	H	–	–	–	–	D	0.01[d]
Silver	5.0E-3[c]	L	–	–	–	–	D	0.01[d]
Uranium	3.0E-3[c]	M	–	–	–	–	–	0.001[g]
Organic								
Acetone	1.0E-1[c]	L	1.0E-1[e]	–	–	–	D	0.01[g]
Anthracene	3.0E-1[c]	L	3.0E-1[e]	–	–	–	D	0.13[d]
Benzo(b)fluoranthene	–	–	–	–	7.3E-1[e]	3.1E-1[e]	B2	0.13[d]
Benzo(k)fluoranthene	–	–	–	–	7.3E-2[e]	3.1E-2[e]	B2	0.13[d]
Benzo(a)pyrene	–	–	–	–	7.3E+0[c]	3.1E+0[e]	B2	0.13[d]
Butylbenzylphthalate	2.0E-1[c]	L	2.0E-1[e]	–	–	–	C	0.01[g]
2-Chlorophenol	5.0E-3[c]	L	5.0E-3[e]	–	–	–	–	0.01[g]
Di-n-butylphthalate	1.0E-1[c]	L	1.0E-1[e]	–	–	–	D	0.1[d]
Diphenylamine	2.5E-2[c]	L	2.5E-2[e]	–	–	–	–	0.01[g]
Ethylbenzene	1.0E-1[c]	L	2.9E-1[c]	L	3.85E-3[h]	3.85E-3[h]	–	0.1[d]
bis(2-Ethylhexyl) phthalate	2.0E-2[e]	–	2.2E-2[e]	–	1.4E-2[e]	1.4E-2[e]	–	0.01[g]
Fluoranthene	4.0E-2[c]	L	4.0E-2[e]	–	–	–	D	0.13[d]
2-Hexanone	4.0E-2[i]	–	1.4E-3[i]	–	–	–	–	0.01[g]
Methylene chloride	6.0E-2[c]	M	8.6E-1[f]	–	7.5E-3[c]	1.6E-3[c]	B2	0.1[d]
Pentachlorophenol	3.0E-2[c]	M	3.0E-2[e]	–	1.2E-1[c]	1.2E-1[e]	B2	0.01[g]
Phenanthrene[j]	3.0E-1[c]	L	3.0E-1[e]	–	–	–	D	0.13[d]

Refer to footnotes at end of table.

Table B-9 (Concluded)
Toxicological Parameter Values for SWMU 2 Nonradiological COCs

COC	RfD_o (mg/kg-d)	Confidence[a]	RfD_{inh} (mg/kg-d)	Confidence[a]	SF_o $(mg/kg\text{-}d)^{-1}$	SF_{inh} $(mg/kg\text{-}d)^{-1}$	Cancer Class[b]	ABS
Phenol	3.0E-1[c]	M/H	6.0E-1[h]	–	–	–	D	0.1[d]
Pyrene	3.0E-2[c]	L	3.0E-2[e]	–	–	–	D	0.1[d]
Toluene	2.0E-1[c]	M	1.1E-1[c]	M	–	–	D	0.1[d]
Trichloroethene	3.0E-4[e]	–	1.1E-2[e]	–	4.0E-1[e]	4.0E-1[e]	–	0.1[d]
o-Xylene	2.0E+0[f]	–	2.0E-1[e]	–	–	–	D	0.1[d]
p-,m-Xylenes	2.0E+0[f]	–	2.0E-1[e]	–	–	–	D	0.1[d]

[a]Confidence associated with IRIS (EPA 2003) database values. Confidence: L = low, M = medium, H = high.

[b]EPA weight-of-evidence classification system for carcinogenicity (EPA 1989) taken from IRIS (EPA 2003):

A = Human carcinogen.
B1 = Probable human carcinogen. Limited human data are available.
B2 = Probable human carcinogen. Sufficient evidence in animals and inadequate or no evidence in humans.
C = Possible human carcinogen.
D = Not classifiable as to human carcinogenicity.

[c]Toxicological parameter values from IRIS electronic database (EPA 2003).

[d]Toxicological parameter values from NMED (December 2000).

[e]Toxicological parameter values from EPA Region 6 electronic database (EPA 2002a).

[f]Toxicological parameter values from HEAST database (EPA 1997a).

[g]Toxicological parameter values from Risk Assessment Information System (ORNL 2003).

[h]Toxicological parameter values from EPA Region 9 electronic database (EPA 2002b).

[i]Toxicological parameter values from EPA Region 3 electronic database (EPA 2002c).

[j]Toxicological parameter values for phenanthrene do not exist. Anthracene was used as surrogate.

ABS	= Gastrointestinal absorption coefficient.	NMED	= New Mexico Environment Department.
COC	= Constituent of concern.	RfD_{inh}	= Inhalation chronic reference dose.
EPA	= U.S. Environmental Protection Agency.	RfD_o	= Oral chronic reference dose.
HEAST	= Health Effects Assessment Summary Tables.	SF_{inh}	= Inhalation slope factor.
IRIS	= Integrated Risk Information System.	SF_o	= Oral slope factor.
mg/kg-d	= Milligram(s) per kilogram-day.	SWMU	= Solid Waste Management Unit.
$(mg/kg\text{-}d)^{-1}$	= Per milligram per kilogram-day.	–	= Information not available.

Table B-10
Radiological Toxicological Parameter Values for
SWMU 2 COCs Obtained from RESRAD Risk Coefficients[a]

COC	SF_o (1/pCi)	SF_{inh} (1/pCi)	SF_{ev} (g/pCi-yr)	Cancer Class[b]
Cs-137	3.20E-11	1.90E-11	2.10E-06	A
H-3	7.2E-14	9.6E-14	0	A
U-238	6.20E-11	1.20E-08	6.60E-08	A
U-235	4.70E-11	1.30E-08	2.70E-07	A
Th-232	3.30E-11	1.90E-08	2.00E-11	A

[a]Yu et al. 1993a.
[b]EPA weight-of-evidence classification system for carcinogenicity (EPA 1989): A = Human carcinogen for high dose and high dose rate (i.e., greater than 50 rem per year). For low-level environmental exposures, the carcinogenic effect has not been observed and documented.
1/pCi = One per picocurie.
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
g/pCi-yr = Gram(s) per picocurie-year.
SF_{ev} = External volume exposure slope factor.
SF_{inh} = Inhalation slope factor.
SF_o = Oral (ingestion) slope factor.
SWMU = Solid Waste Management Unit.

discussion of this process is provided in the "Manual for Implementing Residual Radioactive Material Guidelines Using RESRAD" (Yu et al. 1993a). Although the designated land-use scenario for this site is industrial, risk and TEDE values for a residential land-use scenario are also presented.

VI.6.2 Risk Characterization

Table B-11 shows an HI of 3.17 for the SWMU 2 nonradiological COCs and an estimated excess cancer risk of 6E-6 for the designated industrial land-use scenario. The numbers presented include exposure from soil ingestion, dermal contact, and dust and volatile inhalation for nonradiological COCs. Table B-12 shows an HI of 0.02 and an estimated excess cancer risk of 3E-6 for the SWMU 2 associated background constituents under the designated industrial land-use scenario.

For the radiological COCs, contribution from the direct gamma exposure pathway is included. For the industrial land-use scenario, a TEDE was calculated for an individual on the site that results in an incremental TEDE of 1.2E-2 millirem (mrem)/year (yr). In accordance with EPA guidance found in Office of Solid Waste and Emergency Response (OSWER) Directive No. 9200.4-18 (EPA 1997b), an incremental TEDE of 15 mrem/yr is used for the probable land-use scenario (industrial in this case); the calculated dose value for SWMU 2 for the industrial land-use scenario is well below this guideline. The estimated excess cancer risk is 1.7E-7.

Table B-11
Risk Assessment Values for SWMU 2 Nonradiological COCs

COC	Maximum Concentration (mg/kg)	Industrial Land-Use Scenario[a]		Residential Land-Use Scenario[a]	
		Hazard Index	Cancer Risk	Hazard Index	Cancer Risk
Inorganic					
Arsenic	8.3	0.03	5E-6	0.38	2E-5
Barium	16,000	0.25	–	3.06	–
Beryllium	4.2	0.00	2E-9	0.03	4E-9
Cadmium	740	1.46	2E-7	19.0	5E-7
Chromium, total	2,100	0.00	–	0.02	–
Mercury	370	1.29	–	16.2	–
Nickel	440	0.02	–	0.29	–
Selenium	250	0.05	–	0.66	–
Silver	110	0.02	–	0.29	–
Uranium	4.5	0.00	–	0.02	–
Organic					
Acetone	0.019	0.00	–	0.00	–
Anthracene	0.085[b]	0.00	–	0.00	–
Benzo(b)fluoranthene	0.161	0.00	8E-8	0.00	3E-7
Benzo(k)fluoranthene	0.085[b]	0.00	4E-9	0.00	1E-8
Benzo(a)pyrene	0.085[b]	0.00	4E-7	0.00	1E-6
Butylbenzylphthalate	0.243 J	0.00	–	0.00	–
2-Chlorophenol	0.085[b]	0.00	–	0.00	–
Di-n-butylphthalate	0.168 J	0.00	–	0.00	–
Diphenylamine	0.0809 J	0.00	–	0.00	–
Ethylbenzene	0.0055[b]	0.00	4E-10	0.00	8E-10
bis(2-Ethylhexyl) phthalate	0.32	0.00	2E-9	0.00	7E-9
Fluoranthene	0.085[b]	0.00	–	0.00	–
2-Hexanone	0.027[b]	0.00	–	0.00	–
Methylene chloride	0.653 J	0.00	3E-8	0.00	7E-8
Pentachlorophenol	0.15[b]	0.00	7E-9	0.00	3E-8
Phenanthrene	0.085[b]	0.03	–	0.10	–
Phenol	0.085[b]	0.00	–	0.00	–
Pyrene	0.085[b]	0.00	–	0.00	–
Toluene	0.0027[b]	0.00	–	0.00	–
Trichloroethene	0.0027[b]	0.00	3E-8	0.00	6E-8
o-Xylene	0.014	0.00	–	0.00	–
p-,m-Xylenes	0.021	0.00	–	0.00	–
Total		**3.17**	**6E-6**	**40.1**	**2E-5**

[a]EPA 1989.
[b]Maximum concentration is one-half the detection limit.
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
J = Estimated value.
mg/kg = Milligram(s) per kilogram.
SWMU = Solid Waste Management Unit.
– = Information not available.

Table B-12
Risk Assessment Values for SWMU 2 Nonradiological Background Constituents

COC	Background Concentration[a] (mg/kg)	Industrial Land-Use Scenario[b]		Residential Land-Use Scenario[b]	
		Hazard Index	Cancer Risk	Hazard Index	Cancer Risk
Arsenic	4.4	0.02	3E-6	0.20	1E-5
Barium	200	0.00	–	0.01	–
Beryllium	0.80	0.00	3E-10	0.04	7E-10
Cadmium	<1	–	–	–	–
Chromium, total	12.8	0.00	–	0.00	–
Mercury	<0.1	–	–	–	–
Nickel	25.4	0.00	–	0.02	–
Selenium	<1	–	–	–	–
Silver	<1	–	–	–	–
Uranium	2.3	0.00	–	0.01	–
Total		**0.02**	**3E-6**	**0.27**	**1E-5**

[a]Dinwiddie September 1997, North Area Supergroup.
[b]EPA 1989.
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
mg/kg = Milligram(s) per kilogram.
SWMU = Solid Waste Management Unit.
– = Information not available.

The HI is 40.1 with an estimated excess cancer risk of 2E-5 for the nonradiological COCs under the residential land-use scenario (Table B-11). The numbers in the table include exposure from soil ingestion, dermal contact, and dust inhalation. Although the EPA (1991) guidelines generally recommend that inhalation not be included in a residential land-use scenario, this pathway is included because of the potential for soil in Albuquerque, New Mexico, to be eroded and for dust to be present in predominantly residential areas. Based upon the nature of local soil, other exposure pathways are not evaluated (see Addendum 1). Table B-12 shows an HI of 0.27 and an estimated excess cancer risk of 1E-5 for the associated background constituents at SWMU 2 under the residential land-use scenario.

For the radiological COCs, the incremental TEDE for the residential land-use scenario is 1.1E+0 mrem/yr. The guideline being used is an excess TEDE of 75 mrem/yr (SNL/NM February 1998b) for a complete loss of institutional controls (residential land use in this case); the calculated dose value for SWMU 2 for the residential land-use scenario is well below this guideline. Consequently, SWMU 2 is eligible for unrestricted radiological release as the residential land-use scenario resulted in an incremental TEDE of less than 75 mrem/yr to the on-site receptor. The estimated excess cancer risk is 1.6E-5. The excess cancer risk from the nonradiological and radiological COCs should be summed to provide risk estimates for persons exposed to both types of carcinogenic contaminants, as noted in OSWER Directive No. 9200.4-18, "Establishment of Cleanup Levels for CERCLA [Comprehensive Environmental Response, Compensation, and Liability Act] Sites with Radioactive Contamination" (EPA 1997b). This summation is tabulated in Section VI.9, "Summary."

VI.7 Step 6. Comparison of Risk Values to Numerical Guidelines

The human health risk assessment analysis evaluates the potential for adverse health effects for both the industrial (the designated land-use scenario for this site) and residential land-use scenarios.

For the nonradiological COCs under the industrial land-use scenario, the HI is 3.17 (greater than the numerical guideline of 1 suggested in the RAGS [EPA 1989]). The excess cancer risk is 6E-6. NMED guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (Bearzi January 2001); thus the excess cancer risk for this site is below the suggested acceptable risk value. This assessment also determines risks by evaluating background concentrations of the potential nonradiological COCs for both the industrial and residential land-use scenarios. The incremental risk is determined by subtracting risk associated with background from potential COC risk. These numbers are not rounded before the difference is determined and therefore may appear to be inconsistent with numbers presented in tables and within the text. For conservatism, the background constituents that do not have quantified background concentrations are assumed to have a hazard quotient (HQ) of 0.00. The incremental HI is 3.14 and the estimated incremental cancer risk is 3.26E-6 for the industrial land-use scenario.

Total and incremental estimated excess cancer risk values for the COCs are below the NMED guidelines for the industrial land-use scenario. Although the total and incremental HI values are above the NMED guidelines, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site has been adequately characterized, average concentrations are more representative of actual site conditions. When the UCL of the mean concentrations (Addendum 2) are used, the total and incremental HI values are reduced to within numerical guidelines. The UCL for arsenic (3.25 mg/kg) is below background; therefore, arsenic is eliminated from further evaluation. Using the UCL of the mean concentrations for barium (643 mg/kg), cadmium (46.5 mg/kg), mercury (11.6 mg/kg), and selenium (6.59 mg/kg) in place of the maximum concentrations reduces the total and incremental HI values to 0.22 and 0.22, respectively. Both values are within NMED guidelines considering an industrial land-use scenario.

For the radiological COCs under the industrial land-use scenario, the incremental TEDE is 1.2E-2 mrem/yr, which is significantly lower than EPA's numerical guideline of 15 mrem/yr. The incremental estimated excess cancer risk is 1.7E-7.

For the nonradiological COCs under the residential land-use scenario, the calculated HI is 40.1, which is above the numerical guidance. The excess cancer risk is 3E-5. NMED guidance states that cumulative excess lifetime cancer risk must be less than 1E-5 (Bearzi January 2001); thus the excess cancer risk for this site is above the suggested acceptable risk value. The incremental HI is 39.7 and the estimated incremental cancer risk is 1.24E-5 for the residential land-use scenario. These incremental risk calculations indicate significant risk to human health from nonradiological COCs under a residential land-use scenario.

Although the total and incremental HI and excess cancer risk values are above the NMED guidelines, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site has been adequately characterized, average concentrations are more representative of actual site conditions. When the UCL of the mean concentrations (Addendum 2) are used, the total and incremental HI and excess cancer risk

values are reduced. The UCL for arsenic (3.25 mg/kg) is below background; therefore, arsenic is eliminated from further evaluation. Using the UCL of the mean concentrations for barium (643 mg/kg), cadmium (46.5 mg/kg), mercury (11.6 mg/kg), and selenium (6.59 mg/kg) in place of the maximum concentrations reduces the total and incremental HI values to 2.56 and 2.49, respectively; the total and incremental excess cancer risk values are reduced to 2E-6 and 1.87E-6, respectively. The total and incremental HI values are above the NMED guidelines. The total and incremental excess cancer risk values are within NMED guidelines considering a residential land-use scenario.

The incremental TEDE for a residential land-use scenario from the radiological components is 1.1E+0 mrem/yr, which is significantly lower than the numerical guideline of 75 mrem/yr suggested in the SNL/NM "RESRAD Input Parameter Assumptions and Justification" (SNL/NM February 1998b). The estimated excess cancer risk is 1.6E-5.

VI.8 Step 7. Uncertainty Discussion

The determination of the nature, rate, and extent of contamination at SWMU 2 is based upon an initial conceptual model that was validated with excavated soil sampling and confirmatory soil sampling conducted at the completion of the VCM. The VCM sampling was implemented in accordance with the VCM Plan for SWMU 2 (SNL/NM December 1997). The DQOs contained in the VCM Plan are appropriate for use in risk assessments. The data collected, based upon sample location, density, and depth, are representative of the site and soil planned for excavation backfill. The analytical requirements and results satisfy the DQOs. Data quality was verified/validated in accordance with SNL/NM procedures (SNL/NM December 1999, SNL/NM July 1996). Therefore, there is no uncertainty associated with the data quality used to perform the risk assessment at SWMU 2.

Because of the location, history, and future land use, there is low uncertainty in the land-use scenario and the potentially affected populations that were considered in performing the risk assessment analysis. Based upon the COCs found in near-surface soil and the location and physical characteristics of the site, there is low uncertainty in the exposure pathways relevant to the analysis.

An RME approach is used to calculate the risk assessment values. Specifically, the parameter values in the calculations are conservative and calculated intakes may be overestimated. Maximum measured values of COC concentrations are used to provide conservative results.

Table B-9 shows the uncertainties (confidence levels) in nonradiological toxicological parameter values. There is a mixture of estimated values and values from the IRIS (EPA 2003), HEAST (EPA 1997a), the Technical Background Document for Development of Soil Screening Levels (NMED December 2000), Risk Assessment Information System (ORNL 2003), and the EPA Regions 6, 9, and 3 (EPA 2002a, EPA 2002b, EPA 2002c) electronic databases. Where values are not provided, information is not available from the HEAST (EPA 1997a), IRIS (EPA 2003), Technical Background Document for Development of Soil Screening Levels (NMED December 2000), the Risk Assessment Information System (ORNL 2003) or the EPA regions (EPA 2002a, EPA 2002b, EPA 2002c). Because of the conservative nature of the RME approach, uncertainties in toxicological values are not expected to change the conclusion from the risk assessment analysis.

For the radiological COCs, the conclusion of the risk assessment is that potential effects on human health for both industrial and residential land-use scenarios are within guidelines and represent only a small fraction of the estimated 360 mrem/yr received by the average U.S. population (NCRP 1987).

The overall uncertainty in all the steps in the risk assessment process is not considered to be significant with respect to the conclusion reached.

VI.9 Summary

SWMU 2 contains identified COCs consisting of some inorganic, organic, and radiological compounds. Because of the location of the site, the designated industrial land-use scenario, and the nature of contamination, potential exposure pathways identified for this site include soil ingestion, dermal contact, and dust inhalation for chemical COCs and soil ingestion, dust inhalation, and direct gamma exposure for radionuclides. The same exposure pathways are applied to the residential land-use scenario.

Using conservative assumptions and an RME approach to risk assessment, calculations for the nonradiological COCs show that for the industrial land-use scenario the HI (3.17) is greater than the accepted numerical guidance from the EPA. The estimated excess cancer risk is 6E-6. Thus, excess cancer risk is below the acceptable risk value provided by the NMED for an industrial land-use scenario (Bearzi January 2001). The incremental HI is 3.14, and the incremental excess cancer risk is 3.26E-6 for the industrial land-use scenario.

Total and incremental estimated excess cancer risk values for the COCs are below the NMED guidelines for the industrial land-use scenario. Although the total and incremental HI values are above the NMED guidelines, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site has been adequately characterized, average concentrations are more representative of actual site conditions. When the UCL of the mean concentrations (Addendum 2) are used, the total and incremental HI values are reduced to within numerical guidelines. The UCL for arsenic (3.25 mg/kg) is below background; therefore, arsenic is eliminated from further evaluation. Using the UCL of the mean concentrations for barium (643 mg/kg), cadmium (46.5 mg/kg), mercury (11.6 mg/kg), and selenium (6.59 mg/kg) in place of the maximum concentrations reduces the total and incremental HI values to 0.22 and 0.22, respectively. Both values are within NMED guidelines considering an industrial land-use scenario.

Using conservative assumptions and an RME approach to risk assessment, calculations for the nonradiological COCs show that for the residential land-use scenario the HI (40.1) is above the accepted numerical guidance from the EPA. The estimated excess cancer risk is 2E-5. Thus, excess cancer risk is above the acceptable risk value provided by the NMED for a residential land-use scenario (Bearzi January 2001). The incremental HI is 39.7 and the incremental excess cancer risk is 1.24E-5 for the residential land-use scenario. The incremental risk calculations indicate significant risk to human health for the residential land-use scenario.

Although the total and incremental HI and excess cancer risk values are above the NMED guidelines, the HI was conservatively estimated through the use of maximum concentrations of the detected COCs. Because the site has been adequately characterized, average concentrations are more representative of actual site conditions. When the UCL of the mean

concentrations (Addendum 2) are used, the total and incremental HI and excess cancer risk values are reduced. The UCL for arsenic (3.25 mg/kg) is below background; therefore, arsenic is eliminated from further evaluation. Using the UCL of the mean concentrations for barium (643 mg/kg), cadmium (46.5 mg/kg), mercury (11.6 mg/kg), and selenium (6.59 mg/kg) in place of the maximum concentrations reduces the total and incremental HI values to 2.56 and 2.49, respectively; the total and incremental excess cancer risk values are reduced to 2E-6 and 1.87E-6, respectively. The total and incremental HI values are above the NMED guidelines. The total and incremental excess cancer risk values are within NMED guidelines considering a residential land-use scenario.

The incremental TEDE and corresponding estimated cancer risk from the radiological COCs are much lower than EPA guidance values; the estimated TEDE is 1.2E-2 mrem/yr for the industrial land-use scenario. This value is much lower than the EPA's numerical guidance of 15 mrem/yr (EPA 1997b). The corresponding incremental estimated cancer risk value is 1.7E-7 for the industrial land-use scenario. Furthermore, the incremental TEDE for the residential land-use scenario that results from a complete loss of institutional control is only 1.1E+0 mrem/yr with an associated risk of 1.6E-5. The guideline for this scenario is 75 mrem/yr (SNL/NM February 1998b). Therefore, SWMU 2 is eligible for unrestricted radiological release.

The summation of the nonradiological and radiological carcinogenic risks is tabulated in Table B-13.

Table B-13
Summation of Nonradiological and Radiological Risks from SWMU 2

Scenario	Nonradiological Risk	Radiological Risk	Total Risk
Industrial	3.26E-6	1.7E-7	3.4E-6
Residential	1.87E-6[a]	1.6E-5	1.8E-5

[a]Incremental excess cancer risk based upon UCL of the mean concentration for significant risk drivers.
SWMU = Solid Waste Management Unit.
UCL = Upper confidence limit.

Uncertainties associated with the calculations are considered small relative to the conservatism of this risk assessment analysis. Therefore, it is concluded that this site poses insignificant risk to human health under the industrial land-use scenario.

VII. Ecological Risk Assessment

VII.1 Introduction

This section addresses the ecological risks associated with exposure to constituents of potential ecological concern (COPECs) in the soil at SWMU 2, the Classified Waste Landfill. A component of the NMED Risk-Based Decision Tree (NMED March 1998) is to conduct an ecological assessment that corresponds with that presented in the EPA's Ecological RAGS (EPA 1997c). The current methodology is tiered and contains an initial scoping assessment followed by a more detailed risk assessment. Initial components of the NMED's decision tree (a

discussion of DQOs, data assessment, and evaluations of bioaccumulation as well as fate and transport potential) are addressed in previous sections of this report. Following the completion of the scoping assessment, a determination is made as to whether a more detailed examination of potential ecological risk is necessary. If deemed necessary, the scoping assessment proceeds to a risk assessment whereby a more quantitative estimate of ecological risk is conducted. Although this assessment incorporates conservatisms in the estimation of ecological risks, ecological relevance and professional judgment are also used as recommended by the EPA (1998) to ensure that predicted exposures of selected ecological receptors reflect those reasonably expected to occur at the site.

VII.2 Scoping Assessment

The scoping assessment focuses primarily on the likelihood of exposure of biota at, or adjacent to, the site to constituents associated with the site. Included in this section are an evaluation of existing data and a comparison of maximum detected concentrations to background concentrations, examination of bioaccumulation potential, and fate and transport potential. A scoping risk-management decision (Section VII.2.4) summarizes the scoping results and assesses the need for further examination of potential ecological impacts.

VII.2.1 Data Assessment

As indicated in Section IV (Tables B-5 and B-7), inorganic constituents in the soil that may be accessible to ecological receptors at the Classified Waste Landfill (i.e., within the 0- to 5-foot depth interval) and that exceed background concentrations or do not have quantified background values were as follows:

- Arsenic
- Barium
- Cadmium
- Chromium (total)
- Lead
- Mercury
- Nickel
- Selenium
- Silver
- Uranium
- Cs-137
- H-3
- Th-232
- U-235
- U-238

Organic analytes detected in this soil were as follows:

- Acetone
- 2-Chlorophenol

- Di-n-butylphthalate
- Ethylbenzene
- bis(2-Ethylhexyl) phthalate
- Fluoranthene
- 2-Hexanone
- Methylene chloride
- PCBs as Aroclor-1242
- PCBs as Aroclor-1254
- PCBs as Arolclor-1260
- Pentachlorophenol
- Phenanthrene
- Toluene
- Trichloroethene
- o-Xylene
- p- and m-Xylenes

VII.2.2 Bioaccumulation

Among the COPECs listed in Section VII.2.1, the following are considered to have bioaccumulation potential in aquatic environments (Section IV, Tables B-5 and B-7):

- Arsenic
- Barium
- Cadmium
- Lead
- Mercury
- Nickel
- Selenium
- Cs-137
- Th-230
- U-235
- U-238
- 2-Chlorophenol
- Di-n-butylphthalate
- bis(2-Ethylhexyl) phthalate
- Fluoranthene
- PCBs (as Aroclor-1242, -1254, and –1260)
- Pentachlorophenol
- Phenanthrene

However, as directed by the NMED (March 1998), bioaccumulation for inorganic constituents is assessed exclusively based upon maximum reported bioconcentration factors (BCFs) for aquatic species. Because only aquatic BCFs are used to evaluate the bioaccumulation potential for metals, bioaccumulation in terrestrial species is likely to be overpredicted.

VII.2.3 Fate and Transport Potential

The potential for the COPECs to migrate from the source of contamination to other media or biota is discussed in Section V. As noted in Table B-8 (Section V), wind and surface water are not expected to be potential transport mechanisms for COPECs at this site. Migration to groundwater is not anticipated. Because of the disturbed nature of the site, food chain uptake is not a viable transport mechanism. Degradation (decay) and transformation of the inorganic COPECs and radionuclides are expected to be of low significance, but may be of moderate significance for some of the organic COPECs.

VII.2.4 Scoping Risk-Management Decision

Based upon information evaluated in the scoping assessment, it was concluded that complete ecological pathways may be associated with this site and that COPECs also exist. As a consequence, a risk assessment was deemed necessary to predict the potential level of ecological risk associated with the site.

VII.3 Risk Assessment

As concluded in Section VII.2.4, both complete ecological pathways and COPECs are associated with SWMU 2. The risk assessment performed for the site involves a quantitative estimate of current ecological risks using exposure models in association with exposure parameters and toxicity information obtained from the literature. The estimation of potential ecological risks is conservative to ensure that ecological risks are not underpredicted.

Components within the assessment include the following:

- Problem Formulation—sets the stage for the evaluation of potential exposure and risk.
- Exposure Estimation—provides a quantitative estimate of potential exposure.
- Ecological Effects Evaluation—presents benchmarks used to gauge the toxicity of COPECs to specific receptors.
- Risk Characterization—characterizes the ecological risk associated with exposure of the receptors to environmental media at the site.
- Uncertainty Assessment—discusses uncertainties associated with the estimation of exposure and risk.
- Risk Interpretation—evaluates ecological risk in terms of HQs and ecological significance.
- Risk Assessment Scientific/Management Decision Point—presents the decision to risk managers based upon the results of the assessment.

VII.3.1 Problem Formulation

Problem formulation is the initial stage of the ecological risk assessment that provides the introduction to the risk evaluation process. Components that are addressed in this section include a discussion of ecological pathways and the ecological setting, identification of COPECs, and selection of ecological receptors. The conceptual model, ecological food webs, and ecological endpoints (other components commonly addressed in a risk assessment) are presented in "Predictive Ecological Risk Assessment Methodology, Environmental Restoration Program, Sandia National Laboratories, New Mexico" (IT July 1998) and are not duplicated here.

VII.3.1.1 Ecological Pathways and Setting

The Classified Waste Landfill is approximately 1.5 acres in size. The site is located in an area previously dominated by grassland habitat; however, because of the excavation and backfilling activities, no natural habitat remains; therefore, use of the site by wildlife is limited. No surface water occurs at the site, and no threatened, endangered, or other sensitive species occur in the vicinity of this site (IT February 1995).

Although unlikely due to habitat disturbance, complete ecological pathways are assumed to exist at this site through the exposure of plants and wildlife to COPECs in the backfill soil. Direct uptake of COPECs from this soil is assumed to be the major route of exposure for plants. Exposure modeling for the wildlife receptors is limited to the food and soil ingestion pathways and external radiation. Because of the lack of surface water at this site, exposure to COPECs through the ingestion of surface water is considered insignificant. Inhalation and dermal contact are also considered insignificant pathways with respect to ingestion (Sample and Suter 1994). Groundwater is not expected to be affected by COCs at this site.

VII.3.1.2 COPECs

Residual contaminants in the backfill soil used at SWMU 2 are the source of the COPECs associated with the soil at this site. Inorganic and organic COPECs identified in this soil are listed in Section VII.2.1. The inorganic COPECs include both radiological and nonradiological analytes. The inorganic analytes were screened against background concentrations and those that exceed the approved SNL/NM background screening levels (Dinwiddie September 1997) for the area or that do not have quantified background screening levels are considered to be COPECs. Nonradiological inorganic constituents that are essential nutrients, such as iron, magnesium, calcium, potassium, and sodium, are not included in this risk assessment as set forth by the EPA (1989). All organic analytes detected are considered to be COPECs for the site. In order to provide conservatism, this ecological risk assessment is based upon the maximum soil concentrations of the COPECs measured in the backfill soil. Tables B-5 and B-7 present the maximum concentrations for these COPECs.

VII.3.1.3 Ecological Receptors

A nonspecific perennial plant was selected as the receptor to represent plant species at the site (IT July 1998). Vascular plants are the principal primary producers at the site and are key to

the diversity and productivity of the wildlife community associated with the site. The deer mouse (*Peromyscus maniculatus*) and the burrowing owl (*Speotyto cunicularia*) are used to represent wildlife use. Because of its opportunistic food habits, the deer mouse is used to represent a mammalian herbivore, omnivore, and insectivore. The burrowing owl represents a top predator at this site. The burrowing owl is present at SNL/NM and is designated a species of management concern by the U.S. Fish and Wildlife Service in Region 2, which includes the state of New Mexico (USFWS September 1995).

VII.3.2 Exposure Estimation

For nonradiological COPECs, direct uptake from the soil is considered the only significant route of exposure for terrestrial plants. Exposure modeling for the wildlife receptors is limited to food and soil ingestion pathways. Inhalation and dermal contact are considered insignificant pathways with respect to ingestion (Sample and Suter 1994). Drinking water is also considered an insignificant pathway because of the lack of surface water at this site. The deer mouse is modeled under three dietary regimes: as an herbivore (100 percent of its diet as plant material), as an omnivore (50 percent of its diet as plants and 50 percent as soil invertebrates), and as an insectivore (100 percent of its diet as soil invertebrates). The burrowing owl is modeled as a strict predator on small mammals (100 percent of its diet as deer mice). Because the exposure in the burrowing owl from a diet consisting of equal parts of herbivorous, omnivorous, and insectivorous deer mice would be equivalent to the exposure consisting of only omnivorous deer mice, the diet of the burrowing owl is modeled with intake of omnivorous deer mice only. Both species are modeled with soil ingestion comprising 2 percent of the total dietary intake. Table B-14 presents the species-specific factors used in modeling exposures in the wildlife receptors. Justification for use of the factors presented in this table is described in the ecological risk assessment methodology document (IT July 1998).

Although home range is also included in this table, exposures for this risk assessment are modeled using an area use factor of 1.0, implying that all food items and soil ingested come from the site being investigated. The maximum COPEC concentrations measured in surface soil samples are used to conservatively estimate potential exposures and risks to plants and wildlife at this site.

For the radiological dose-rate calculations, the deer mouse is modeled as an herbivore (100 percent of its diet as plants), and the burrowing owl is modeled as a strict predator on small mammals (100 percent of its diet as deer mice). Both are modeled with soil ingestion comprising 2 percent of the total dietary intake. Receptors are exposed to radiation both internally and externally from Cs-137, H-3, Th-232, U-235, and U-238. Internal and external dose rates to the deer mouse and the burrowing owl are approximated using modified dose-rate models from the DOE (1995) as presented in the ecological risk assessment methodology document for the SNL/NM ER Project (IT July 1998). Radionuclide-dependent data for the dose-rate calculations were obtained from Baker and Soldat (1992). The external dose-rate model examines the total-body dose-rate to a receptor residing in soil exposed to radionuclides. The soil surrounding the receptor is assumed to be an infinite medium uniformly contaminated with gamma-emitting radionuclides. The external dose-rate model is the same for both the deer mouse and the burrowing owl. The internal total-body dose-rate model assumes that a fraction of the radionuclide concentration ingested by a receptor is absorbed by the body and

Table B-14
Exposure Factors for Ecological Receptors at SWMU 2

Receptor Species	Class/Order	Trophic Level	Body Weight (kg)[a]	Food Intake Rate (kg/day)[b]	Dietary Composition[c]	Home Range (acres)
Deer Mouse (*Peromyscus maniculatus*)	Mammalia/ Rodentia	Herbivore	2.39E-2[d]	3.72E-3	Plants: 100% (+ Soil at 2% of intake)	2.7E-1[e]
Deer Mouse (*Peromyscus maniculatus*)	Mammalia/ Rodentia	Omnivore	2.39E-2[d]	3.72E-3	Plants: 50% Invertebrates: 50% (+ Soil at 2% of intake)	2.7E-1[e]
Deer Mouse (*Peromyscus maniculatus*)	Mammalia/ Rodentia	Insectivore	2.39E-2[d]	3.72E-3	Invertebrates: 100% (+ Soil at 2% of intake)	2.7E-1[e]
Burrowing owl (*Speotyto cunicularia*)	Aves/ Strigiformes	Carnivore	1.55E-1[f]	1.73E-2	Rodents: 100% (+ Soil at 2% of intake)	3.5E+1[g]

[a]Body weights are in kg wet weight.
[b]Food intake rates are estimated from the allometric equations presented in Nagy (1987). Units are kg dry weight per day.
[c]Dietary compositions are generalized for modeling purposes. Default soil intake value of 2% of food intake.
[d]Silva and Downing 1995.
[e]EPA (1993), based upon the average home range measured in semiarid shrubland in Idaho.
[f]Dunning 1993.
[g]Haug et al. 1993.
EPA = U.S. Environmental Protection Agency.
kg = Kilogram(s).
SWMU = Solid Waste Management Unit.

concentrated at the center of a spherical body shape. This provides for a conservative estimate of absorbed dose. This concentrated radiation source at the center of the body of the receptor is assumed to be a "point" source. Radiation emitted from this point source is absorbed by the body tissues to contribute to the absorbed dose. Alpha and beta emitters are assumed to transfer 100 percent of their energy to the receptor as they pass through tissues. Gamma-emitting radionuclides transfer only a fraction of their energy to the tissues because gamma rays interact less with matter than do beta or alpha emitters. The external and internal dose-rate results are summed to calculate a total dose rate from exposure to Cs-137, H-3, Th-232, U-235, and U-238 in soil.

Table B-15 presents the transfer factors used in modeling the concentrations of COPECs through the food chain. Table B-16 presents maximum concentrations in soil and derived concentrations in tissues of the various food chain elements that are used to model dietary exposures for each of the wildlife receptors.

VII.3.3 Ecological Effects Evaluation

Table B-17 provides benchmark toxicity values for the plant and wildlife receptors. For plants, the benchmark soil concentrations are based upon the lowest-observed-adverse-effect level (LOAEL). For wildlife, the toxicity benchmarks are based upon the no-observed-adverse-effect level (NOAEL) for chronic oral exposure in a taxonomically similar test species. Sufficient toxicity information was not available to estimate the LOAELs or NOAELs for some COPECs.

The benchmark used for exposure of terrestrial receptors to radiation was 0.1 rad/day. This value has been recommended by the International Atomic Energy Agency (IAEA 1992) for the protection of terrestrial populations. Because plants and insects are less sensitive to radiation than vertebrates (Whicker and Schultz 1982), the dose of 0.1 rad/day should also protect other groups within the terrestrial habitat of the site.

VII.3.4 Risk Characterization

Maximum concentrations in soil and estimated dietary exposures were compared to plant and wildlife benchmark values, respectively. Table B-18 presents the results of these comparisons. HQs are used to quantify the comparison with benchmarks for plant and wildlife exposure.

HQs for plants exceed unity for barium, cadmium, total chromium, lead, mercury, nickel, selenium, and silver. Because of a lack of sufficient toxicity information, HQs for plants could not be determined for 9 of the 16 organic COPECs. HQs exceed unity for all three dietary regimes in the deer mouse for barium and cadmium and for mercury when it is assumed to be entirely in organic form. HQs exceed unity for the omnivorous and insectivorous deer mice for arsenic, selenium, and all three Aroclor compounds. The HQ for the insectivorous deer mouse exposure to pentachlorophenol also exceeds unity. For the burrowing owl, the only HQs that exceed unity are for bis(2-ethylhexyl) phthalate and for mercury (regardless of whether it is assumed to be in inorganic or organic form). HQs for beryllium, silver, and all organic COPECs except bis(2-ethylhexyl) phthalate, di-n-butylphthalate, Aroclor-1242, and Aroclor-1254 could

Table B-15
Transfer Factors Used in Exposure Models for COPECs at SWMU 2

COPEC	Soil-to-Plant Transfer Factor	Soil-to-Invertebrate Transfer Factor	Food-to-Muscle Transfer Factor
Inorganic			
Arsenic	4.0E-2[a]	1.0E+0[b]	2.0E-3[a]
Barium	1.5E-1[a]	1.0E+0[b]	2.0E-4[c]
Beryllium	1.0E-2[a]	1.0E+0[b]	1.0E-3[a]
Cadmium	5.5E-1[a]	6.0E-1[d]	5.5E-4[a]
Chromium (total)	4.0E-2[c]	1.3E-1[e]	3.0E-2[c]
Lead	9.0E-2[c]	4.0E-2[d]	8.0E-4[c]
Mercury	1.0E+0[c]	1.0E+0[b]	2.5E-1[a]
Nickel	2.0E-1[c]	3.8E-1[e]	6.0E-3[a]
Selenium	5.0E-1[c]	1.0E+0[b]	1.0E-1[c]
Silver	1.0E+0[c]	2.5E-1[d]	5.0E-3[c]
Uranium	2.3E-2[f]	1.0E+0[b]	1.0E-2[c]
Organic[g]			
Acetone	5.3E+1	1.3E+1	1.0E-8
2-Chlorophenol	2.2E+0	1.7E+1	3.1E-6
Di-n-butyl phthalate	8.4E-2	2.2E+1	1.1E-3
Ethylbenzene	5.9E-1	1.9E+1	3.3E-5
bis(2-Ethylhexyl) phthalate	1.6E-3	3.2E+1	1.3E+0
Fluoranthene	5.7E-2	2.3E+1	2.1E-3
2-Hexanone	6.2E+0	1.5E+1	4.9E-7
Methylene chloride	7.3E+0	1.5E+1	3.6E-7
PCB, Aroclor-1242	1.6E-1	2.1E+1	3.2E-4
PCB, Aroclor-1254	1.2E-2	2.6E+1	3.2E-2
PCB, Aroclor-1260	1.1E-2	2.7E+1	3.8E-2
Pentachlorophenol	4.4E-2	2.4E+1	3.3E-3
Phenanthrene	8.9E-2	2.2E+1	9.6E-4
Toluene	1.0E+0	1.8E+1	1.3E-5
Trichloroethene	1.1E+0	1.8E+1	1.2E-5
Xylenes	5.5E-1	1.9E+1	3.7E-5

[a]Baes et al. 1984.
[b]Default value.
[c]NCRP January 1989.
[d]Stafford et al. 1991.
[e]Ma 1982.
[f]IAEA 1994.
[g]Soil-to-plant and food-to-muscle transfer factors from equations developed in Travis and Arms (1988). Soil-to-invertebrate transfer factors from equations developed in Connell and Markwell (1990). All three equations based upon relationship of the transfer factor to the Log K_{ow} value of compound.

COPEC = Constituent of potential ecological concern.
IAEA = International Atomic Energy Agency.
K_{ow} = Octanol-water partition coefficient.
Log = Logarithm (base 10).
NCRP = National Council on Radiation Protection and Measurements.
PCB = Polychlorinated biphenyl.
SWMU = Solid Waste Management Unit.

Table B-16
Media Concentrations[a] for COPECs at SWMU 2

COPEC	Soil (maximum)[a]	Plant Foliage[b]	Soil Invertebrate[b]	Deer Mouse Tissues[c]
Inorganic				
Arsenic	5.9E+0	2.3E-1	5.9E+0	2.0E-2
Barium	6.2E+2	9.3E+1	6.2E+2	2.3E-1
Beryllium	6.6E-1	6.6E-3	6.6E-1	1.1E-3
Cadmium	4.9E+1	2.7E+1	3.0E+1	5.1E-2
Chromium (total)	7.0E+1	2.8E+0	9.1E+0	6.9E-1
Lead	1.7E+2	1.5E+1	6.8E+0	3.6E-2
Mercury	2.3E+1	2.3E+1	2.3E+1	1.8E+1
Nickel	2.3E+2	4.6E+1	8.7E+1	1.3E+0
Selenium	4.5E+0	2.3E+0	4.5E+0	1.1E+0
Silver	6.4E+1	6.4E+1	1.6E+1	6.5E-1
Uranium	4.5E+0	1.0E-1	4.5E+0	7.5E-2
Organic				
Acetone	1.9E-2	1.0E+0	2.4E-1	2.0E-8
2-Chlorophenol	8.5E-2[d]	1.9E-1	1.4E+0	7.8E-6
Di-n-butyl phthalate	8.5E-2	7.1E-3	1.9E+0	3.2E-3
Ethylbenzene	5.5E-3[d]	3.2E-3	1.0E-1	5.5E-6
bis(2-Ethylhexyl) phthalate	2.7E-1	4.2E-4	8.5E+0	1.7E+1
Fluoranthene	8.5E-2[d]	4.8E-3	2.0E+0	6.5E-3
2-Hexanone	2.7E-2[d]	1.7E-1	4.2E-1	4.5E-7
Methylene chloride	7.3E-3	5.4E-2	1.1E-1	9.3E-8
PCB, Aroclor-1242	1.5E-1	2.5E-2	3.3E+0	1.7E-3
PCB, Aroclor-1254	9.1E-1	1.1E-2	2.4E+1	1.2E+0
PCB, Aroclor-1260	7.2E-2	8.1E-4	1.9E+0	1.1E-1
Pentachlorophenol	1.5E-1	6.6E-3	3.5E+0	1.9E-2
Phenanthrene	8.5E-2[d]	7.5E-3	1.9E+0	2.9E-3
Toluene	2.7E-3[d]	2.7E-3	4.9E-2	1.0E-6
Trichloroethene	2.7E-3[d]	2.8E-3	4.9E-2	9.3E-7
Xylenes[e]	3.5E-2	1.9E-2	6.7E-1	4.0E-5

[a]In milligrams per kilogram. All biotic media are based upon dry weight of the media. Soil concentration measurements are assumed to have been based upon dry weight. Values have been rounded to two significant digits after calculation.
[b]Product of the soil concentration and the corresponding transfer factor.
[c]Based upon the deer mouse with an omnivorous diet. Product of the average concentration ingested in food and soil times the food-to-muscle transfer factor times a wet weight-dry weight conversion factor of 3.125 (EPA 1993).
[d]Value is one-half of the method detection limit.
[e]Xylenes based upon the sum of o-, p-, and m-xylene.
COPEC = Constituent of potential ecological concern.
PCB = Polychlorinated biphenyl.
SWMU = Solid Waste Management Unit.

Table B-17
Toxicity Benchmarks for Ecological Receptors at SWMU 2

COPEC	Plant Benchmark[a,b]	Mammalian NOAELs			Avian NOAELs		
		Mammalian Test Species[c,d]	Test Species NOAEL[d,e]	Deer Mouse NOAEL[e,f]	Avian Test Species[d]	Test Species NOAEL[d,e]	Burrowing Owl NOAEL[e,g]
Inorganic							
Arsenic	10	mouse	0.126	0.133	mallard	5.14	5.14
Barium	500	rat[h]	5.1	10.5	chicken	20.8	20.8
Beryllium	10	rat	0.66	1.29	–	–	–
Cadmium	4.0	rat[i]	1.0	1.9	mallard	1.45	1.45
Chromium (total)	1.0	rat	2,737	5,354	black duck	1.0	1.0
Lead	50	rat	8.0	15.7	American kestrel	3.85	3.85
Mercury (organic)	0.3	rat	0.03	0.06	mallard	0.0064	0.0064
Mercury (inorganic)	0.3	mouse	13.2	14.0	Japanese quail	0.45	0.45
Nickel	30	rat	40	78	mallard	77.4	77.4
Selenium	1.0	rat	0.2	0.391	screech owl	0.44	0.44
Silver	2.0	rat	17.8[j]	34.8	–	–	–
Uranium	5.0	mouse[k]	3.07	3.19	black duck	16.0	16.0
Organic							
Acetone	–	rat	10	19.6	–	–	–
2-Chlorobenzene	–	rat	0.5[l]	0.98	–	–	–
Di-n-butyl phthalate	200	mouse	550	582	ringed dove	0.11	0.11
Ethylbenzene	–	rat	291[l]	569	–	–	–
bis(2-Ethylhexyl) phthalate	–	mouse	18.3	19.4	ringed dove	1.1	1.1
Fluoranthene	18[m]	mouse	12.5[l]	13.2	–	–	–
2-Hexanone	–	rat	1,676[n]	3,279	–	–	–
Methylene chloride	–	rat	5.85	11.4	–	–	–
PCB, Aroclor-1242	40	mink	0.069	0.175	screech owl	0.41	0.41
PCB, Aroclor-1254	40	oldfield mouse	0.068	0.059	ring-necked pheasant	0.18	0.180

Refer to footnotes at end of table.

Table B-17 (Concluded)
Toxicity Benchmarks for Ecological Receptors at SWMU 2

COPEC	Plant Benchmark[a,b]	Mammalian NOAELs			Avian NOAELs		
		Mammalian Test Species[c,d]	Test Species NOAEL[d,e]	Deer Mouse NOAEL[e,f]	Avian Test Species[d]	Test Species NOAEL[d,e]	Burrowing Owl NOAEL[e,g]
PCB, Aroclor-1260	40	rat	0.04[o]	0.078	–	–	–
Pentachlorophenol	–	rat	0.24	0.469	–	–	–
Phenanthrene	18[m]	mouse	1.0[p]	1.06	–	–	–
Toluene	200	mouse	26	27.5	–	–	–
Trichloroethene	–	mouse	0.7	0.74	–	–	–
Xylenes	–	mouse	2.1	2.2	–	–	–

[a]In mg/kg soil dry weight.
[b]Efroymson et al. 1997.
[c]Body weights (in kg) for the NOAEL conversion are as follows: lab mouse, 0.030; lab rat, 0.350; mink, 1.0; oldfield mouse, 0.014 (except where noted).
[d]Sample et al. 1996, except where noted.
[e]In mg/kg body weight per day.
[f]Based upon NOAEL conversion methodology presented in Sample et al. (1996), using a deer mouse body weight of 0.0239 kg and a mammalian scaling factor of 0.25.
[g]Based upon NOAEL conversion methodology presented in Sample et al. (1996). The avian scaling factor of 0.0 was used, making the NOAEL independent of body weight.
[h]Body weight = 0.435 kg.
[i]Body weight = 0.303 kg.
[j]Based upon a rat lowest-observed-adverse-effect level of 89 mg/kg/d (EPA 2003) and an uncertainty factor of 0.2.
[k]Body weight = 0.028 kg.
[l]EPA 2003.
[m]Sims and Overcash 1983.
[n]Based upon NOAEL for 2-butanone and ratio of LD_{50} values for 2-hexanone and 2-butanone (2,590/2,737) from RTECS (1997).
[o]Based upon rat NOAEL for Aroclor-1254 (0.0304 mg/kg/d, scaled from NOAEL for oldfield mouse) and ratio of LD_{50} values for Aroclor-1260 and Aroclor-1254 (1,315/1,010) from RTECS (1997).
[p]No data available. Toxicity value based upon NOAEL for benzo(a)pyrene from Sample et al. (1996).

COPEC = Constituent of potential ecological concern.
EPA = U.S. Environmental Protection Agency.
kg = Kilogram(s).
LD_{50} = Acute lethal dose to 50 percent of the test population.
mg = Milligram(s).
mg/kg/d = Milligram(s) per kilogram per day.
NOAEL = No-observed-adverse-effect level.
PCB = Polychlorinated biphenyl.
RTECS = Registry of Toxic Effects of Chemical Substances.
SWMU = Solid Waste Management Unit.
– = Insufficient toxicity data.

Table B-18
HQs for Ecological Receptors at SWMU 2

COPEC	Plant HQ[a]	Deer Mouse HQ (Herbivorous)[a]	Deer Mouse HQ (Omnivorous)[a]	Deer Mouse HQ (Insectivorous)[a]	Burrowing Owl HQ[a]
Inorganic					
Arsenic	5.9E-1	4.1E-1	**3.7E+0**	**7.0E+0**	3.0E-3
Barium	**1.2E+0**	**1.6E+0**	**5.5E+0**	**9.3E+0**	6.8E-2
Beryllium	6.6E-2	2.4E-3	4.1E-2	8.1E-2	–
Cadmium	**1.6E+1**	**2.3E+0**	**2.4E+0**	**2.5E+0**	8.0E-2
Chromium (total)	**7.0E+1**	1.2E-4	2.1E-4	3.1E-4	2.3E-1
Lead	**3.4E+0**	1.9E-1	1.4E-1	1.0E-1	9.9E-2
Mercury (organic)	**7.7E+1**	**5.8E+1**	**5.8E+1**	**5.8E+1**	**3.3E+2**
Mercury (inorganic)	**7.7E+1**	2.6E-1	2.6E-1	2.6E-1	**4.7E+0**
Nickel	**7.7E+0**	1.0E-1	1.4E-1	1.8E-1	8.6E-3
Selenium	**4.5E+0**	9.3E-1	**1.4E+0**	**1.8E+0**	3.0E-1
Silver	**3.2E+1**	2.9E-1	1.8E-1	7.7E-2	–
Uranium	9.0E-1	9.4E-3	1.2E-1	2.2E-1	1.1E-3
Organic					
Acetone	–	8.1E-3	5.0E-3	1.9E-3	–
2-Chlorophenol	–	3.0E-2	1.3E-1	2.3E-1	–
Di-n-butyl phthalate	4.3E-4	2.4E-6	2.6E-4	5.1E-4	4.9E-3
Ethylbenzene	–	9.1E-7	1.5E-5	2.8E-5	–
bis(2-Ethylhexyl) phthalate	–	4.7E-5	3.4E-2	6.8E-2	**1.8E+0**
Fluoranthene	4.7E-3	7.7E-5	1.2E-2	2.3E-2	–
2-Hexanone	–	7.9E-6	1.4E-5	2.0E-5	–
Methylene chloride	–	7.3E-4	1.1E-3	1.5E-3	–
PCB, Aroclor-1242	3.9E-3	2.5E-2	**1.5E+0**	**2.9E+0**	1.3E-3
PCB, Aroclor-1254	2.3E-2	7.7E-2	**3.1E+1**	**6.3E+1**	7.5E-1
PCB, Aroclor-1260	1.8E-3	4.5E-3	**1.9E+0**	**3.8E+0**	–
Pentachlorophenol	–	3.2E-3	5.9E-1	**1.2E+0**	–
Phenanthrene	4.7E-3	1.4E-3	1.4E-1	2.8E-1	–

Refer to footnotes at end of table.

Table B-18 (Concluded)
HQs for Ecological Receptors at SWMU 2

COPEC	Plant HQ[a]	Deer Mouse HQ (Herbivorous)[a]	Deer Mouse HQ (Omnivorous)[a]	Deer Mouse HQ (Insectivorous)[a]	Burrowing Owl HQ[a]
Toluene	1.4E-5	1.6E-5	1.5E-4	2.8E-4	–
Trichloroethene	–	6.1E-4	5.4E-3	1.0E-2	–
Xylenes[b]	–	1.4E-3	2.4E-2	4.7E-2	–
HI[c]	**2.1E+2**	**6.4E+1**	**1.1E+2**	**1.5E+2**	**3.3E+2**

[a]**Bold** values indicate the HQ or HI exceeds unity.
[b]Xylenes based upon the sum of o-, p-, and m-xylene.
[c]The HI is the sum of individual HQs.
COPEC = Constituent of potential ecological concern.
HI = Hazard index.
HQ = Hazard quotient.
PCB = Polychlorinated biphenyl.
SWMU = Solid Waste Management Unit.
– = Insufficient toxicity data available for risk estimation purposes.

not be determined for the burrowing owl because of a lack of sufficient toxicity information. As directed by the NMED, HIs are calculated for each of the receptors (the HI is the sum of chemical-specific HQs for all pathways for a given receptor). All receptors have total HIs greater than unity, with a maximum HI of 330 for the burrowing owl.

Tables B-19 and B-20 summarize the internal and external dose-rate model results for Cs-137, H-3, Th-232, U-235, and U-238 for the deer mouse and burrowing owl, respectively. The total radiation dose rate to the deer mouse is predicted to be 3.5E-2 rad/day and that for the burrowing owl is 3.3E-2 rad/day. The dose rates for the deer mouse and the burrowing owl are less than the benchmark of 0.1 rad/day.

Table B-19
Internal and External Dose Rates for
Deer Mice Exposed to Radionuclides at SWMU 2

Radionuclide	Maximum Concentration (pCi/g)	Internal Dose (rad/day)	External Dose (rad/day)	Total Dose (rad/day)
Cs-137	0.387	1.2E-5	1.8E-5	3.0E-5
H-3	46.75	1.5E-4	0.0E+0	1.5E-4
Th-232	3.58	1.4E-6	6.8E-4	6.8E-4
U-235	3.28	3.5E-5	5.3E-5	8.9E-5
U-238	208	2.0E-3	3.2E-2	3.4E-2
Total		2.2E-3	3.2E-2	3.5E-2

pCi/g = Picocurie(s) per gram.
SWMU = Solid Waste Management Unit.

Table B-20
Internal and External Dose Rates for
Burrowing Owls Exposed to Radionuclides at SWMU 2

Radionuclide	Maximum Concentration (pCi/g)	Internal Dose (rad/day)	External Dose (rad/day)	Total Dose (rad/day)
Cs-137	0.387	7.9E-6	1.8E-5	2.6E-5
H-3	46.75	5.3E-5	0.0E+0	5.3E-5
Th-232	3.58	2.0E-6	6.8E-4	6.8E-4
U-235	3.28	1.4E-5	5.3E-5	6.8E-5
U-238	208	8.5E-4	3.2E-2	3.2E-2
Total		9.3E-4	3.2E-2	3.3E-2

pCi/g = Picocurie(s) per gram.
SWMU = Solid Waste Management Unit.

VII.3.5 Uncertainty Assessment

Many uncertainties are associated with the characterization of ecological risks at SWMU 2. These uncertainties result from assumptions used in calculating risk that could overestimate or underestimate true risk present at the site. For this risk assessment, assumptions are made that are more likely to overestimate exposures and risk rather than to underestimate them. These conservative assumptions are used to be more protective of the ecological resources potentially affected by the site. Conservatisms incorporated into this risk assessment include the use of maximum analyte concentrations measured in soil samples to evaluate risk, the use of wildlife toxicity benchmarks based upon NOAEL values, and the incorporation of strict herbivorous and strict insectivorous diets for predicting the extreme HQ values for the deer mouse. Each of these uncertainties is discussed in greater detail in the uncertainty section of the ecological risk assessment methodology document for the SNL/NM ER Project (IT July 1998).

Uncertainties associated with the estimation of risk to ecological receptors from exposure to Cs-137, H-3, Th-232, U-235, and U-238 are primarily related to those inherent in the radionuclide-specific data. Radionuclide-dependent data are measured values that have their associated errors. The dose-rate models used for these calculations are based upon conservative estimates of receptor shape, radiation absorption by body tissues, and intake parameters. The goal is to provide a realistic but conservative estimate of a receptor's internal and external exposure to radionuclides in soil.

The exposures estimated for the burrowing owl are based upon the assumption that all prey eaten by the owl comes from the area of contamination. Because the home range of the burrowing owl is expected to be greater than 35 acres and the area of the Classified Waste Landfill is approximately 1.5 acres, it is expected that no more than 4.3 percent of the owl's prey would come from the area of potential exposure to COPECs. Adjusting the quantity of prey taken from the site to 4.3 percent of the total prey eaten by the owl reduces the HQ value for bis(2-ethylhexyl) phthalate to approximately 0.077 and that for mercury to 14, when based upon the toxicity benchmark for organic mercury, and 0.20 when based upon inorganic mercury. Therefore, the predicted risk to the burrowing owl is either eliminated or significantly reduced when a more realistic assumption of area use is used in the calculation of HQs for this site.

The use of the maximum concentrations as the basis for estimating exposure results in conservative HQ values. To evaluate the effect of using the maximum values on the predictions of potential ecological risk, the mean concentrations, as conservatively estimated by the UCL of the mean, were calculated and used as the exposure concentrations in order to provide a more realistic quantification of actual risk. Of the metals that resulted in HQs greater than 1 for one or more of the ecological receptors, exposures based upon the UCL concentrations of lead, nickel, and selenium (15.9, 19.0, and 0.558 mg/kg, respectively) do not result in HQs greater than unity. In the cases of cadmium and silver, exposures to the UCL concentrations (5.03 and 2.69 mg/kg, respectively) result in only the plant HQs exceeding unity and, in both cases, these HQs (1.7 and 1.3, respectively) are very low. Exposures based upon the UCL concentrations for arsenic and barium (3.32 and 208 mg/kg, respectively) result in HQs greater than unity for both the omnivorous and insectivorous deer mice; however, it should be noted that HQs greater than unity for these receptors are also found when exposure is based upon the background screening levels (4.4 and 200 mg/kg, respectively) for these two COPECs. In fact, the UCL for arsenic is less than its background screening level and that for

barium is only marginally above its background screening level. Therefore, the potential for risk to ecological receptors from exposures to arsenic and barium are likely to be within the ranges of those from background exposure.

For total chromium, it should be noted that the only HQ exceeding unity is that for plants. The UCL concentration of total chromium is 13.6 mg/kg. Because the plant toxicity benchmark for total chromium is 1.0 mg/kg, this results in an HQ for plants of 13.6. However, background concentrations of total chromium (as represented by the background screening value of 12.8 mg/kg) can account for as much as 94 percent of the UCL, and exposure of plants to this background value also results in an HQ greater than unity (12.8). It is therefore likely that the plant toxicity benchmark used for total chromium overestimates potential risk. This may be due to the fact that the majority of the total chromium measured at the Classified Waste Landfill is likely to be chromium III; however, the toxicity benchmark is based upon studies that used chromium VI (Efroymson et al. 1997), which may be more toxic to plants than chromium III. Further, this benchmark is conservatively based upon laboratory tests using soil amendments with a highly available form of chromium ($K_2Cr_2O_7$) (Efroymson et al. 1997). It is likely that only a small fraction of the total chromium in the soil at SWMU 2 is in a form that is highly available for plant uptake; therefore, the plant toxicity benchmark for this metal probably overestimates risk to plants to a significant degree.

For mercury, exposure of plants to the UCL (1.03 mg/kg) reduces the HQ from 77 (based upon the maximum concentration) to 3.4. These HQs are based upon the toxicity benchmark of 0.3 mg/kg from Efroymson et al. (1997). It should be noted that these authors attribute a low degree of confidence to this benchmark for two reasons. First, it is from a secondary source indicating only unspecified toxic effects at this level of exposure (and not indicating the form of mercury used). Second, the only other reference for mercury effects in plants located by these authors indicated an effect on seedling growth at 64 mg/kg and no effect on plants at 34.9 mg/kg. Therefore, these results show the threshold of toxicity in plants to be more than two orders of magnitude greater than that indicated by the secondary source. The latter results also indicate that risk to plants from mercury exposure at SWMU 2 is unlikely.

HQs exceeding unity for mercury exposure in the deer mouse were limited to those based upon the highly conservative assumption that all mercury at this site is in organic form. Under this assumption, the HQs for the deer mouse are reduced from 58 (based upon the maximum concentration) to 2.6 when the exposure estimation is based upon the UCL. For the burrowing owl, HQs based upon the maximum concentration exceed unity regardless of the assumed form of mercury in the soil. When exposure is based upon the UCL, the HQ for organic mercury is reduced from 330 to 15, and that for inorganic mercury from 4.7 to 0.21. Because the mercury concentrations are measured as total mercury, it is likely that these values represent a mixture of both organic and inorganic forms of mercury. Mercury in inorganic form probably dominates and shows HQs less than unity for both the deer mouse and burrowing owl when exposure is based upon the UCL. These results indicate that predictions of risk to the deer mouse and the burrowing owl from mercury exposure at SWMU 2 are due to conservative assumptions of exposure point concentration and the form of mercury in the soil. It should further be noted that in the case of the burrowing owl, the application of the area use factor of 4.3 percent further reduces the HQ for organic mercury to 0.65, thereby eliminating the prediction of potential risk.

Of the organic COPECs that result in HQs greater than 1 for one or more of the ecological receptors, exposures based upon the UCL concentrations of bis(2-ethylhexyl) phthalate, pentachlorophenol, Aroclor-1242, and Aroclor-1260 (0.142, 0.083, 0.0071, and 0.0055 mg/kg,

respectively) do not result in HQs greater than unity for any of the receptors. In the case of Aroclor-1254, exposures to the UCL (0.0777 mg/kg) result in HQs greater than unity for both the omnivorous and insectivorous deer mice (2.7 and 5.4, respectively). The omnivorous diet of the deer mouse is assumed to consist of equal parts of plant and invertebrate food, while the insectivorous dietary regime is modeled as the extreme case (100 percent invertebrate food items), which is unlikely to occur in nature for this species. Based upon dietary information from the EPA (1993), deer mouse diets are probably better represented as 60 percent plant material and 40 percent invertebrates. Based upon the 60/40 dietary composition, the HQ for the maximum concentration of Aroclor-1254 is 25; it is 2.1 when based upon the UCL concentration. Therefore, it can be concluded that the magnitude of the initial estimates of risk to the deer mouse from exposure to Aroclor-1254 can be attributed to conservatism assumptions used to calculate these estimates, including the use of the maximum detected concentration as the exposure concentration and the assumed dietary mix of plants and invertebrates in the diets of the deer mouse.

Based upon this uncertainty analysis, the potential for ecological risks at SWMU 2 is generally expected to be low. HQs greater than unity were initially predicted; however, closer examination of the exposure assumptions reveal an overestimation of risk primarily attributed to conservative toxicity benchmarks; the use of maximum concentrations, maximum bioavailability, and maximum area use to estimate exposure; and the contribution of background risk. The incorporation of more realistic assumptions in the estimation of ecological risk results in predictions of potential risk that are low and within the acceptable range.

VII.3.6 Risk Interpretation

Ecological risks associated with SWMU 2, the Classified Waste Landfill, were estimated through a risk assessment that incorporates site-specific information when available. Overall, risks to ecological receptors are expected to be low. Initially predicted risks associated with exposure to COPECs were based upon calculations using maximum concentration values. Evaluation of these predicted risks based upon the UCL concentrations of the COPECs results in significant reductions in predicted risk. In addition, for several COPECs (i.e., lead, nickel, selenium, bis[2-ethylhexyl] phthalate, Aroclor-1242, Aroclor-1260, and pentachlorophenol), HQs exceeding unity were eliminated based upon the UCL concentrations. All remaining HQs are low (less than or equal to 5.4) or near or within the range of background risk (e.g., arsenic, barium, and total chromium). HQs for plants from exposures to total chromium and mercury are probably overestimated due to uncertainties associated with the available toxicity benchmarks and assumptions of high bioavailability. HQs for the burrowing owl are overestimated as a result of the assumption of 100-percent area use by this receptor, and those for the omnivorous and insectivorous deer mice are likely overestimated due to the conservative assumptions of dietary composition. Based upon this final analysis, ecological risks associated with SWMU 2 are expected to be low.

VII.3.7 Risk Assessment Scientific/Management Decision Point

After potential ecological risks associated with the site have been assessed, a decision is made regarding whether adequate data exists to support the conclusions of the risk assessment or whether additional data should be collected to assess actual ecological risk more thoroughly.

With respect to this site, it is concluded that adequate data exist to support the conclusion that the potential for ecological risks associated with this site is low.

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ADDENDUM 1
EXPOSURE PATHWAY DISCUSSION FOR CHEMICAL AND RADIONUCLIDE CONTAMINATION

Introduction

Sandia National Laboratories/New Mexico (SNL/NM) uses a default set of exposure routes and associated default parameter values developed for each future land-use designation being considered for SNL/NM Environmental Restoration (ER) Project sites. This default set of exposure scenarios and parameter values are invoked for risk assessments unless site-specific information suggests other parameter values. Because many SNL/NM solid waste management units (SWMUs) have similar types of contamination and physical settings, SNL/NM believes that the risk assessment analyses at these sites can be similar. A default set of exposure scenarios and parameter values facilitates the risk assessments and subsequent review.

The default exposure routes and parameter values used are those that SNL/NM views as resulting in a Reasonable Maximum Exposure (RME) value. Subject to comments and recommendations by the U.S. Environmental Protection Agency (EPA) Region VI and New Mexico Environment Department (NMED), SNL/NM will use these default exposure routes and parameter values in future risk assessments.

At SNL/NM, all SWMUs exist within the boundaries of the Kirtland Air Force Base. Approximately 240 potential waste and release sites have been identified where hazardous, radiological, or mixed materials may have been released to the environment. Evaluation and characterization activities have occurred at all of these sites to varying degrees. Among other documents, the SNL/NM ER draft Environmental Assessment (DOE 1996) presents a summary of the hydrogeology of the sites and the biological resources present. When evaluating potential human health risk the current or reasonably foreseeable land use negotiated and approved for the specific SWMU/AOC, aggregate, or watershed will be used. The following references generally document these land uses: *Workbook: Future Use Management Area 2 (DOE et al. September 1995); Workbook: Future Use Management Area 1 (DOE et al. October 1995); Workbook: Future Use Management Areas 3, 4, 5, and 6 (DOE and USAF January 1996); Workbook: Future Use Management Area 7 (DOE and USAF March 1996)*. At this time, all SNL/NM SWMUs have been tentatively designated for either industrial or recreational future land use. The NMED has also requested that risk calculations be performed based upon a residential land-use scenario. Therefore, all three land-use scenarios will be addressed in this document.

The SNL/NM ER Project has screened the potential exposure routes and identified default parameter values to be used for calculating potential intake and subsequent hazard index (HI), excess cancer risk and dose values. The EPA (EPA 1989) provides a summary of exposure routes that could potentially be of significance at a specific waste site. These potential exposure routes consist of:

- Ingestion of contaminated drinking water
- Ingestion of contaminated soil

- Ingestion of contaminated fish and shellfish
- Ingestion of contaminated fruits and vegetables
- Ingestion of contaminated meat, eggs, and dairy products
- Ingestion of contaminated surface water while swimming
- Dermal contact with chemicals in water
- Dermal contact with chemicals in soil
- Inhalation of airborne compounds (vapor phase or particulate)
- External exposure to penetrating radiation (immersion in contaminated air; immersion in contaminated water; and exposure from ground surfaces with photon-emitting radionuclides)

Based upon the location of the SNL/NM SWMUs and the characteristics of the surface and subsurface at the sites, we have evaluated these potential exposure routes for different land-use scenarios to determine which should be considered in risk assessment analyses (the last exposure route is pertinent to radionuclides only). At SNL/NM SWMUs, there is currently no consumption of fish, shellfish, fruits, vegetables, meat, eggs, or dairy products that originate on site. Additionally, no potential for swimming in surface water is present due to the high-desert environmental conditions. As documented in the RESRAD computer code manual (ANL 1993), risks resulting from immersion in contaminated air or water are not significant compared to risks from other radiation exposure routes.

For the industrial and recreational land-use scenarios, SNL/NM ER has, therefore, excluded the following five potential exposure routes from further risk assessment evaluations at any SNL/NM SWMU:

- Ingestion of contaminated fish and shellfish
- Ingestion of contaminated fruits and vegetables
- Ingestion of contaminated meat, eggs, and dairy products
- Ingestion of contaminated surface water while swimming
- Dermal contact with chemicals in water

That part of the exposure pathway for radionuclides related to immersion in contaminated air or water is also eliminated.

Based upon this evaluation, for future risk assessments the exposure routes that will be considered are shown in Table 1.

Table 1
Exposure Pathways Considered for Various Land-Use Scenarios

Industrial	Recreational	Residential
Ingestion of contaminated drinking water	Ingestion of contaminated drinking water	Ingestion of contaminated drinking water
Ingestion of contaminated soil	Ingestion of contaminated soil	Ingestion of contaminated soil
Inhalation of airborne compounds (vapor phase or particulate)	Inhalation of airborne compounds (vapor phase or particulate)	Inhalation of airborne compounds (vapor phase or particulate)
Dermal contact (nonradiological constituents only) soil only	Dermal contact (nonradiological constituents only) soil only	Dermal contact (nonradiological constituents only) soil only
External exposure to penetrating radiation from ground surfaces	External exposure to penetrating radiation from ground surfaces	External exposure to penetrating radiation from ground surfaces

Equations and Default Parameter Values for Identified Exposure Routes

In general, SNL/NM expects that ingestion of compounds in drinking water and soil will be the more significant exposure routes for chemicals; external exposure to radiation may also be significant for radionuclides. All of the above routes will, however, be considered for their appropriate land-use scenarios. The general equation for calculating potential intakes via these routes is shown below. The equations are taken from "Assessing Human Health Risks Posed by Chemicals: Screening-Level Risk Assessment" (NMED March 2000) and "Technical Background Document for Development of Soil Screening Levels" (NMED December 2000). Equations from both documents are based upon the "Risk Assessment Guidance for Superfund" (RAGS): Volume 1 (EPA 1989, 1991). These general equations also apply to calculating potential intakes for radionuclides. A more in-depth discussion of the equations used in performing radiological pathway analyses with the RESRAD code may be found in the RESRAD Manual (ANL 1993). RESRAD is the only code designated by the U.S. Department of Energy (DOE) in DOE Order 5400.5 for the evaluation of radioactively contaminated sites (DOE 1993). The Nuclear Regulatory Commission (NRC) has approved the use of RESRAD for dose evaluation by licensees involved in decommissioning, NRC staff evaluation of waste disposal requests, and dose evaluation of sites being reviewed by NRC staff. EPA Science Advisory Board reviewed the RESRAD model. EPA used RESRAD in their rulemaking on radiation site cleanup regulations. RESRAD code has been verified, undergone several benchmarking analyses, and been included in the International Atomic Energy Agency's VAMP and BIOMOVS II projects to compare environmental transport models.

Also shown are the default values SNL/NM ER will use in RME risk assessment calculations for industrial, recreational, and residential land-use scenarios, based upon EPA and other governmental agency guidance. The pathways and values for chemical contaminants are discussed first, followed by those for radionuclide contaminants. RESRAD input parameters that are left as the default values provided with the code are not discussed. Further information relating to these parameters may be found in the RESRAD Manual (ANL 1993) or by directly accessing the RESRAD websites at: http://web.ead.anl.gov/resrad/home2/ or http://web.ead.anl.gov/resrad/documents/.

Generic Equation for Calculation of Risk Parameter Values

The equation used to calculate the risk parameter values (i.e., hazard quotients/HI, excess cancer risk, or radiation total effective dose equivalent [TEDE] [dose]) is similar for all exposure pathways and is given by:

Risk (or Dose) = Intake x Toxicity Effect (either carcinogenic, noncarcinogenic, or radiological)

$$= C \times (CR \times EFD/BW/AT) \times \text{Toxicity Effect} \quad (1)$$

where;

C = contaminant concentration (site specific)
CR = contact rate for the exposure pathway
EFD= exposure frequency and duration
BW = body weight of average exposure individual
AT = time over which exposure is averaged.

For nonradiological constituents of concern (COCs), the total risk/dose (either cancer risk or HI) is the sum of the risks/doses for all of the site-specific exposure pathways and contaminants. For radionuclides, the calculated radiation exposure, expressed as TEDE is compared directly to the exposure guidelines of 15 millirem per year (mrem/year) for industrial and recreational future use and 75 mrem/year for the unlikely event that institutional control of the site is lost and the site is used for residential purposes (EPA 1997).

The evaluation of the carcinogenic health hazard produces a quantitative estimate for excess cancer risk resulting from the COCs present at the site. This estimate is evaluated for determination of further action by comparison of the quantitative estimate with the potentially acceptable risk of 1E-5 for nonradiological carcinogens. The evaluation of the noncarcinogenic health hazard produces a quantitative estimate (i.e., the HI) for the toxicity resulting from the COCs present at the site. This estimate is evaluated for determination of further action by comparison of this quantitative estimate with the EPA standard HI of unity (1). The evaluation of the health hazard from radioactive compounds produces a quantitative estimate of doses resulting from the COCs present at the site. This estimated dose is used to calculate an assumed risk. However, this calculated risk is presented for illustration purposes only, not to determine compliance with regulations.

The specific equations used for the individual exposure pathways can be found in RAGS (EPA 1989) and are outlined below. The RESRAD Manual (ANL 1993) describes similar equations for the calculation of radiological exposures.

Soil Ingestion

A receptor can ingest soil or dust directly by working in the contaminated soil. Indirect ingestion can occur from sources such as unwashed hands introducing contaminated soil to food that is then eaten. An estimate of intake from ingesting soil will be calculated as follows:

$$I_s = \frac{C_s * IR * CF * EF * ED}{BW * AT}$$

where:

I_s = Intake of contaminant from soil ingestion (milligrams [mg]/kilogram [kg]-day)
C_s = Chemical concentration in soil (mg/kg)
IR = Ingestion rate (mg soil/day)
CF = Conversion factor (1E-6 kg/mg)
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
BW = Body weight (kg)
AT = Averaging time (period over which exposure is averaged) (days)

It should be noted that it is conservatively assumed that the receptor only ingests soil from the contaminated source.

Soil Inhalation

A receptor can inhale soil or dust directly by working in the contaminated soil. An estimate of intake from inhaling soil will be calculated as follows (EPA August 1997):

$$I_s = \frac{C_s * IR * EF * ED * \left(1/VF \text{ or } 1/PEF\right)}{BW * AT}$$

where:

I_s = Intake of contaminant from soil inhalation (mg/kg-day)
C_s = Chemical concentration in soil (mg/kg)
IR = Inhalation rate (cubic meters [m^3]/day)
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
VF = soil-to-air volatilization factor (m^3/kg)
PEF = particulate emission factor (m^3/kg)
BW = Body weight (kg)
AT = Averaging time (period over which exposure is averaged) (days)

Soil Dermal Contact

$$D_a = \frac{C_s * CF * SA * AF * ABS * EF * ED}{BW * AT}$$

where:

D_a = Absorbed dose (mg/kg-day)
C_s = Chemical concentration in soil (mg/kg)
CF = Conversion factor (1E-6 kg/mg)
SA = Skin surface area available for contact (cm^2/event)
AF = Soil to skin adherence factor (mg/cm^2)
ABS = Absorption factor (unitless)
EF = Exposure frequency (events/year)

ED = Exposure duration (years)
BW = Body weight (kg)
AT = Averaging time (period over which exposure is averaged) (days)

Groundwater Ingestion

A receptor can ingest water by drinking it or through using household water for cooking. An estimate of intake from ingesting water will be calculated as follows (EPA August 1997):

$$I_w = \frac{C_w * IR * EF * ED}{BW * AT}$$

where:

I_w = Intake of contaminant from water ingestion (mg/kg/day)
C_w = Chemical concentration in water (mg/liter [L])
IR = Ingestion rate (L/day)
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
BW = Body weight (kg)
AT = Averaging time (period over which exposure is averaged) (days)

Groundwater Inhalation

The amount of a constituent taken into the body via exposure to volatilization from showering or other household water uses will be evaluated using the concentration of the constituent in the water source (EPA 1991 and 1992). An estimate of intake from volatile inhalation from groundwater will be calculated as follows (EPA 1991):

$$I_w = \frac{C_w * K * IR_i * EF * ED}{BW * AT}$$

where:

I_w = Intake of volatile in water from inhalation (mg/kg/day)
C_w = Chemical concentration in water (mg/L)
K = volatilization factor (0.5 L/m^3)
IR_i = Inhalation rate (m^3/day)
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
BW = Body weight (kg)
AT = Averaging time (period over which exposure is averaged—days)

For volatile compounds, volatilization from groundwater can be an important exposure pathway from showering and other household uses of groundwater. This exposure pathway will only be evaluated for organic chemicals with a Henry's Law constant greater than $1x10^{-5}$ and with a molecular weight of 200 grams/mole or less (EPA 1991).

Tables 2 and 3 show the default parameter values suggested for use by SNL/NM at SWMUs, based upon the selected land-use scenarios for nonradiological and radiological COCs,

respectively. References are given at the end of the table indicating the source for the chosen parameter values. SNL/NM uses default values that are consistent with both regulatory guidance and the RME approach. Therefore, the values chosen will, in general, provide a conservative estimate of the actual risk parameter. These parameter values are suggested for use for the various exposure pathways, based upon the assumption that a particular site has no unusual characteristics that contradict the default assumptions. For sites for which the assumptions are not valid, the parameter values will be modified and documented.

Summary

SNL/NM will use the described default exposure routes and parameter values in risk assessments at sites that have an industrial, recreational, or residential future land-use scenario. There are no current residential land-use designations at SNL/NM ER sites, but NMED has requested this scenario to be considered to provide perspective of the risk under the more restrictive land-use scenario. For sites designated as industrial or recreational land use, SNL/NM will provide risk parameter values based upon a residential land-use scenario to indicate the effects of data uncertainty on risk value calculations or in order to potentially mitigate the need for institutional controls or restrictions on SNL/NM ER sites. The parameter values are based upon EPA guidance and supplemented by information from other government sources. If these exposure routes and parameters are acceptable, SNL/NM will use them in risk assessments for all sites where the assumptions are consistent with site-specific conditions. All deviations will be documented.

Table 2
Default Nonradiological Exposure Parameter Values for Various Land-Use Scenarios

Parameter	Industrial	Recreational	Residential
General Exposure Parameters			
Exposure Frequency (day/yr)	250[a,b]	8.7 (4 hr/wk for 52 wk/yr)[a,b]	350[a,b]
Exposure Duration (yr)	25[a,b,c]	30[a,b,c]	30[a,b,c]
Body Weight (kg)	70[a,b,c]	70 Adult[a,b,c] 15 Child[a,b,c]	70 Adult[a,b,c] 15 Child[a,b,c]
Averaging Time (days) for Carcinogenic Compounds (= 70 yr x 365 day/yr) for Noncarcinogenic Compounds (= ED x 365 day/yr)	25,550[a,b] 9,125[a,b]	25,550[a,b] 10,950[a,b]	25,550[a,b] 10,950[a,b]
Soil Ingestion Pathway			
Ingestion Rate (mg/day)	100[a,b]	200 Child[a,b] 100 Adult[a,b]	200 Child[a,b] 100 Adult[a,b]
Inhalation Pathway			
Inhalation Rate (m^3/day)	20[a,b]	15 Child[a] 30 Adult[a]	10 Child[a] 20 Adult[a]
Volatilization Factor (m^3/kg)	Chemical Specific	Chemical Specific	Chemical Specific
Particulate Emission Factor (m^3/kg)	1.36E9[a]	1.36E9[a]	1.36E9[a]
Water Ingestion Pathway			
Ingestion Rate (liter/day)	2.4[a]	2.4[a]	2.4[a]
Dermal Pathway			
Skin Adherence Factor (mg/cm^2)	0.2[a]	0.2 Child[a] 0.07 Adult[a]	0.2 Child[a] 0.07 Adult[a]
Exposed Surface Area for Soil/Dust (cm^2/day)	3,300[a]	2,800 Child[a] 5,700 Adult[a]	2,800 Child[a] 5,700 Adult[a]
Skin Adsorption Factor	Chemical Specific	Chemical Specific	Chemical Specific

[a]Technical Background Document for Development of Soil Screening Levels (NMED 2000).
[b]Risk Assessment Guidance for Superfund, Vol. 1, Part B (EPA 1991).
[c]Exposure Factors Handbook (EPA August 1997).
ED = Exposure duration.
EPA = U.S. Environmental Protection Agency.
hr = Hour(s).
kg = Kilogram(s).
m = Meter(s).
mg = Milligram(s).
NA = Not available.
wk = Week(s).
yr = Year(s).

Table 3
Default Radiological Exposure Parameter Values for Various Land-Use Scenarios

Parameter	Industrial	Recreational	Residential
General Exposure Parameters			
Exposure Frequency	8 hr/day for 250 day/yr	4 hr/wk for 52 wk/yr	365 day/yr
Exposure Duration (yr)	25[a,b]	30[a,b]	30[a,b]
Body Weight (kg)	70 Adult[a,b]	70 Adult[a,b]	70 Adult[a,b]
Soil Ingestion Pathway			
Ingestion Rate	100 mg/day[c]	100 mg/day[c]	100 mg/day[c]
Averaging Time (days) (= 30 yr x 365 day/yr)	10,950[d]	10,950[d]	10,950[d]
Inhalation Pathway			
Inhalation Rate (m^3/yr)	7,300[d,e]	10,950[e]	7,300[d,e]
Mass Loading for Inhalation g/m^3	1.36 E-5[d]	1.36 E-5[d]	1.36 E-5[d]
Food Ingestion Pathway			
Ingestion Rate, Leafy Vegetables (kg/yr)	NA	NA	16.5[c]
Ingestion Rate, Fruits, Non-Leafy Vegetables & Grain (kg/yr)	NA	NA	101.8[b]
Fraction Ingested	NA	NA	0.25[b,d]

[a]Risk Assessment Guidance for Superfund, Vol. 1, Part B (EPA 1991).
[b]Exposure Factors Handbook (EPA August 1997).
[c]EPA Region VI guidance (EPA 1996).
[d]For radionuclides, RESRAD (ANL 1993).
[e]SNL/NM (February 1998).
EPA = U.S. Environmental Protection Agency.
g = Gram(s)
hr = Hour(s).
kg = Kilogram(s).
m = Meter(s).
mg = Milligram(s).
NA = Not applicable.
wk = Week(s).
yr = Year(s).

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ADDENDUM 2
CALCULATION OF THE UPPER CONFIDENCE LIMITS OF MEAN CONCENTRATIONS

For conservatism, Sandia National Laboratories/New Mexico uses the maximum concentration of the constituents of concern (COCs) for initial risk calculation. If the maximum concentrations produce risk above New Mexico Environment Department (NMED) guidelines, conservatism with this approach is evaluated and, if appropriate, a more realistic approach is applied. When the site has been adequately characterized, an estimate of the mean concentration of the COCs is more representative of actual site conditions. The NMED has proposed the use of the 95, 97.5, or 99% upper confidence limit (UCL) of the mean (depending upon the variants of the data set) to represent average concentrations at a site (NMED December 2000). The UCL is calculated according to NMED guidance (Tharp June 2002) using the U.S. Environmental Protection Agency ProUCL program (EPA April 2002). Attached are the outputs from that program and the calculated UCLs used in the risk analysis.

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ATTACHMENT

SWMU 2 Human Health		
Summary Statistics for	Arsenic	
Number of Samples	467	
Minimum	0.03	
Maximum	8.3	
Mean	3.119786	
Median	3.13	
Standard Deviation	0.657227	
Variance	0.431947	
Coefficient of Variation	0.210664	
Skewness	0.962508	
Lilliefors Test Statisitic	0.142967	
Lilliefors 5% Critical Value	0.040999	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95	% UCL (Assuming Normal Data)	
Student's-t	3.16991	
95	% UCL (Adjusted for Skewness)	
Adjusted-CLT	3.171258	
Modified-t	3.170136	
95	% Non-parametric UCL	
CLT	3.169811	
Jackknife	3.16991	
Standard Bootstrap	3.17017	
Bootstrap-t	3.173531	
Chebyshev (Mean, Std)	3.252352	

SWMU 2 Human Health		
Summary Statistics for	Barium	
Number of Samples	487	
Minimum	16	
Maximum	16000	
Mean	268.3218	
Median	183	
Standard Deviation	830.3775	
Variance	689526.8	
Coefficient of Variation	3.094708	
Skewness	15.91506	
Lilliefors Test Statisitic	0.175821	
Lilliefors 5% Critical Value	0.040148	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99 % UCL (Assuming Normal Data)		
Student's-t	356.1472	
99 % UCL (Adjusted for Skewness)		
Adjusted-CLT	409.3337	
Modified-t	360.67	
99 % Non-parametric UCL		
CLT	355.8576	
Jackknife	356.1472	
Standard Bootstrap	355.5095	
Bootstrap-t	578.2945	
Chebyshev (Mean, Std)	642.7156	

SWMU 2 Human Health		
Summary Statistics for	Cadmium	
Number of Samples	487	
Minimum	0.0052	
Maximum	740	
Mean	14.91523	
Median	1.8	
Standard Deviation	69.94972	
Variance	4892.963	
Coefficient of Variation	4.689819	
Skewness	7.534745	
Lilliefors Test Statisitic	0.073069	
Lilliefors 5% Critical Value	0.040148	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99	% UCL (Assuming Normal Data)	
Student's-t	22.31351	
99	% UCL (Adjusted for Skewness)	
Adjusted-CLT	24.42181	
Modified-t	22.49388	
99	% Non-parametric UCL	
CLT	22.28911	
Jackknife	22.31351	
Standard Bootstrap	22.26314	
Bootstrap-t	27.32096	
Chebyshev (Mean, Std)	46.45359	

SWMU 2 Human Health		
Summary Statistics for	Lead	
Number of Samples	385	
Minimum	0.45	
Maximum	620	
Mean	21.59571	
Median	7.2	
Standard Deviation	61.22937	
Variance	3749.036	
Coefficient of Variation	2.835256	
Skewness	6.093556	
Lilliefors Test Statisitic	0.154402	
Lilliefors 5% Critical Value	0.045155	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99% UCL (Assuming Normal Data)		
Student's-t	28.8856	
99% UCL (Adjusted for Skewness)		
Adjusted-CLT	30.76492	
Modified-t	29.04711	
99% Non-parametric UCL		
CLT	28.85517	
Jackknife	28.8856	
Standard Bootstrap	28.89646	
Bootstrap-t	32.49327	
Chebyshev (Mean, Std)	52.64467	

SWMU 2 Human Health		
Summary Statistics for	Mercury	
Number of Samples	487	
Minimum	0.00509	
Maximum	370	
Mean	2.731064	
Median	0.27	
Standard Deviation	19.77158	
Variance	390.9154	
Coefficient of Variation	7.239515	
Skewness	15.43269	
Lilliefors Test Statisitic	0.076849	
Lilliefors 5% Critical Value	0.040148	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99 % UCL (Assuming Normal Data)		
Student's-t	4.822219	
99 % UCL (Adjusted for Skewness)		
Adjusted-CLT	6.050017	
Modified-t	4.926643	
99 % Non-parametric UCL		
CLT	4.815323	
Jackknife	4.822219	
Standard Bootstrap	4.787805	
Bootstrap-t	14.53318	
Chebyshev (Mean, Std)	11.64551	

SWMU 2 Human Health		
Summary Statistics for	Selenium	
Number of Samples	464	
Minimum	0.035	
Maximum	250	
Mean	1.17399	
Median	0.53	
Standard Deviation	11.72236	
Variance	137.4137	
Coefficient of Variation	9.985057	
Skewness	20.81395	
Lilliefors Test Statisitic	0.162545	
Lilliefors 5% Critical Value	0.041132	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99	% UCL (Assuming Normal Data)	
Student's-t	2.444379	
99	% UCL (Adjusted for Skewness)	
Adjusted-CLT	3.476214	
Modified-t	2.532019	
99	% Non-parametric UCL	
CLT	2.439982	
Jackknife	2.444379	
Standard Bootstrap	2.402918	
Bootstrap-t	20.10096	
Chebyshev (Mean, Std)	6.588681	

SWMU 2 Ecological		
Summary Statistics for	Arsenic	
Number of Samples	291	
Minimum	1.4	
Maximum	5.86	
Mean	3.167972509	
Median	3.2	
Standard Deviation	0.582360547	
Variance	0.339143806	
Coefficient of Variation	0.183827525	
Skewness	0.200211046	
Lilliefors Test Statisitic	0.103760835	
Lilliefors 5% Critical Value	0.05193824	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95 % UCL (Assuming Normal Data)		
Student's-t	3.22430542	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	3.224553597	
Modified-t	3.224372199	
95 % Non-parametric UCL		
CLT	3.224125475	
Jackknife	3.22430542	
Standard Bootstrap	3.224280506	
Bootstrap-t	3.224582171	
Chebyshev (Mean, Std)	3.316779128	

SWMU 2 Ecological		
Summary Statistics for	Barium	
Number of Samples	311	
Minimum	16	
Maximum	620	
Mean	173.8819936	
Median	170	
Standard Deviation	60.19730299	
Variance	3623.715288	
Coefficient of Variation	0.346196301	
Skewness	1.900442516	
Lilliefors Test Statisitic	0.114655311	
Lilliefors 5% Critical Value	0.050240451	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99 % UCL (Assuming Normal Data)		
Student's-t	181.8641905	
99 % UCL (Adjusted for Skewness)		
Adjusted-CLT	182.5478238	
Modified-t	181.9254989	
99 % Non-parametric UCL		
CLT	181.822926	
Jackknife	181.8641905	
Standard Bootstrap	181.8577527	
Bootstrap-t	182.8412192	
Chebyshev (Mean, Std)	207.8456498	

SWMU 2 Ecological		
Summary Statistics for	Cadmium	
Number of Samples	311	
Minimum	5.20E-03	
Maximum	49.4	
Mean	2.493255145	
Median	8.20E-01	
Standard Deviation	4.495847871	
Variance	20.21264808	
Coefficient of Variation	1.803204089	
Skewness	5.079115929	
Lilliefors Test Statisitic	0.082579424	
Lilliefors 5% Critical Value	0.050240451	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99 % UCL (Assuming Normal Data)		
Student's-t	3.089407151	
99 % UCL (Adjusted for Skewness)		
Adjusted-CLT	3.231017383	
Modified-t	3.101644521	
99 % Non-parametric UCL		
CLT	3.086325302	
Jackknife	3.089407151	
Standard Bootstrap	3.098016846	
Bootstrap-t	3.279353694	
Chebyshev (Mean, Std)	5.029837751	

SWMU 2 Ecological		
Summary Statistics for	Chromium	
Number of Samples	311	
Minimum	2.9	
Maximum	70	
Mean	10.14826367	
Median	9.08	
Standard Deviation	6.040887796	
Variance	36.49232536	
Coefficient of Variation	0.595263189	
Skewness	5.937994577	
Lilliefors Test Statisitic	0.112606387	
Lilliefors 5% Critical Value	0.050240451	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99% UCL (Assuming Normal Data)		
Student's-t	10.94928885	
99% UCL (Adjusted for Skewness)		
Adjusted-CLT	11.17244065	
Modified-t	10.9685122	
99% Non-parametric UCL		
CLT	10.9451479	
Jackknife	10.94928885	
Standard Bootstrap	10.96650501	
Bootstrap-t	11.36484031	
Chebyshev (Mean, Std)	13.55656647	

SWMU 2 Ecological		
Summary Statistics for	Lead	
Number of Samples	311	
Minimum	1.5	
Maximum	170	
Mean	8.937427653	
Median	6.6	
Standard Deviation	12.39382054	
Variance	153.6067876	
Coefficient of Variation	1.386732405	
Skewness	9.203015315	
Lilliefors Test Statisitic	0.122229535	
Lilliefors 5% Critical Value	0.050240451	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99% UCL (Assuming Normal Data)		
Student's-t	10.58085536	
99% UCL (Adjusted for Skewness)		
Adjusted-CLT	11.2950967	
Modified-t	10.64198105	
99% Non-parametric UCL		
CLT	10.57235955	
Jackknife	10.58085536	
Standard Bootstrap	10.55111399	
Bootstrap-t	12.75242383	
Chebyshev (Mean, Std)	15.93009077	

SWMU 2 Ecological		
Summary Statistics for	Mercury	
Number of Samples	311	
Minimum	0.002275	
Maximum	23	
Mean	0.501941013	
Median	0.1	
Standard Deviation	1.490200544	
Variance	2.220697661	
Coefficient of Variation	2.968875835	
Skewness	11.69393736	
Lilliefors Test Statisitic	0.095785726	
Lilliefors 5% Critical Value	0.050240451	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
97.5 % UCL (Assuming Normal Data)		
Student's-t	0.668210031	
97.5 % UCL (Adjusted for Skewness)		
Adjusted-CLT	0.748649497	
Modified-t	0.67754889	
97.5 % Non-parametric UCL		
CLT	0.667560949	
Jackknife	0.668210031	
Standard Bootstrap	0.665651162	
Bootstrap-t	0.830138719	
Chebyshev (Mean, Std)	1.029652839	

SWMU 2 Ecological	
Summary Statistics for	Nickel
Number of Samples	311
Minimum	0.258
Maximum	230
Mean	10.57234084
Median	8.36
Standard Deviation	14.86647389
Variance	221.0120459
Coefficient of Variation	1.406166725
Skewness	12.18074334
Lilliefors Test Statisitic	0.135158072
Lilliefors 5% Critical Value	0.050240451
Data not Lognormal at 5% Significance Level	
Data not Normal: Try Non-parametric UCL	
99 % UCL (Assuming Normal Data)	
Student's-t	12.5436438
99 % UCL (Adjusted for Skewness)	
Adjusted-CLT	13.68088458
Modified-t	12.64068812
99 % Non-parametric UCL	
CLT	12.53345301
Jackknife	12.5436438
Standard Bootstrap	12.51250314
Bootstrap-t	16.40394885
Chebyshev (Mean, Std)	18.96008886

SWMU 2 Ecological		
Summary Statistics for	Selenium	
Number of Samples	288	
Minimum	0.035	
Maximum	4.5	
Mean	0.455411458	
Median	0.455	
Standard Deviation	0.398961592	
Variance	0.159170352	
Coefficient of Variation	0.876046451	
Skewness	3.850790635	
Lilliefors Test Statisitic	0.198493037	
Lilliefors 5% Critical Value	0.052208051	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95 % UCL (Assuming Normal Data)		
Student's-t	0.494205598	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	0.499780306	
Modified-t	0.49509467	
95 % Non-parametric UCL		
CLT	0.494080384	
Jackknife	0.494205598	
Standard Bootstrap	0.493150906	
Bootstrap-t	0.497519775	
Chebyshev (Mean, Std)	0.557884976	

SWMU 2 Ecological		
Summary Statistics for	Silver	
Number of Samples	291	
Minimum	0.0155	
Maximum	64	
Mean	0.480873711	
Median	0.0525	
Standard Deviation	3.789090604	
Variance	14.35720761	
Coefficient of Variation	7.879596067	
Skewness	16.37632828	
Lilliefors Test Statisitic	0.155089727	
Lilliefors 5% Critical Value	0.05193824	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
99 % UCL (Assuming Normal Data)		
Student's-t	1.000474409	
99 % UCL (Adjusted for Skewness)		
Adjusted-CLT	1.417810739	
Modified-t	1.03601358	
99 % Non-parametric UCL		
CLT	0.997603091	
Jackknife	1.000474409	
Standard Bootstrap	0.999086354	
Bootstrap-t	2.922800628	
Chebyshev (Mean, Std)	2.690944035	

SWMU 2 Ecological		
Summary Statistics for	bis (2-Ethylhexyl) phthalate	
Number of Samples	25	
Minimum	0.003495	
Maximum	0.27	
Mean	0.073878	
Median	0.0835	
Standard Deviation	0.078064524	
Variance	0.00609407	
Coefficient of Variation	1.056668076	
Skewness	1.069081437	
Shapiro-Wilk Test Statisitic	0.763913869	
Shapiro-Wilk 5% Critical Value	0.918	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95 % UCL (Assuming Normal Data)		
Student's-t	0.100589836	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	0.103125958	
Modified-t	0.101146218	
95 % Non-parametric UCL		
CLT	0.099558943	
Jackknife	0.100589836	
Standard Bootstrap	0.099379626	
Bootstrap-t	0.105966389	
Chebyshev (Mean, Std)	0.141933074	

SWMU 2 Ecological		
Summary Statistics for	Pentachloro-phenol	
Number of Samples	25	
Minimum	0.02835	
Maximum	0.15	
Mean	0.054258	
Median	0.03045	
Standard Deviation	0.032880993	
Variance	0.00108116	
Coefficient of Variation	0.606011895	
Skewness	1.147484895	
Shapiro-Wilk Test Statisitic	0.712333925	
Shapiro-Wilk 5% Critical Value	0.918	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95 % UCL (Assuming Normal Data)		
Student's-t	0.065509099	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	0.066687505	
Modified-t	0.065760635	
95 % Non-parametric UCL		
CLT	0.065074884	
Jackknife	0.065509099	
Standard Bootstrap	0.064973872	
Bootstrap-t	0.066745485	
Chebyshev (Mean, Std)	0.082922985	

SWMU 2 Ecological		
Summary Statistics for	Aroclor 1242	
Number of Samples	381	
Minimum	0.000825	
Maximum	0.154	
Mean	0.004407205	
Median	0.000835	
Standard Deviation	0.011890312	
Variance	0.00014138	
Coefficient of Variation	2.697925988	
Skewness	8.149064037	
Lilliefors Test Statisitic	0.339433863	
Lilliefors 5% Critical Value	0.045391155	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95 % UCL (Assuming Normal Data)		
Student's-t	0.005411631	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	0.005680924	
Modified-t	0.005454017	
95 % Non-parametric UCL		
CLT	0.005409182	
Jackknife	0.005411631	
Standard Bootstrap	0.005402107	
Bootstrap-t	0.005868407	
Chebyshev (Mean, Std)	0.007062468	

SWMU 2 Ecological		
Summary Statistics for	Aroclor 1254	
Number of Samples	381	
Minimum	0.00025	
Maximum	0.91	
Mean	0.051344423	
Median	0.0121	
Standard Deviation	0.11807313	
Variance	0.013941264	
Coefficient of Variation	2.299629127	
Skewness	4.505726372	
Lilliefors Test Statisitic	0.060843069	
Lilliefors 5% Critical Value	0.045391155	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95 % UCL (Assuming Normal Data)		
Student's-t	0.061318571	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	0.062786265	
Modified-t	0.061551294	
95 % Non-parametric UCL		
CLT	0.061294257	
Jackknife	0.061318571	
Standard Bootstrap	0.061472911	
Bootstrap-t	0.064040197	
Chebyshev (Mean, Std)	0.077711706	

SWMU 2 Ecological		
Summary Statistics for	Aroclor 1260	
Number of Samples	381	
Minimum	0.0005	
Maximum	0.0715	
Mean	0.004049121	
Median	0.003585	
Standard Deviation	0.006150278	
Variance	3.78E-05	
Coefficient of Variation	1.51891692	
Skewness	5.74330306	
Lilliefors Test Statisitic	0.248220202	
Lilliefors 5% Critical Value	0.045391155	
Data not Lognormal at 5% Significance Level		
Data not Normal: Try Non-parametric UCL		
95 % UCL (Assuming Normal Data)		
Student's-t	0.004568661	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	0.004666458	
Modified-t	0.004584113	
95 % Non-parametric UCL		
CLT	0.004567395	
Jackknife	0.004568661	
Standard Bootstrap	0.004566262	
Bootstrap-t	0.00471435	
Chebyshev (Mean, Std)	0.005422559	

Appendix C

APPENDIX C
SWMU 2 Equipment Decontamination Activities

APPENDIX C
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APPENDIX C
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Table

Figure C-1
Classified Waste Landfill Decontamination Pad, August 6, 2003

Figure C-2
Personnel Performing Decontamination of the Excavator, August 7, 2003

Figure C-3
Compactor PCB Wipe Locations, August 19, 2003

Figure C-4
Dump Truck PCB Wipe Locations, September 3, 2003

Table C-1
Schedule of SWMU 2, Classified Waste Landfill, Equipment Decontamination Activities

Date	Activity
07-29-03	Excavator surveyed for radiological contamination (S69607).
08-06-03	Set up PCB decontamination pad inside.
08-06-03	Began excavator decontamination.
08-07-03	Completed excavator decontamination; began dozer decontamination.
08-11-03	Completed dozer decontamination; began compactor decontamination.
08-13-03	Completed compactor decontamination; began excavator sample collection.
08-14-03	Completed density probe decontamination and sample collection; began dump truck decontamination.
08-18-03	Completed dump truck decontamination; completed excavator sample collection. Containers for density probe samples and excavator samples surveyed for radiological contamination.
08-19-03	Began loader decontamination; began compactor sample collection. Results of radiological survey releases density probe and excavator samples for movement (S70222). Density probe and excavator samples taken to the SMO for shipment to lab for PCB analysis (AR/COCs 606394 and 606771).
08-20-03	Completed compactor sample collection. Containers for compactor samples surveyed for radionuclide contamination. Results of radiological survey releases excavator for movement off-site.
08-21-03	Decontamination pad disassembled; soil, materials, and tools collected for disposal. Results of radiological survey releases compactor samples for movement (S70359). Compactor samples taken to the SMO for shipment to lab for PCB analysis (AR/COC 606772).
08-25-03	Completed dozer sample collection.
08-26-03	Containers for dozer samples surveyed for radiological contamination.
08-27-03	Received results for density probe, excavator, and compactor PCB analysis—all samples nondetect for PCBs. Results of radiological survey releases dozer samples for movement (S70568). Dozer samples taken to the SMO for shipment to lab for PCB analysis (AR/COC 606773).
08-28-03	Began dump truck sample collection; excavator sent off-site.
09-03-03	Completed dump truck sample collection. Containers for dozer samples surveyed for radiological contamination.
09-04-03	Began loader sample collection. Received results for dozer PCB analysis—all samples nondetect for PCBs. Results of radiological survey releases dump truck samples for movement (S70805). Dozer samples taken to the SMO for shipment to lab for PCB analysis (AR/COC 606774).
09-08-03	Completed loader sample collection. Containers for loader samples surveyed for radiological contamination.
09-10-03	Results of radiological survey releases loader samples for movement (S70949). Dozer samples taken to the SMO for shipment to lab for PCB analysis (AR/COC 606775).
09-11-03	Received results for dump truck PCB analysis—all samples nondetect for PCBs.
09-18-03	Received results for loader PCB analysis—all samples nondetect for PCBs; Aroclor-1254 detected at 1.1 μg/swipe (0.72 μg/100 cm^2) for sample TA2-2-LODR-RFT-003-S. All other samples were nondetect for PCBs.
09-19-03	Canvas tarp, felt cloth and soft waste sampled for tritium, gross alpha/beta, and gamma contamination.
09-23-03	Density probe transferred to TA-III; radiation survey not required per RWP 1990.
09-24-03	Loader, dozer, and compactor surveyed for radiological contamination (S71561).
09-25-03	Results of radiological survey releases loader, dozer, and compactor for movement off-site; loader sent off-site.

Refer to footnotes at end of table.

Table C-1 (Concluded)
Schedule of SWMU 2, Classified Waste Landfill, Equipment Decontamination Activities

Date	Activity
09-26-03	Dozer sent off-site.
09-29-03	Compactor sent off-site.
09-30-03	Dump truck surveyed for radiological contamination (S71753).
10-30-03	Waste Characterization and Disposal Request Memo #: TA-2-03-01Sol issued requesting waste to be submitted to SNL/NM SWTF, Org. 3124.
11-05-03	Canvas tarp, felt cloth, and soft waste delivered to the SWTF for disposal in regulated landfill.
01-07-04	Dump truck transferred to Chemical Waste Landfill.
03-18-04	PCB wipes taken of skid steer bucket (AR/COC 607364); no decontamination required because bucket was clean.
03-23-04	Skid steer samples taken to the SMO for shipment to lab for PCB analysis (AR/COC 607364).
03-30-04	Results from AR/COC 607364 received were invalid because of high recovery for LCS/LCSD. New PCB wipe collected from skid steer bucket for analysis. Skid steer samples taken to the SMO for shipment to lab for PCB analysis (AR/COC 607462).
04-05-04	PCB results for skid steer received. Sample results indicated skid steer clean .

AR/COC = Analysis Request/Chain of Custody.
cm^2 = Square centimeter(s).
lab = Laboratory.
LCS/LCSD = Laboratory control sample/laboratory control sample duplicates.
LODR = Loader.
µg = Micrometer(s).
Org. = Organization.
PCB = Polychlorinated biphenyl.
RFT = Right front tire.
RWP = Radiological Work Permit.
SMO = Sample Management Office.
SNL/NM = Sandia National Laboratories/New Mexico.
SWMU = Solid Waste Management Unit.
SWTF = Solid Waste Transfer Facility.
TA = Technical Area.

Table C-2
Summary of Equipment Decontamination and PCB Sampling

Description	Decontamination Dates	PCB Sampling Dates	Surfaces Sampled	AR/COC No.	No. of Samples	Analyzing Laboratory
Density/Moisture Probe, CPN International, Inc., Model M-3, Serial No. M341002304	08-14-03	08-14-03	Reference Standard Bottom, Guideplate Bottom, Drill Pin	606394	3	STL
Excavator, Caterpillar 320C, Serial No. ANB2460	08-06-03–08-07-03	08-13-03–08-18-03	Tracks, Inside of Bucket, Outside of Bucket	606771	37	STL
Compactor, Caterpillar CS-563D, Serial No. 84544	08-11-03–08-13-03	08-19-03–08-20-03	Foot, Tire Treads	606772	20	STL
Dozer, Caterpillar D6RXL, Serial No. 85231	08-07-03–08-11-03	08-25-03	Tracks, Inside of Blade, Outside of Blade	606773	27	STL
Dump Truck, Volvo, Serial No. H844331	08-14-03–08-18-03	08-28-03–09-03-03	Inside of Truck Bed—Bottom, Front, Side, Rear Panels, Tire Treads	606774	42	STL
Loader, Caterpillar 950F Serial No. 70390	08-19-03–08-20-03	09-04-03–09-08-03	Bucket Inside and Outside Surfaces, Tire Treads	606775	26	STL
Skid Steer, Caterpillar 246, Serial No. 5SZ01868	08-18-03	03-30-04	Inside of Bucket	607462	3	GEL

AR/COC = Analysis Request/Chain of Custody.
CPN = California Pacific Nuclear.
GEL = General Engineering Laboratories, Inc.
No. = Number.
PCB = Polychlorinated biphenyl.
STL = Soluble Threshold Limit Concentration.

Table C-3a
Excavator Decontamination Confirmatory Samples
Excavator Surfaces Sampled for PCB Contamination

Right Track (TA2-2-XVTR-RTRK-001 thru -012)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 49 rectangular plates, each 30 x 80 cm (length includes ridges in plates); treated as one rectangular surface 80 x 1,470 cm = 117,600 cm^2	11.76	12	80 x 122.5	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31	153.13
Left Track (TA2-2-XVTR-LTRK-001 thru -012)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 49 rectangular plates, each 30 x 80 cm (length includes ridges in plates); treated as one rectangular surface 80 x 1,470 cm = 117,600 cm^2	11.76	12	80 x 122.5	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31	153.13
Left Outside Bucket (TA2-2-XVTR-LOB-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one irregular surface—gird based on a rectangular area of 80 x 132 cm = 10,560 cm^2	1.06	1	80 x 122.5	80 x 66	40 x 66	40 x 33	20 x 33	20 x 16.25	10 x 16.25	162.5

Refer to footnotes at end of table.

Table C-3a (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Surfaces Sampled for PCB Contamination

Right Outside Bucket (TA2-2-XVTR-ROB-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one irregular surface—gird based on a rectangular area of 80 x 132 cm = 10,560 cm^2	1.06	1	80 x 122.5	80 x 66	40 x 66	40 x 33	20 x 33	20 x 16.25	10 x 16.25	162.5
Left Inside Bucket (TA2-2-XVTR-LIB-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one irregular surface—gird based on a rectangular area of 98 x 112 cm = 10,976 cm^2	1.10	1	98 x 112	56 x 98	56 x 49	28 x 49	28 x 24.5	14 x 24.5	14 x 12.25	171.5
Right Inside Bucket (TA2-2-XVTR-RIB-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one irregular surface—gird based on a rectangular area of 98 x 112 cm = 10,976 cm^2	1.10	1	98 x 112	56 x 98	56 x 49	28 x 49	28 x 24.5	14 x 24.5	14 x 12.25	171.5
Inside Bucket (TA2-2-XVTR-IBKT-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one rectangular surface 85 x 285 cm (length includes teeth of bucket) = 24,225 cm^2	2.42	3	85 x 95	85 x 47.5	42.5 x 47.5	42.5 x 23.75	21.25 x 23.75	21.25 x 11.88	10.625 x 11.88	126.17

Refer to footnotes at end of table.

Table C-3a (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Surfaces Sampled for PCB Contamination

Outside Bucket (TA2-2-XVTR-OBKT-001 thru -002)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one rectangular surface 108 x 184 cm (length includes teeth of bucket) = 19,872 cm^2	1.99	2	92 x 108	92 x 54	46 x 54	46 x 27	23 x 27	23 x 13.5	11.5 x 13.5	155.25
Left Track Link—Outside Surface (TA2-2-XVTR-LLNK-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 49 track links, each 10 x 25 cm; treated as one rectangular surface (outside surface of left track link) 10 x 1,225 cm = 12,250 cm^2	1.23	1	10 x 1,225	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14	191.41
Left Track Link—Inside Surface (TA2-2-XVTR-LLNK-002)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 49 track links, each 10 x 25 cm; treated as one rectangular surface (inside surface of left track link) 10 x 1,225 cm = 12,250 cm^2	1.23	1	10 x 1,225	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14	191.41

Refer to footnotes at end of table.

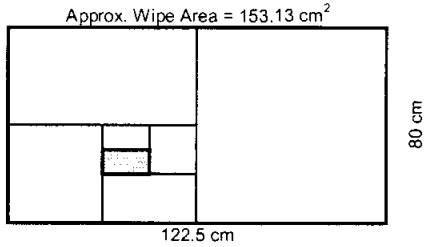
Table C-3a (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Surfaces Sampled for PCB Contamination

Right Track Link—Outside Surface (TA2-2-XVTR-LLNK-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 49 track links, each 10 x 25 cm; treated as one rectangular surface (outside surface of right track link) 10 x 1,225 cm = 12,250 cm^2	1.23	1	10 x 1,225	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14	191.41
Right Track Link—Inside Surface (TA2-2-XVTR-LLNK-002)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 49 track links, each 10 x 25 cm; treated as one rectangular surface (inside surface of right track link) 10 x 1,225 cm = 12,250 cm^2	1.23	1	10 x 1,225	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14	191.41
Total No. Samples		**37**								

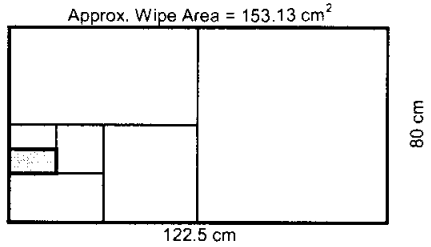
cm = Centimeter(s).
cm^2 = Square centimeter(s).
m^2 = Square meter(s).
No. = Number.
PCB = Polychlorinated biphenyl.

Table C-3b
Excavator Decontamination Confirmatory Samples
Excavator Right Track

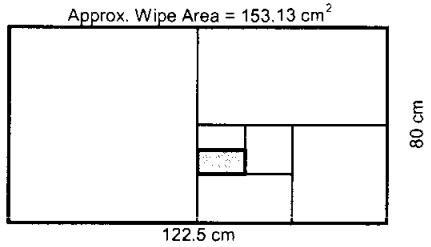
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-001	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Tails	Heads	Heads	Tails	Tails
Direction	Left	Down	Right	Up	Left	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-002	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Tails	Tails	Heads	Tails	Tails
Direction	Left	Down	Left	Up	Left	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-003	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Tails	Tails	Heads	Tails	Tails
Direction	Right	Down	Left	Up	Left	Down

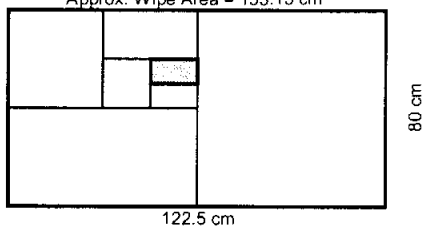


Not to Scale

Table C-3b (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Right Track

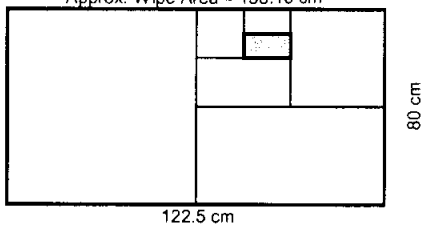
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-004	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Heads	Tails	Heads	Heads
Direction	Left	Up	Right	Down	Right	Up

Approx. Wipe Area = 153.13 cm^2



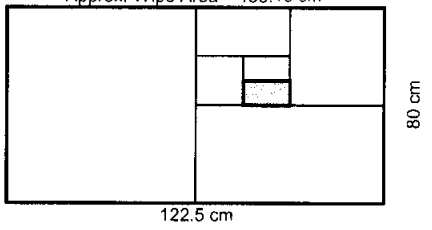
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-005	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Heads	Tails	Heads	Heads	Tails
Direction	Right	Up	Left	Up	Right	Down

Approx. Wipe Area = 153.13 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-006	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Heads	Tails	Tails	Heads	Tails
Direction	Right	Up	Left	Down	Right	Down

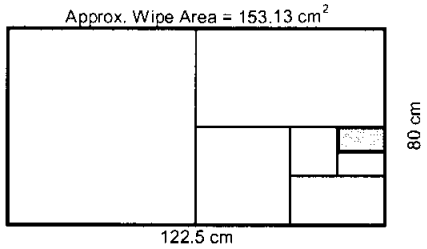
Approx. Wipe Area = 153.13 cm^2



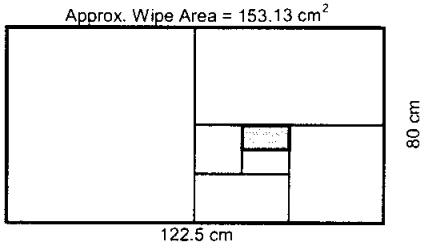
Not to Scale

Table C-3b (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Right Track

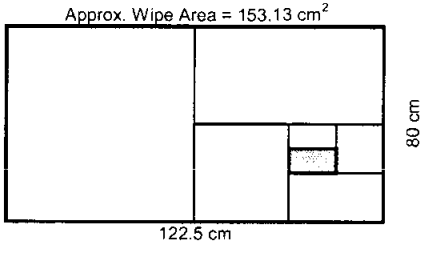
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-007	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Tails	Heads	Heads	Heads	Heads
Direction	Right	Down	Right	Up	Right	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-008	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Tails	Tails	Heads	Heads	Heads
Direction	Right	Down	Left	Up	Right	Up



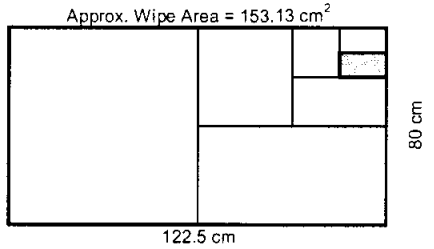
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-009	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Tails	Heads	Heads	Tails	Tails
Direction	Right	Down	Right	Up	Left	Down



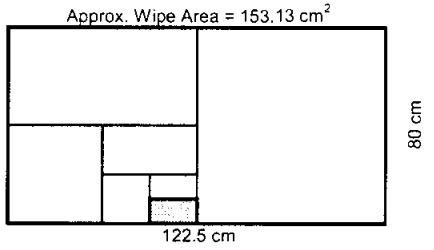
Not to Scale

Table C-3b (Concluded)
Excavator Decontamination Confirmatory Samples
Excavator Right Track

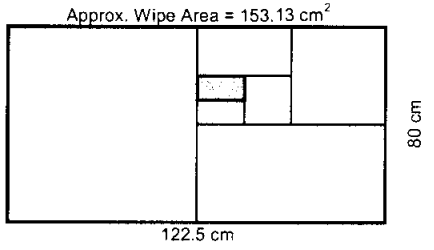
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-010	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Heads	Heads	Heads	Heads	Tails
Direction	Right	Up	Right	Up	Right	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-011	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Tails	Heads	Tails	Heads	Tails
Direction	Left	Down	Right	Down	Right	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RTRK-012	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Heads	Tails	Tails	Tails	Heads
Direction	Right	Up	Left	Down	Left	Up



Not to Scale

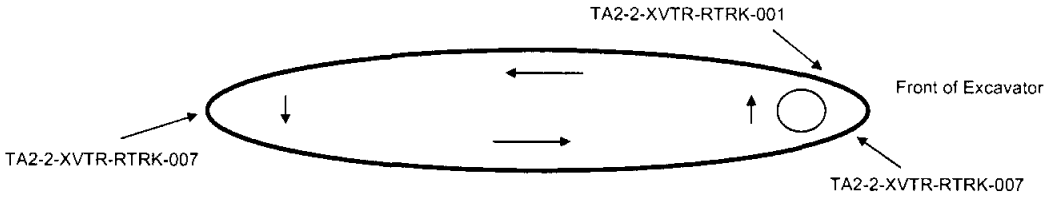
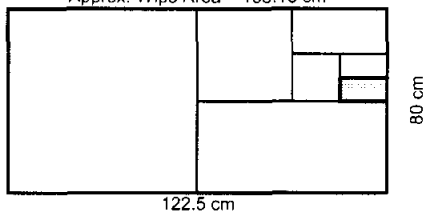


Table C-3c
Excavator Decontamination Confirmatory Samples
Excavator Left Track

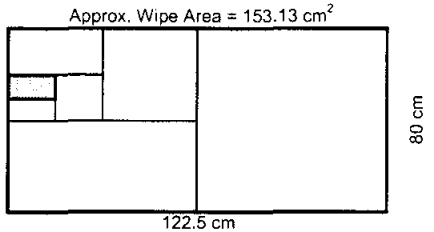
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-001	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Heads	Heads	Tails	Heads	Tails
Direction	Right	Up	Right	Down	Right	Down

Approx. Wipe Area = 153.13 cm^2



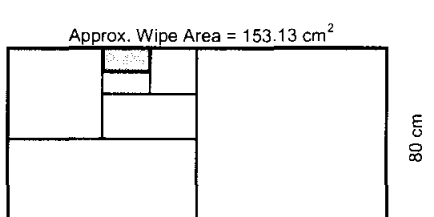
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-002	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Tails	Tails	Tails	Heads
Direction	Left	Up	Left	Down	Left	Up

Approx. Wipe Area = 153.13 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-003	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Heads	Heads	Tails	Heads
Direction	Left	Up	Right	Up	Left	Up

Approx. Wipe Area = 153.13 cm^2

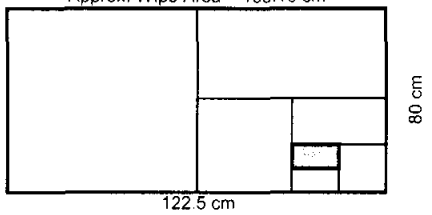


Not to Scale

Table C-3c (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Left Track

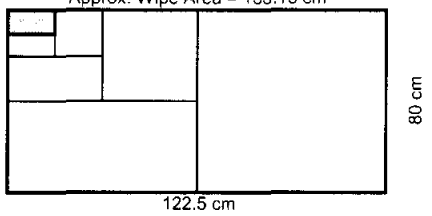
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-004	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Tails	Heads	Tails	Tails	Heads
Direction	Right	Down	Right	Down	Left	Up

Approx. Wipe Area = 153.13 cm^2



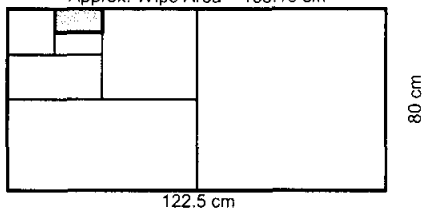
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-005	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Tails	Heads	Tails	Heads
Direction	Left	Up	Left	Up	Left	Up

Approx. Wipe Area = 153.13 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-006	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Tails	Heads	Heads	Heads
Direction	Left	Up	Left	Up	Right	Up

Approx. Wipe Area = 153.13 cm^2

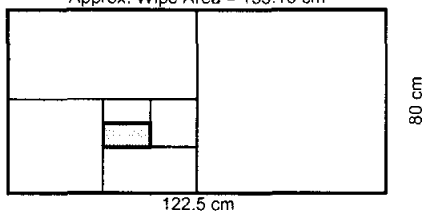


Not to Scale

Table C-3c (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Left Track

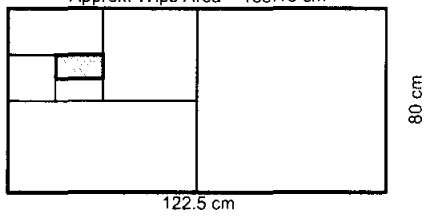
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-007	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Tails	Heads	Heads	Tails	Tails
Direction	Left	Down	Right	Up	Left	Down

Approx. Wipe Area = 153.13 cm^2



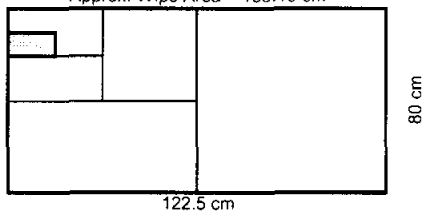
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-008	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Tails	Tails	Heads	Heads
Direction	Left	Up	Left	Down	Right	Up

Approx. Wipe Area = 153.13 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-009	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Tails	Heads	Tails	Tails
Direction	Left	Up	Left	Up	Left	Down

Approx. Wipe Area = 153.13 cm^2

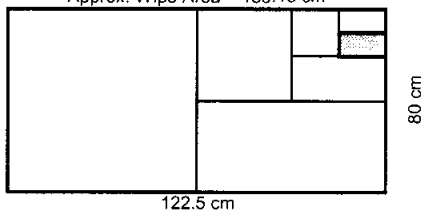


Not to Scale

Table C-3c (Concluded)
Excavator Decontamination Confirmatory Samples
Excavator Left Track

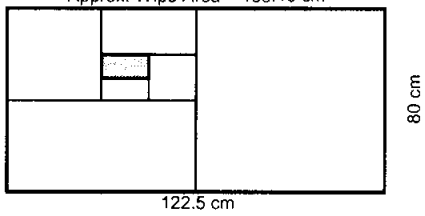
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-010	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Heads	Heads	Heads	Heads	Heads	Tails
Direction	Right	Up	Right	Up	Right	Down

Approx. Wipe Area = 153.13 cm^2



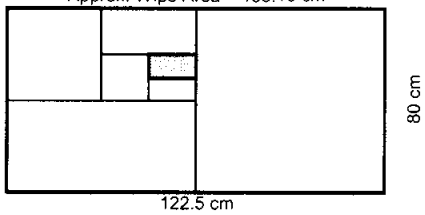
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-011	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Heads	Tails	Tails	Heads
Direction	Left	Up	Right	Down	Left	Up

Approx. Wipe Area = 153.13 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LTRK-012	80 x 61.25	40 x 61.25	40 x 30.63	20 x 30.63	20 x 15.31	10 x 15.31
Coin Toss	Tails	Heads	Heads	Tails	Heads	Heads
Direction	Left	Up	Right	Down	Right	Up

Approx. Wipe Area = 153.13 cm^2



Not to Scale

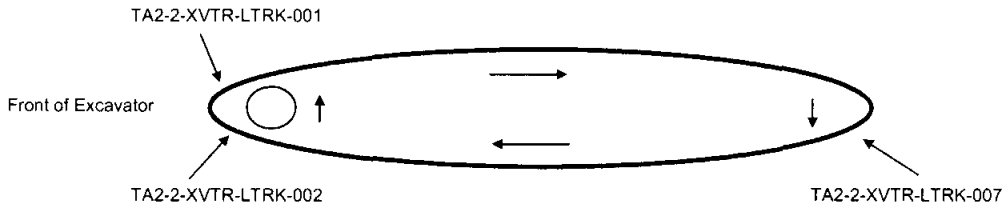
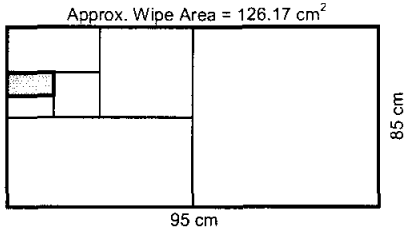


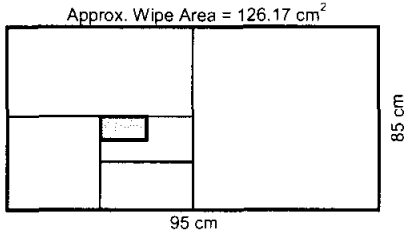
Table C-3d
Excavator Decontamination Confirmatory Samples
Excavator Inside Bucket

Excavator Bottom Inside Bucket

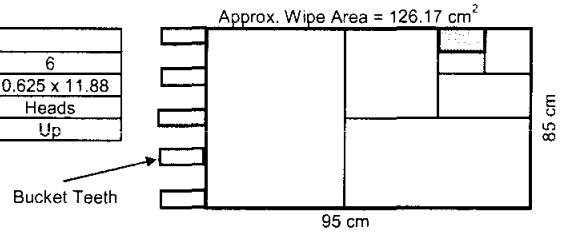
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-IBKT-001	85 x 47.5	42.5 x 47.5	42.5 x 23.75	21.25 x 23.75	21.25 x 11.88	10.625 x 11.88
Coin Toss	Tails	Heads	Tails	Tails	Tails	Heads
Direction	Left	Up	Left	Down	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-IBKT-002	85 x 47.5	42.5 x 47.5	42.5 x 23.75	21.25 x 23.75	21.25 x 11.88	10.625 x 11.88
Coin Toss	Heads	Tails	Heads	Heads	Tails	Heads
Direction	Right	Down	Right	Up	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-IBKT-003	85 x 47.5	42.5 x 47.5	42.5 x 23.75	21.25 x 23.75	21.25 x 11.88	10.625 x 11.88
Coin Toss	Heads	Heads	Heads	Heads	Tails	Heads
Direction	Right	Up	Right	Up	Left	Up

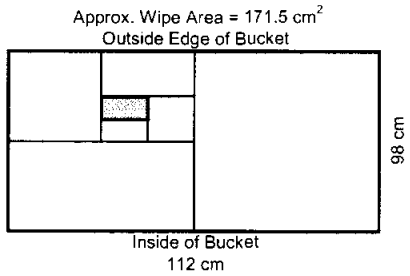


Not to Scale

Table C-3d (Concluded)
Excavator Decontamination Confirmatory Samples
Excavator Inside Bucket

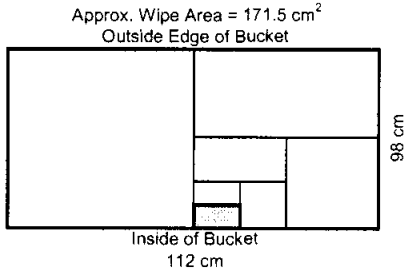
Excavator Right Inside Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RIB-001	56 x 98	56 x 49	28 x 49	28 x 24.5	14 x 24.5	14 x 12.25
Coin Toss	Tails	Heads	Heads	Tails	Tails	Heads
Direction	Left	Up	Right	Down	Left	Up



Excavator Left Inside Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LIB-001	56 x 98	56 x 49	28 x 49	28 x 24.5	14 x 24.5	14 x 12.25
Coin Toss	Heads	Tails	Tails	Tails	Tails	Tails
Direction	Right	Down	Left	Down	Left	Down

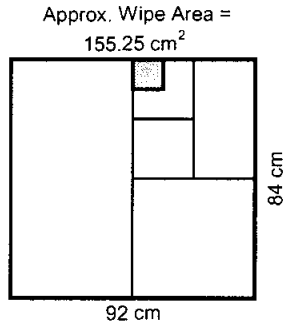


Not to Scale

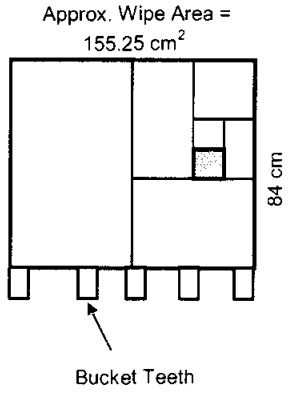
Table C-3e
Excavator Decontamination Confirmatory Samples
Excavator Outside Bucket

Excavator Bottom Outside Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-OBKT-001	92 x 54	46 x 54	46 x 27	23 x 27	23 x 13.5	11.5 x 13.5
Coin Toss	Heads	Heads	Tails	Heads	Tails	Heads
Direction	Right	Up	Left	Up	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-OBKT-003	92 x 54	46 x 54	46 x 27	23 x 27	23 x 13.5	11.5 x 13.5
Coin Toss	Heads	Heads	Heads	Tails	Tails	Tails
Direction	Right	Up	Right	Down	Left	Down

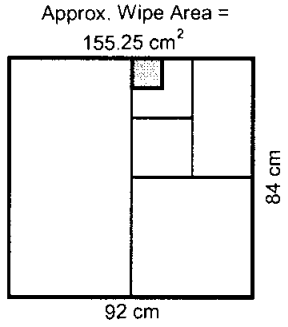


Not to Scale

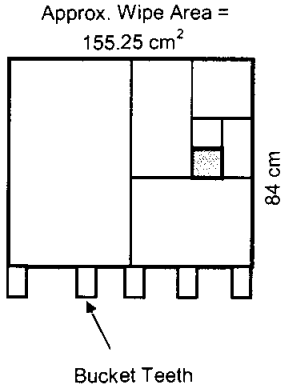
Table C-3e (Continued)
Excavator Decontamination Confirmatory Samples
Excavator Outside Bucket

Excavator Bottom Outside Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-OBKT-001	92 x 54	46 x 54	46 x 27	23 x 27	23 x 13.5	11.5 x 13.5
Coin Toss	Heads	Heads	Tails	Heads	Tails	Heads
Direction	Right	Up	Left	Up	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-OBKT-003	92 x 54	46 x 54	46 x 27	23 x 27	23 x 13.5	11.5 x 13.5
Coin Toss	Heads	Heads	Heads	Tails	Tails	Tails
Direction	Right	Up	Right	Down	Left	Down

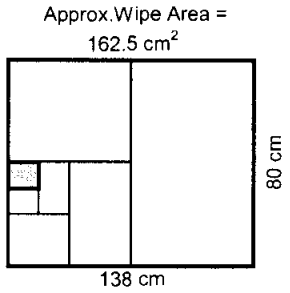


Not to Scale

Table C-3e (Concluded)
Excavator Decontamination Confirmatory Samples
Excavator Outside Bucket

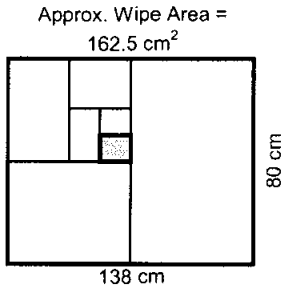
Excavator Right Outside Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-ROB-001	80 x 66	40 x 66	40 x 33	20 x 33	20 x 16.25	10 x 16.25
Coin Toss	Tails	Tails	Tails	Heads	Tails	Heads
Direction	Left	Down	Left	Up	Left	Up



Excavator Left Outside Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LOB-001	80 x 66	40 x 66	40 x 33	20 x 33	20 x 16.25	10 x 16.25
Coin Toss	Tails	Heads	Heads	Tails	Heads	Tails
Direction	Left	Up	Right	Down	Right	Down

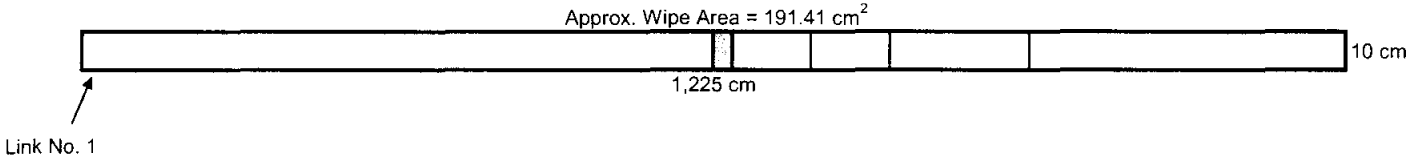


Not to Scale

Table C-3f
Excavator Decontamination Confirmatory Samples
Excavator Track Links

Excavator Right Track Link - Outside Surface

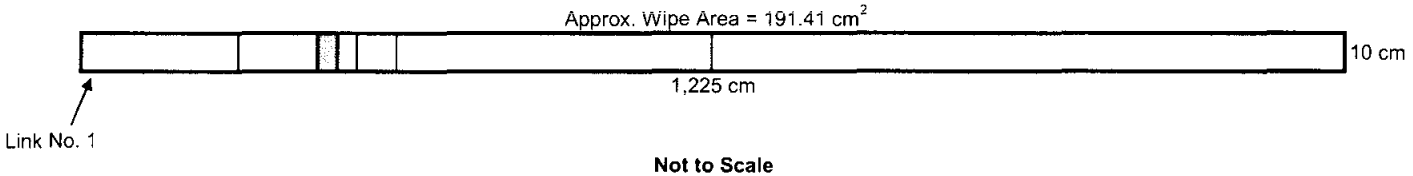
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RLNK-001	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14
Coin Toss	Heads	Tails	Tails	Tails	Tails	Tails
Direction	Right	Left	Left	Left	Left	Left



Not to Scale

Excavator Right Track Link - Inside Surface

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-RLNK-002	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14
Coin Toss	Tails	Tails	Heads	Heads	Tails	Tails
Direction	Left	Left	Right	Right	Left	Left

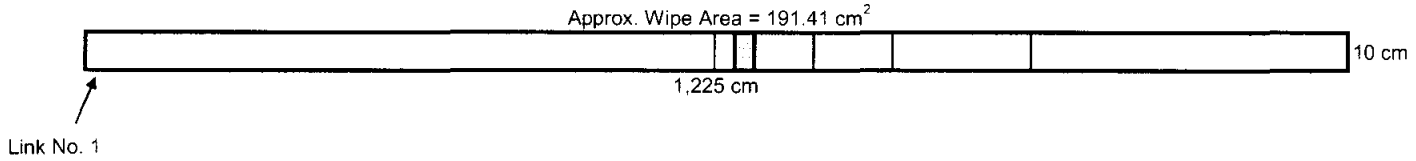


Not to Scale

Table C-3f (Concluded)
Excavator Decontamination Confirmatory Samples
Excavator Track Links

Excavator Left Track Link - Outside Surface

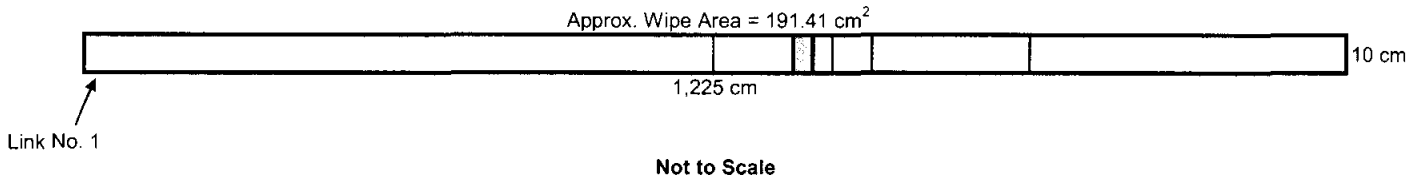
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LLNK-001	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14
Coin Toss	Heads	Tails	Tails	Tails	Tails	Heads
Direction	Right	Left	Left	Left	Left	Right



Not to Scale

Excavator Left Track Link - Inside Surface

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-XVTR-LLNK-002	10 x 612.5	10 x 306.25	10 x 153.13	10 x 76.56	10 x 38.28	10 x 19.14
Coin Toss	Heads	Tails	Tails	Heads	Tails	Tails
Direction	Right	Left	Left	Right	Left	Left



Not to Scale

Table C-4a
Dozer Decontamination Confirmatory Samples
Dozer Surfaces Sampled for PCB Contamination

Right Track (TA2-2-DOZR-RTRK-001 thru -008)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 41 rectangular plates, each 32 x 56 cm (length includes ridges in plates); treated as one rectangular surface 56 x 1,312 cm = 73,472 cm^2	7.35	8	56 x 164	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25	143.5
Left Track (TA2-2-DOZR-LTRK-001 thru -008)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 41 rectangular plates, each 32 x 56 cm (length includes ridges in plates); treated as one rectangular surface 56 x 1,312 cm = 73,472 cm^2	5.28	8	56 x 164	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25	143.5
Blade (TA2-2-DOZR-BLAD-001 thru -005)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the inside surface of the blade; treated as one rectangular surface 152.5 x 346 cm = 52,765 cm^2	1.056	5	30.5 x 346	30.5 x 173	30.5 x 86.5	30.5 x 43.25	30.5 x 21.63	15.25 x 21.63	15.25 x 10.81	164.89

Refer to footnotes at end of table.

Table C-4a (Continued)
Dozer Decontamination Confirmatory Samples
Dozer Surfaces Sampled for PCB Contamination

Blade Side (TA2-2-DOZR-SIDE-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the right and left outside surface of the dozer blade; treated as one rectangular surface 100 x 120 cm = 12,000 cm^2	1..2	1	100 x 120	100 x 60	50 x 60	50 x 30	25 x 30	25 x 15	12.5 x 15	187.5
Bottom Plate (TA2-2-DOZR-BOTM-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the plate on the rear underside of the dozer to which the ripper is attached; treated as one rectangular surface 60 x 104 cm = 6,240 cm^2	0.62	1	60 x 104	60 x 52	30 x 52	30 x 26	15 x 26	15 x 13	-	195
Left Track Link—Outside Surface (TA2-2-DOZR-LLNK-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 41 track links, each 12 x 25 cm; treated as one rectangular surface (outside surface of left track link) 12 x 1,025 cm = 12,300 cm^2	1.23	1	12 x 1,025	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02	192.19

Refer to footnotes at end of table.

Table C-4a (Concluded)
Dozer Decontamination Confirmatory Samples
Dozer Surfaces Sampled for PCB Contamination

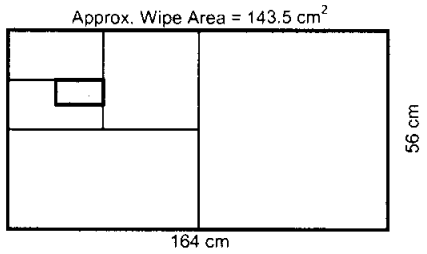
Left Track Link—Inside Surface (TA2-2-DOZR-LLNK-002)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 41 track links, each 12 x 25 cm; treated as one rectangular surface (inside surface of left track link) 12 x 1,025 cm = 12,300 cm^2	1.23	1	12 x 1,025	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02	192.19
Right Track Link—Outside Surface (TA2-2-DOZR-LLNK-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 41 track links, each 12 x 25 cm; treated as one rectangular surface (outside surface of right track link) 12 x 1,025 cm = 12,300 cm^2	1.23	1	12 x 1,025	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02	192.19
Right Track Link—Inside Surface (TA2-2-DOZR-LLNK-002)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 41 track links, each 12 x 25 cm; treated as one rectangular surface (inside surface of right track link) 12 x 1,025 cm = 12,300 cm^2	1.23	1	12 x 1,025	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02	192.19
Total No. Samples		**27**								

cm = Centimeter(s).
cm^2 = Square centimeter(s).
m^2 = Square meter(s).
No. = Number.
PCB = Polychlorinated biphenyl.

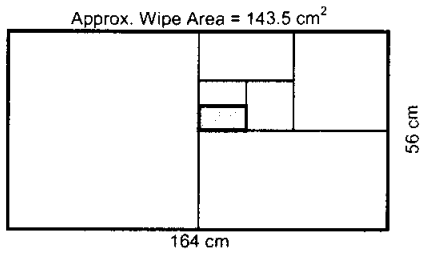
Table C-4b
Dozer Decontamination Confirmatory Samples
Dozer Tracks

Dozer Right Track

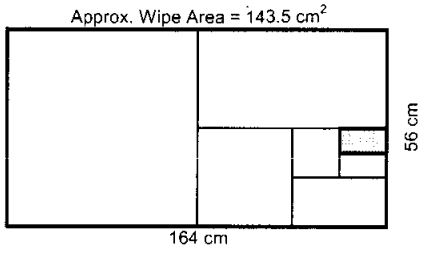
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-001	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Heads	Tails	Tails	Heads	Heads
Direction	Left	Up	Left	Down	Right	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-002	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Heads	Heads	Heads	Tails	Tails	Tails
Direction	Right	Up	Right	Down	Left	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-003	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Heads	Tails	Heads	Heads	Heads	Heads
Direction	Right	Down	Right	Up	Right	Up

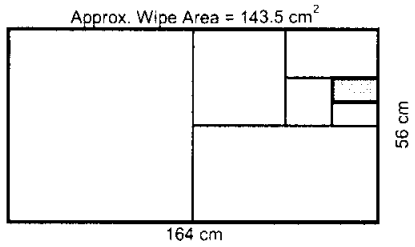


Not to Scale

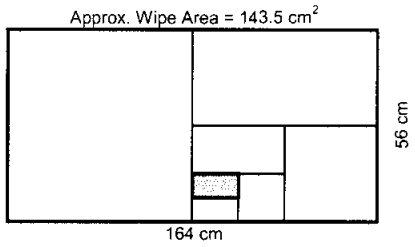
Table C-4b (Continued)
Dozer Decontamination Confirmatory Samples
Dozer Tracks

Dozer Right Track (Continued)

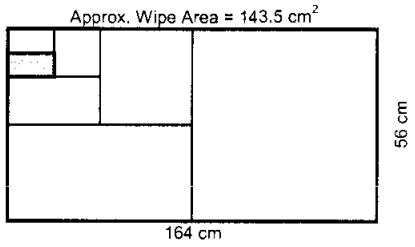
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-004	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Heads	Heads	Heads	Tails	Heads	Heads
Direction	Right	Up	Right	Down	Right	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-005	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Heads	Tails	Tails	Tails	Tails	Heads
Direction	Right	Down	Left	Down	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-006	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Heads	Tails	Heads	Tails	Tails
Direction	Left	Up	Left	Up	Left	Down

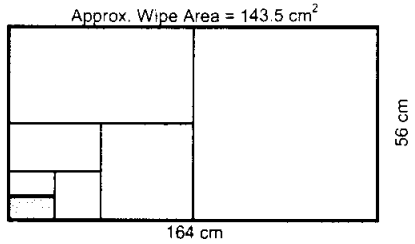


Not to Scale

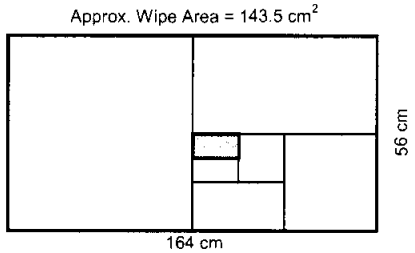
Table C-4b (Continued)
Dozer Decontamination Confirmatory Samples
Dozer Tracks

Dozer Right Track (Continued)

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-007	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Tails	Tails	Tails	Tails	Tails
Direction	Left	Down	Left	Down	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-RTRK-008	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Heads	Tails	Tails	Heads	Tails	Heads
Direction	Right	Down	Left	Up	Left	Up



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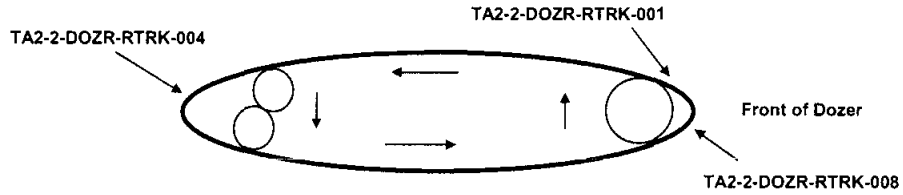
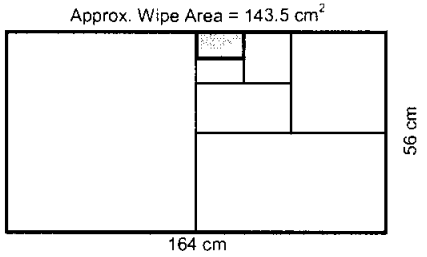


Dozer Right Track

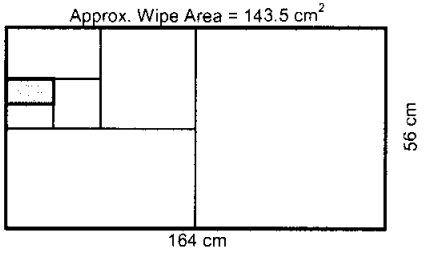
Table C-4b (Continued)
Dozer Decontamination Confirmatory Samples
Dozer Tracks

Dozer Left Track

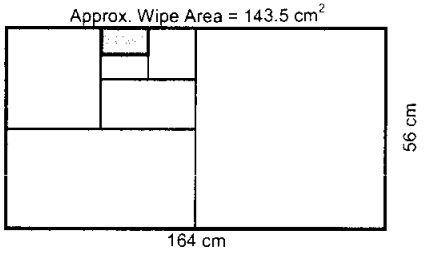
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-001	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Heads	Heads	Tails	Heads	Tails	Heads
Direction	Right	Up	Left	Up	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-002	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Heads	Tails	Tails	Tails	Heads
Direction	Left	Up	Left	Down	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-003	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Heads	Heads	Heads	Tails	Heads
Direction	Left	Up	Right	Up	Left	Up



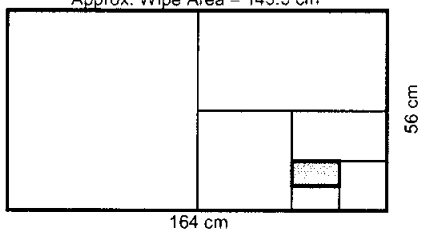
Not to Scale

Table C-4b (Continued)
Dozer Decontamination Confirmatory Samples
Dozer Tracks

Dozer Left Track (Continued)

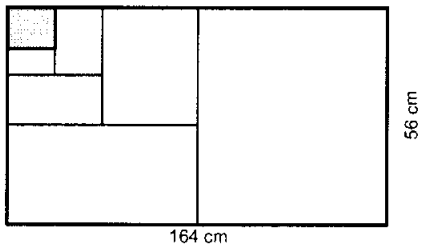
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-004	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Heads	Tails	Heads	Tails	Tails	Heads
Direction	Right	Down	Right	Down	Left	Up

Approx. Wipe Area = 143.5 cm^2



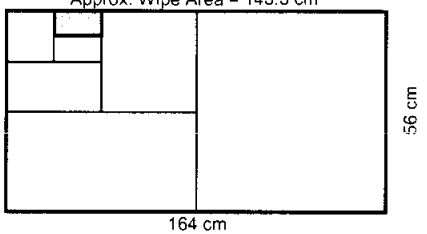
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-005	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Heads	Tails	Heads	Tails	Heads
Direction	Left	Up	Left	Up	Left	Up

Approx. Wipe Area = 143.5 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-006	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Heads	Tails	Heads	Heads	Heads
Direction	Left	Up	Left	Up	Right	Up

Approx. Wipe Area = 143.5 cm^2

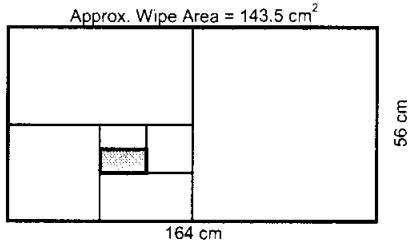


Not to Scale

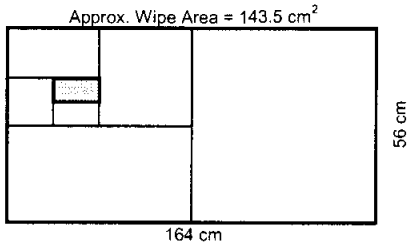
Table C-4b (Concluded)
Dozer Decontamination Confirmatory Samples
Dozer Tracks

Dozer Left Track (Continued)

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-007	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Tails	Heads	Heads	Tails	Tails
Direction	Left	Down	Right	Up	Left	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LTRK-008	56 x 82	56 x41	28 x 41	28 x 20.5	14 x 20.5	14 x 10.25
Coin Toss	Tails	Heads	Tails	Tails	Heads	Heads
Direction	Left	Up	Left	Down	Right	Up



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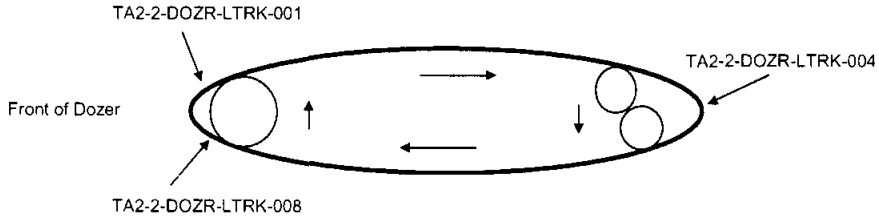


Dozer Left Track

Table C-4c
Dozer Decontamination Confirmatory Samples
Dozer Blade

Dozer Blade

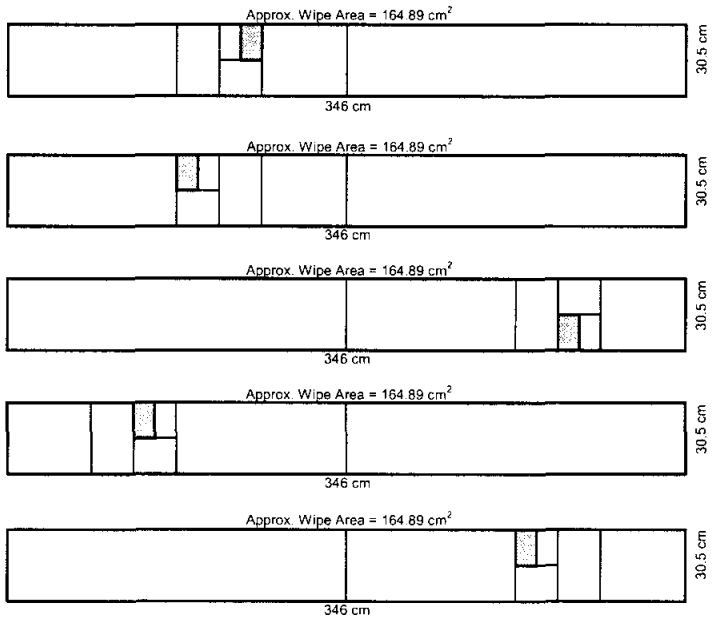
ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-DOZR-BLAD-001	30.5 x 173	30.5 x 86.5	30.5 x 43.25	30.5 x 21.63	15.25 x 21.63	15.25 x 10.81
Coin Toss	Tails	Heads	Tails	Heads	Heads	Heads
Direction	Left	Right	Left	Right	Up	Right

ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-DOZR-BLAD-002	30.5 x 173	30.5 x 86.5	30.5 x 43.25	30.5 x 21.63	15.25 x 21.63	15.25 x 10.81
Coin Toss	Tails	Heads	Tails	Tails	Heads	Tails
Direction	Left	Right	Left	Left	Up	Left

ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-DOZR-BLAD-003	30.5 x 173	30.5 x 86.5	30.5 x 43.25	30.5 x 21.63	15.25 x 21.63	15.25 x 10.81
Coin Toss	Heads	Heads	Tails	Heads	Tails	Tails
Direction	Right	Right	Left	Right	Down	Left

ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-DOZR-BLAD-004	30.5 x 173	30.5 x 86.5	30.5 x 43.25	30.5 x 21.63	15.25 x 21.63	15.25 x 10.81
Coin Toss	Tails	Tails	Heads	Heads	Heads	Tails
Direction	Left	Left	Right	Right	Up	Left

ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-DOZR-BLAD-005	30.5 x 173	30.5 x 86.5	30.5 x 43.25	30.5 x 21.63	15.25 x 21.63	15.25 x 10.81
Coin Toss	Heads	Heads	Tails	Tails	Heads	Tails
Direction	Right	Right	Left	Left	Up	Left

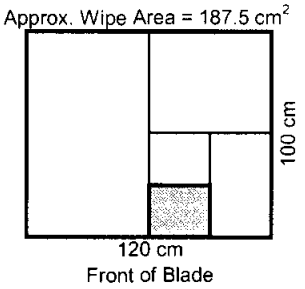


Not to Scale

Table C-4c (Concluded)
Dozer Decontamination Confirmatory Samples
Dozer Blade

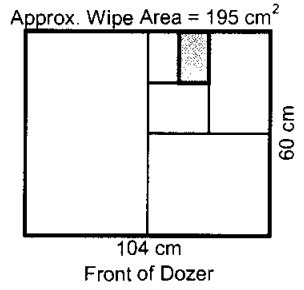
Dozer Blade Side Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-SIDE-001	100 x 60	50 x 60	50 x 30	25 x 30	25 x 15	12.5 x 15
Coin Toss	Heads	Tails	Tails	Heads	Tails	Tails
Direction	Right	Down	Left	Up	Left	Down



Dozer Bottom Plate

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-BOTM-001	60 x 52	30 x 52	30 x 26	15 x 26	15 x 13	-
Coin Toss	Heads	Heads	Tails	Heads	Heads	
Direction	Right	Up	Left	Up	Right	

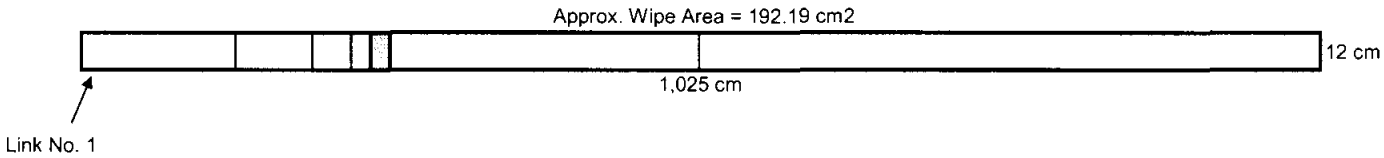


Not to Scale

Table C-4d
Dozer Decontamination Confirmatory Samples
Dozer Links

Dozer Right Track Link–Outside Surface

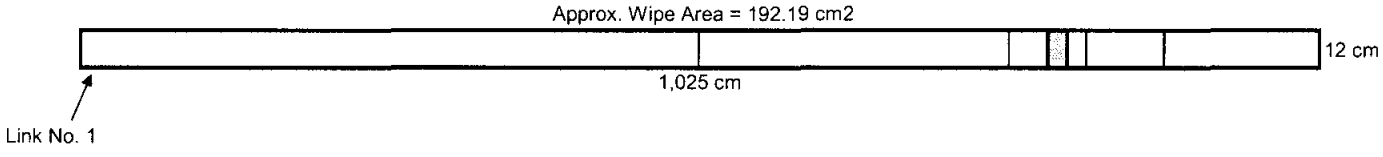
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZER-RLNK-001	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02
Coin Toss	Tails	Tails	Heads	Heads	Heads	Heads
Direction	Left	Left	Right	Right	Right	Right



Not to Scale

Dozer Right Track Link–Inside Surface

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZER-RLNK-002	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02
Coin Toss	Heads	Heads	Tails	Tails	Heads	Tails
Direction	Right	Right	Left	Left	Right	Left

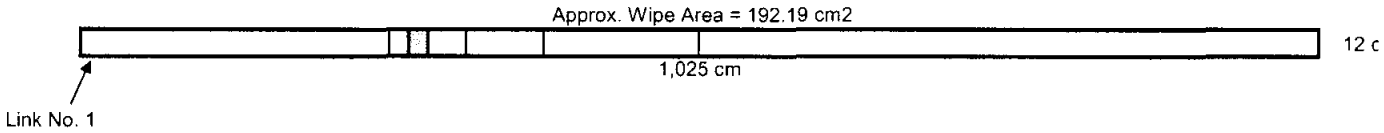


Not to Scale

Table C-4d (Concluded)
Dozer Decontamination Confirmatory Samples
Dozer Links

Dozer Right Track Link–Outside Surface

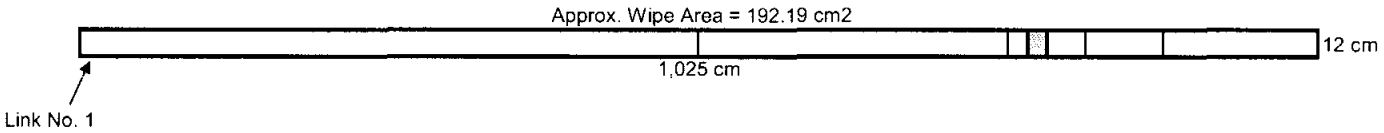
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LLNK-001	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02
Coin Toss	Tails	Heads	Heads	Heads	Tails	Heads
Direction	Left	Right	Left	Left	Left	Right



Not to Scale

Dozer Left Track Link–Inside Surface

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-LLNK-002	12 x 512.5	12 x 256.25	12 x 128.13	12 x 64.06	12 x 32.03	12 x 16.02
Coin Toss	Heads	Heads	Tails	Tails	Tails	Heads
Direction	Right	Right	Left	Left	Left	Right



Not to Scale

Table C-5a
Compactor Decontamination Confirmatory Samples
Compactor Surface Sampled for PCB Contamination

Blade (TA2-2-COMP-BLAD-001 thru -02)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one rectangular surface, 72 x 252 cm = 18,144cm^2	1.81	2	72 x 126	72 x 63	36 x 63	36 x 31.5	18 x 31.5	18 x 15.75	9 x 15.75	141.75
Foot (TA2-2-COMP-FOOT-001 thru -12)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one rectangular surface, 232 x 528 cm (length and width includes knobs on roll surface) = 122,496 cm^2	12.25	12	44 x 232	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5	159.5
Right Tire (TA2-2-COMP-RTIR-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 1 tire; treated as a rectangular surface 56 cm (tread width—side wall not included in surface area) x 452 cm (circumference) = 25,312 cm^2	2.53	3	56 x 150.67	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.84	14 x 9.42	131.83

Refer to footnotes at end of table.

Table C-5a (Concluded)
Compactor Decontamination Confirmatory Samples
Compactor Surface Sampled for PCB Contamination

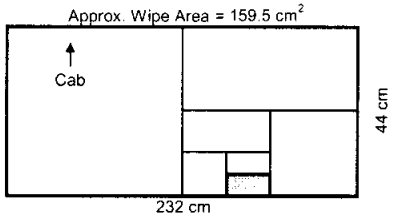
Left Tire (TA2-2-COMP-LTIR-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 1 tire; treated as a rectangular surface 56 cm (tread width—side wall not included in surface area) x 452 cm (circumference) = 25,312 cm^2	2.53	3	56 x 150.67	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.84	14 x 9.42	131.83
Total No. Samples		**20**								

cm = Centimeter(s).
cm^2 = Square centimeter(s).
m^2 = Square meter(s).
No. = Number.
PCB = Polychlorinated biphenyl.

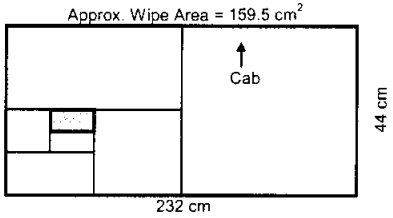
Table C-5b
Compactor Decontamination Confirmatory Samples
Compactor Foot

Compactor Foot

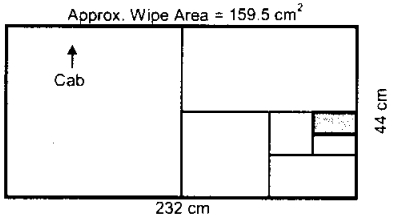
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-001	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Heads	Tails	Tails	Tails	Heads	Tails
Direction	Right	Down	Down	Down	Right	Down



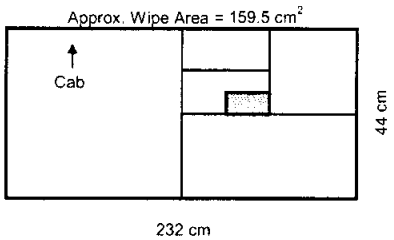
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-002	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Tails	Tails	Tails	Heads	Heads	Heads
Direction	Left	Down	Left	Up	Right	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-003	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Heads	Tails	Heads	Heads	Heads	Heads
Direction	Right	Down	Right	Up	Right	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-004	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Heads	Heads	Tails	Tails	Heads	Tails
Direction	Right	Up	Left	Down	Right	Down

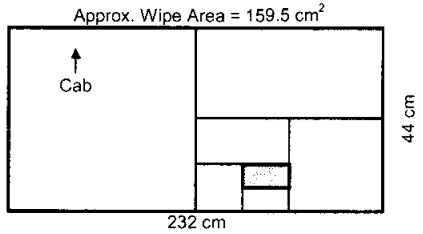


Not to Scale

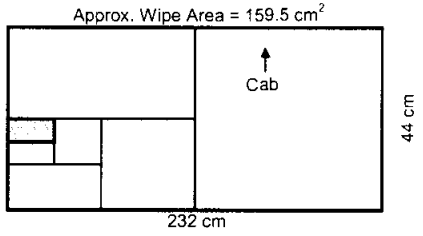
Table C-5b (Continued)
Compactor Decontamination Confirmatory Samples
Compactor Foot

Compactor Foot (Continued)

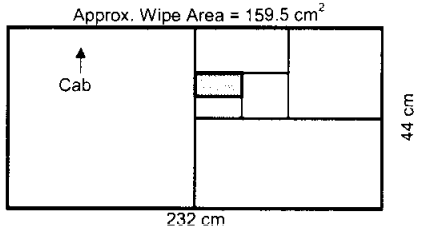
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-005	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Heads	Tails	Tails	Tails	Heads	Heads
Direction	Right	Down	Left	Down	Right	Up



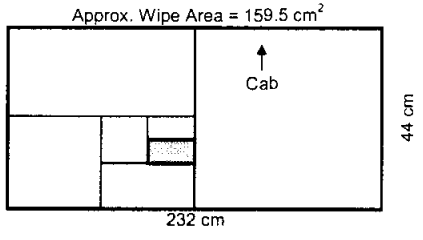
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-006	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Tails	Tails	Tails	Heads	Tails	Heads
Direction	Left	Down	Left	Up	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-007	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Heads	Heads	Tails	Tails	Tails	Heads
Direction	Right	Up	Left	Down	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-008	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Tails	Tails	Heads	Heads	Heads	Tails
Direction	Left	Down	Right	Up	Right	Down



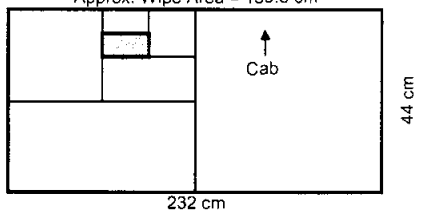
Not to Scale

Table C-5b (Continued)
Compactor Decontamination Confirmatory Samples
Compactor Foot

Compactor Foot (Continued)

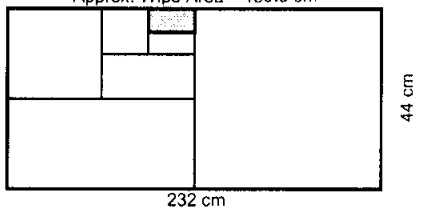
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-009	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Tails	Heads	Heads	Heads	Tails	Tails
Direction	Left	Up	Right	Up	Left	Down

Approx. Wipe Area = 159.5 cm^2



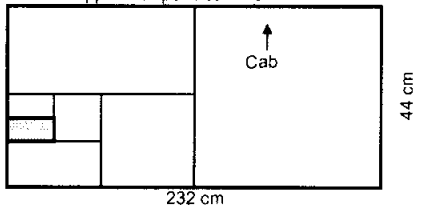
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-010	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Tails	Heads	Heads	Heads	Heads	Heads
Direction	Left	Up	Right	Up	Right	Up

Approx. Wipe Area = 159.5 cm^2



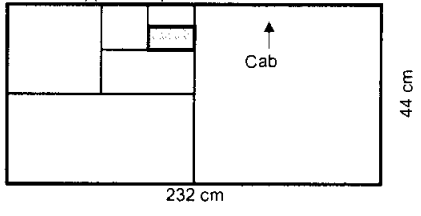
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-011	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Tails	Tails	Tails	Heads	Tails	Tails
Direction	Left	Down	Left	Up	Left	Down

Approx. Wipe Area = 159.5 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-FOOT-012	44 x 116	44 x 58	44 x 29	22 x 29	22 x 14.5	11 x 14.5
Coin Toss	Tails	Heads	Heads	Heads	Heads	Tails
Direction	Left	Up	Right	Up	Right	Down

Approx. Wipe Area = 159.5 cm^2



Not to Scale

Table C-5b (Concluded)
Compactor Decontamination Confirmatory Samples
Compactor Foot

TA2-2-COMP-FOOT-011	TA2-2-COMP-FOOT-012
TA2-2-COMP-FOOT-001	TA2-2-COMP-FOOT-002
TA2-2-COMP-FOOT-003	TA2-2-COMP-FOOT-004
TA2-2-COMP-FOOT-005	TA2-2-COMP-FOOT-006
TA2-2-COMP-FOOT-007	TA2-2-COMP-FOOT-008
TA2-2-COMP-FOOT-009	TA2-2-COMP-FOOT-010

Seam

Seam

Cab

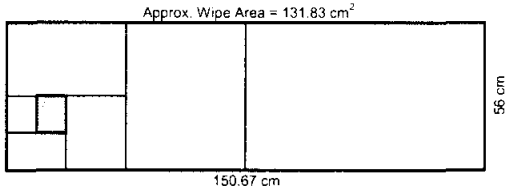
Not to Scale

Table C-5c
Compactor Decontamination Confirmatory Samples
Compactor Tires

Compactor Right Tire

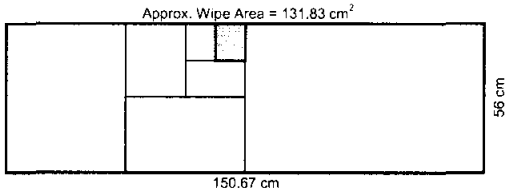
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-RTIR-001	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.84	14 x 9.42
Coin Toss	Tails	Tails	Tails	Tails	Heads	Heads
Direction	Left	Left	Down	Left	Up	Right

Approx. Wipe Area = 131.83 cm^2



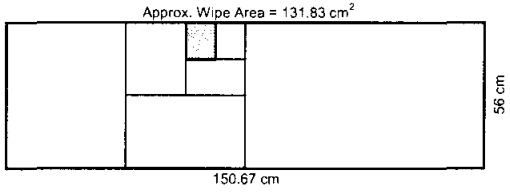
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-RTIR-002	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.84	14 x 9.42
Coin Toss	Tails	Heads	Heads	Heads	Heads	Heads
Direction	Left	Right	Up	Right	Up	Right

Approx. Wipe Area = 131.83 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-RTIR-003	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.83	14 x 9.42
Coin Toss	Tails	Heads	Heads	Heads	Heads	Tails
Direction	Left	Right	Up	Right	Up	Left

Approx. Wipe Area = 131.83 cm^2



Not to Scale

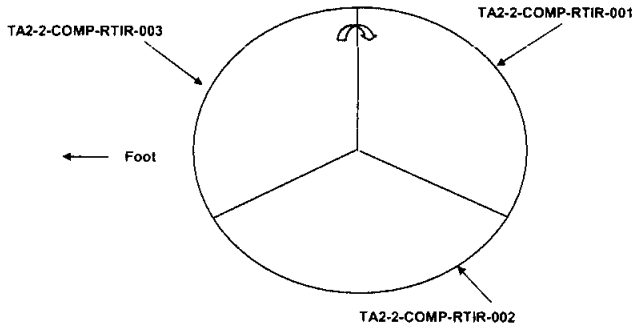
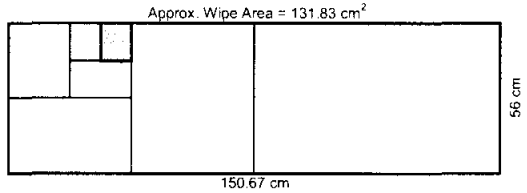


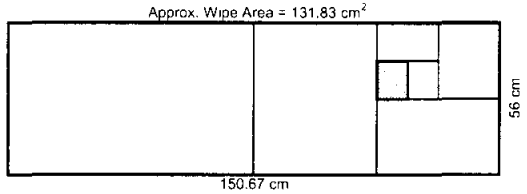
Table C-5c (Concluded)
Compactor Decontamination Confirmatory Samples
Compactor Tires

Compactor Left Tire

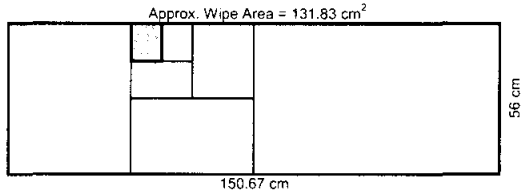
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-LTIR-001	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.84	14 x 9.42
Coin Toss	Tails	Tails	Heads	Heads	Heads	Heads
Direction	Left	Left	Up	Right	Up	Right



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-LTIR-002	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.84	14 x 9.42
Coin Toss	Heads	Heads	Heads	Tails	Tails	Tails
Direction	Right	Right	Up	Left	Down	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-LTIR-003	56 x 75.33	56 x 37.67	28 x 37.67	28 x 18.84	14 x 18.84	14 x 9.42
Coin Toss	Tails	Heads	Heads	Tails	Heads	Taild
Direction	Left	Right	Up	Left	Up	Left



Not to Scale

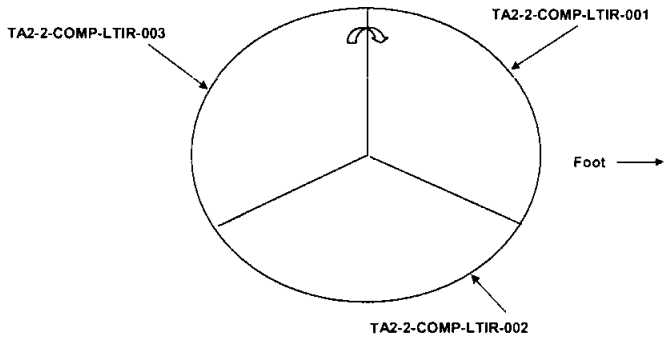
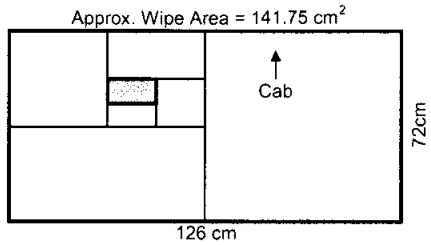
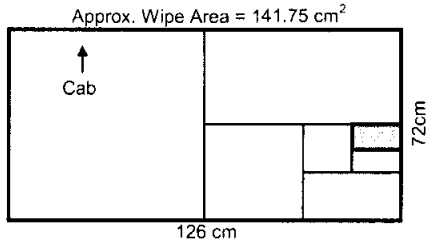


Table C-5d
Compactor Decontamination Confirmatory Samples
Compactor Blade

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-BLAD-001	72 x 63	36 x 63	36 x 31.5	18 x 31.5	18 x 15.75	9 x 15.75
Coin Toss	Tails	Heads	Heads	Tails	Tails	Heads
Direction	Left	Up	Right	Down	Left	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-COMP-BLAD-002	72 x 63	36 x 63	36 x 31.5	18 x 31.5	18 x 15.75	9 x 15.75
Coin Toss	Heads	Tails	Heads	Heads	Heads	Heads
Direction	Right	Down	Right	Up	Right	Up



Not to Scale

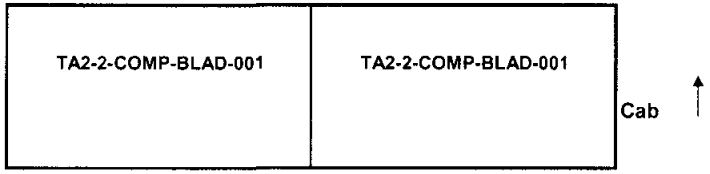


Table C-6a
Density Probe Decontamination Confirmatory Samples
Density Probe Surfaces Sampled for PCB Contamination

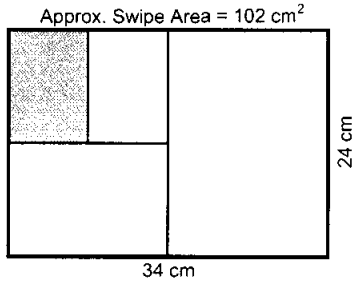
Reference Standard (TA2-2-PROB-STD-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Bottom of reference standard; treated as one rectangular surface 24 x 34 cm = 816 cm^2	0.82	1	24 x 34	24 x 17	12 x 17	12 x 8.5	-	-	-	102
Guideplate (TA2-2-PROB-PLAT-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Bottom of guideplate; treated as one rectangular surface 25 x 36 cm = 900 cm^2	0.9	1	25 x 36	25 x 18	12.5 x 18	12.5 x 9	-	-	-	112.5
Drill Pin (TA2-2-PROB-STAK-001)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Drill pill; consists of a rod 53 cm long x 1.5 cm in diameter with a cap 2.5 cm long x 3.5 in diameter; treated as one irregular surface	0.28	1	0.28	-	-	-	-	-	-	227.11
Total No. Samples		**3**								

cm = Centimeter(s).
cm^2 = Square centimeter(s).
m^2 = Square meter(s).
No. = Number.
PCB = Polychlorinated biphenyl.

Table C-6b
Density Probe Decontamination Confirmatory Samples
Probe

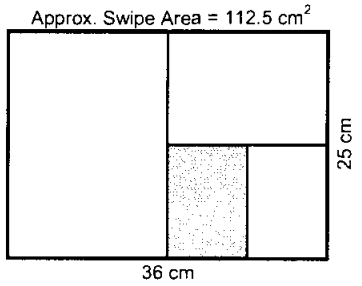
Probe Reference Standard

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-PROB-STD-001	24 x 17	12 x 17	12 x 8.5	-	-	-
Coin Toss	Tails	Heads	Tails	-	-	-
Direction	Left	Up	Left	-	-	-



Probe Guideplate

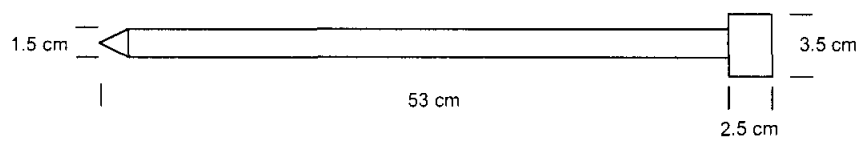
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-PROB-PLAT-003	25 x 18	12.5 x 18	12.5 x 9	-	-	-
Coin Toss	Heads	Tails	Tails	-	-	-
Direction	Right	Down	Left	-	-	-



Not to Scale

Probe Drill Pin

ER Sample ID
TA2-2-PROB-STAK-001



Not to Scale

Table C-7a
Dump Truck Decontamination Confirmatory Samples
Dump Truck Surfaces Sampled for PCB Contamination

Rear Tires (TA2-2-DUMP-TIRE-001 thru -008)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 8 rear tires, each tire treated as a rectangular surface 22 cm (tread width—side wall not included in surface area) x 324 cm (circumference) x = 7,128 cm^2 per rear tire	0.713 per tire	8 (1 per tire)	22 x 324	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13	111.38
Front Tires (TA2-2-DUMP-TIRE-009 thru -010)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 2 front tires, each treated as a rectangular surface 34 cm (tread width—side wall not included in surface area) x 344 cm (circumference) x = 11,696 cm^2 per rear tire	1.17 per tire	2 (1 per tire)	34 x 344	34 x 172	34 x 86	34 x 43	34 x 21.5	17 x 21.5	17 x 10.75	182.75
Front Panel (TA2-2-DUMP-FRNT-001 thru -004)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the inside front panel of the dump truck bed, excluding the hydraulic ram cover; treated as one rectangular surface 164 x 223 cm = 36,572 cm^2	3.65	4	55.75 x 164	55.75 x 82	55.75 x 41	27.88 x 41	27.88 x 20.5	13.94 x 20.5	13.94 x 10.25	142.86

Refer to footnotes at end of table.

Table C-7a (Continued)
Dump Truck Decontamination Confirmatory Samples
Dump Truck Surfaces Sampled for PCB Contamination

Front Panel (TA2-2-DUMP-FRNT-005 thru -006)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the hydraulic ram cover attached to the front panel of the dump truck bed; treated as two rectangular surfaces 68 x 149 cm = 10,132 cm^2	1.01	2(1 per side)	68 x 149	68 x 74.5	68 x 37.25	34 x 37.25	34 x 18.63	17 x 18.63	17 x 9.31	158.31
Bottom Panel (TA2-2-DUMP-BOTM-001 thru -002)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of a partial area of the inside bottom panel of the dump truck bed; treated as one rectangular surface 81 x 185 cm = 14,985 cm^2	1.5	2	81 x 92.5	81 x 46.25	40.5 x 46.25	40.5 x 23.13	20.25 x 23.13	20.25 x 11.56	10.13 x 11.56	117.07
Bottom Panel (TA2-2-DUMP-BOTM-003 thru -012)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Surface Area (m^2)
Consists of a partial area of the inside bottom panel of the dump truck bed; treated as one rectangular surface 221 x 437 cm = 96,577 cm^2	9.66	10	87.4 x 110.5	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81	150.9
Right Side Panel (TA2-2-DUMP-RSID-001 thru -005)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the inside right panel of the dump truck bed, treated as one rectangular surface 102 x 518 cm = 52,836 cm^2	5.28	5	102 x 103.6	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95	165.11

Refer to footnotes at end of table.

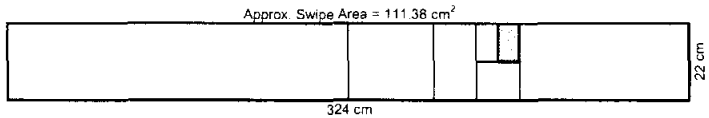
Table C-7a (Concluded)
Dump Truck Decontamination Confirmatory Samples
Dump Truck Surfaces Sampled for PCB Contamination

Left Side Panel (TA2-2-DUMP-LSID-001 thru -005)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the inside right panel of the dump truck bed, treated as one rectangular surface 102 x 518 cm = 52,836 cm^2	5.28	5	102 x 103.6	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95	165.11
Rear Panel (TA2-2-DUMP-REAR-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the inside rear panel of the dump truck bed, treated as one rectangular surface 115 x 221 cm = 25,415 cm^2	2.54	3	73.67 x 115	73.67 x 57.5	36.83 x 57.5	36.83 x 28.75	18.41 x 28.75	18.41 x 14.38	9.21 x 14.38	132.37
Rear Panel (TA2-2-DUMP-REAR-004)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the dump truck rear bumper, treated as one rectangular surface 42 x 244 cm = 10,248 cm^2	0.88	1	42 x 244	42 x 122	42 x 61	42 x 30.5	21 x 30.5	21 x 15.25	10.5 x 15.25	160.13
Total No. Samples		**42**								

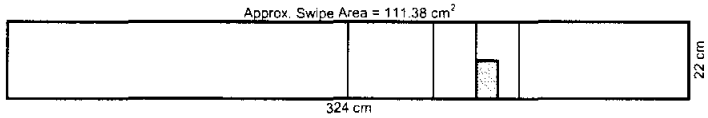
cm = Centimeter(s).
cm^2 = Square centimeter(s).
m^2 = Square meter(s).
No. = Number.
PCB = Polychlorinated biphenyl.

Table C-7b
Dump Truck Decontamination Confirmatory Samples
Dump Truck Tires

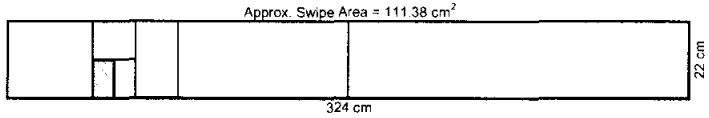
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-001	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Heads	Tails	Heads	Heads	Heads	Heads
Direction	Right	Left	Right	Right	Up	Right



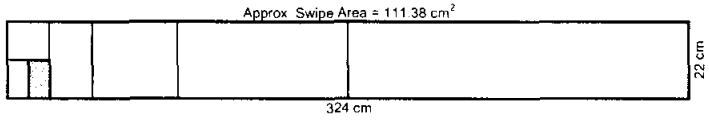
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-002	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Heads	Tails	Heads	Heads	Tails	Tails
Direction	Right	Left	Right	Right	Down	Left



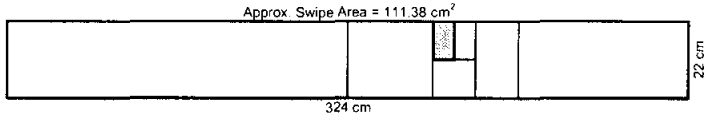
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-003	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Tails	Tails	Heads	Tails	Tails	Tails
Direction	Left	Left	Right	Left	Down	Left



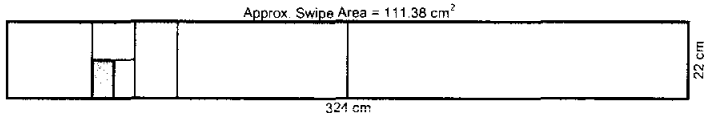
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-004	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Tails	Tails	Tails	Tails	Tails	Heads
Direction	Left	Left	Left	Left	Down	Right



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-005	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Heads	Tails	Heads	Tails	Heads	Tails
Direction	Right	Left	Right	Left	Up	Left



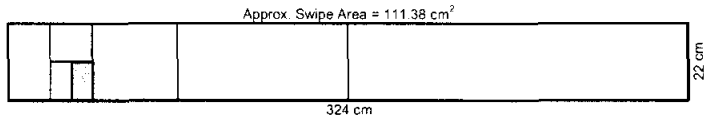
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-006	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Tails	Tails	Heads	Tails	Tails	Tails
Direction	Left	Left	Right	Left	Down	Left



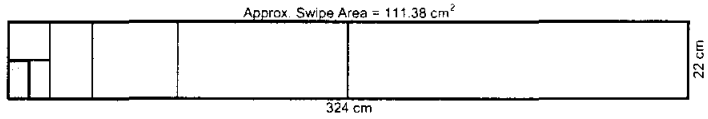
Not to Scale

Table C-7b (Concluded)
Dump Truck Decontamination Confirmatory Samples
Dump Truck Tires

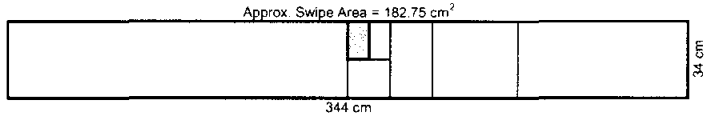
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-007	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Tails	Tails	Tails	Heads	Tails	Heads
Direction	Left	Left	Left	Right	Down	Right



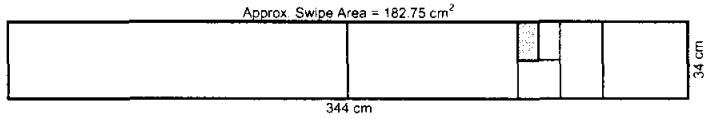
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-008	22 x 162	22 x 81	22 x 40.5	22 x 20.25	11 x 20.25	11 x 10.13
Coin Toss	Tails	Tails	Tails	Tails	Tails	Tails
Direction	Left	Left	Left	Left	Down	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-009	34 x 172	34 x 86	34 x 43	34 x 21.5	17 x 21.5	17 x 10.75
Coin Toss	Heads	Tails	Tails	Tails	Heads	Tails
Direction	Right	Left	Left	Left	Up	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-TIRE-010	34 x 172	34 x 86	34 x 43	34 x 21.5	17 x 21.5	17 x 10.75
Coin Toss	Heads	Heads	Tails	Tails	Heads	Tails
Direction	Right	Right	Left	Left	Up	Left



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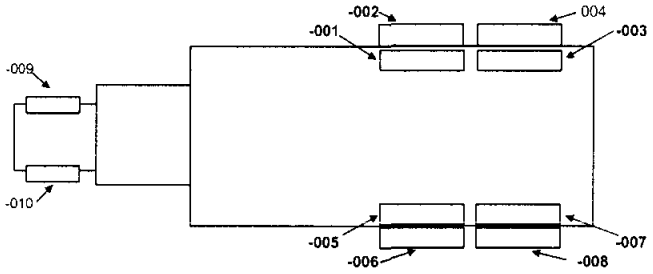
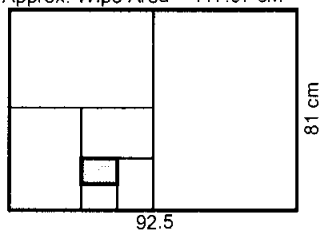


TA2-2-DUMP-TIRE-001 thru -010

Table C-7c
Dump Truck Decontamination Confirmatory Samples
Bottom Panel of Dump Truck Bed

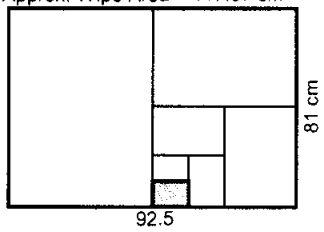
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-001	81 x 46.25	40.5 x 46.25	40.5 x 23.13	20.25 x 23.13	20.25 x 11.56	10.13 x 11.56
Coin Toss	Tails	Tails	Heads	Tails	Tails	Heads
Direction	Left	Down	Right	Down	Left	Up

Approx. Wipe Area = 117.07 cm^2



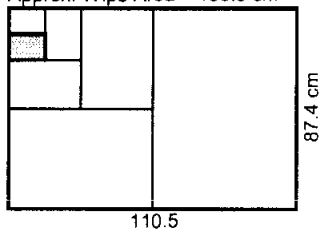
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-002	81 x 46.25	40.5 x 46.25	40.5 x 23.13	20.25 x 23.13	20.25 x 11.56	10.13 x 11.56
Coin Toss	Heads	Tails	Tails	Tails	Tails	Tails
Direction	Right	Down	Left	Down	Left	Down

Approx. Wipe Area = 117.07 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-003	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Tails	Heads	Tails	Heads	Tails	Tails
Direction	Left	Up	Left	Up	Left	Down

Approx. Wipe Area = 150.9 cm^2

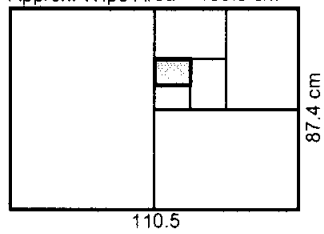


Not to Scale

Table C-7c (Continued)
Dump Truck Decontamination Confirmatory Samples
Bottom Panel of Dump Truck Bed

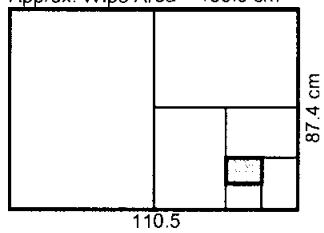
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-004	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Heads	Heads	Tails	Heads	Heads	Heads
Direction	Right	Up	Left	Right	Right	Up

Approx. Wipe Area = 150.9 cm^2



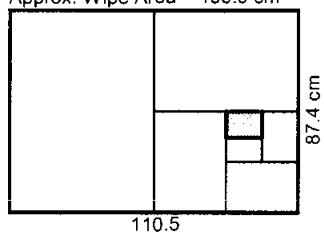
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-005	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Heads	Tails	Heads	Tails	Tails	Heads
Direction	Right	Down	Right	Down	Left	Up

Approx. Wipe Area = 150.9 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-006	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Heads	Tails	Heads	Heads	Tails	Heads
Direction	Right	Down	Right	Up	Left	Up

Approx. Wipe Area = 150.9 cm^2

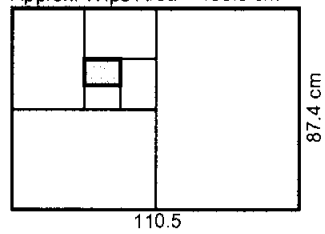


Not to Scale

Table C-7c (Continued)
Dump Truck Decontamination Confirmatory Samples
Bottom Panel of Dump Truck Bed

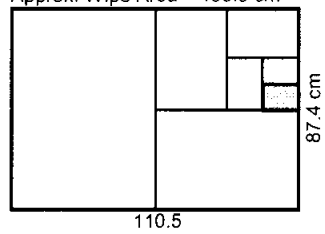
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-007	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Tails	Heads	Heads	Tails	Tails	Heads
Direction	Left	Up	Right	Down	Left	Up

Approx. Wipe Area = 150.9 cm^2



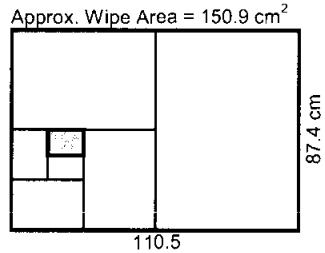
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-008	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Heads	Heads	Heads	Tails	Heads	Tails
Direction	Right	Up	Right	Down	Right	Down

Approx. Wipe Area = 150.9 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-009	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Tails	Tails	Tails	Heads	Heads	Heads
Direction	Left	Down	Left	Up	Right	Up

Approx. Wipe Area = 150.9 cm^2

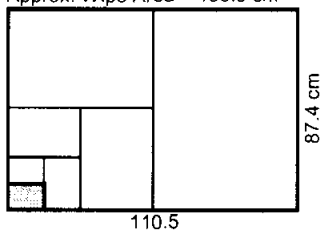


Not to Scale

Table C-7c (Continued)
Dump Truck Decontamination Confirmatory Samples
Bottom Panel of Dump Truck Bed

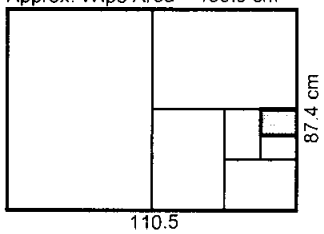
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-010	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Tails	Tails	Tails	Tails	Tails	Tails
Direction	Left	Down	Left	Down	Left	Down

Approx. Wipe Area = 150.9 cm^2



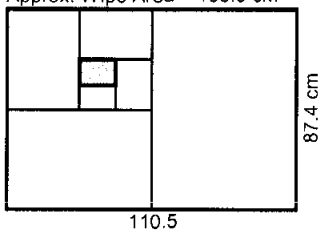
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-011	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Heads	Tails	Heads	Heads	Heads	Heads
Direction	Right	Down	Right	Up	Right	Up

Approx. Wipe Area = 150.9 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-BOTM-012	87.4 x 55.25	43.7 x 55.25	43.7 x 27.63	21.85 x 27.63	21.85 x 13.81	10.93 x 13.81
Coin Toss	Tails	Heads	Heads	Heads	Tails	Heads
Direction	Left	Up	Right	Up	Left	Up

Approx. Wipe Area = 150.9 cm^2



Not to Scale

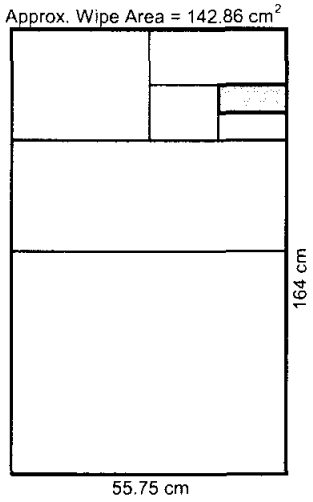
Table C-7c (Concluded)
Dump Truck Decontamination Confirmatory Samples
Bottom Panel of Dump Truck Bed

TA2-2-DUMP-BOTM-001 thru -012

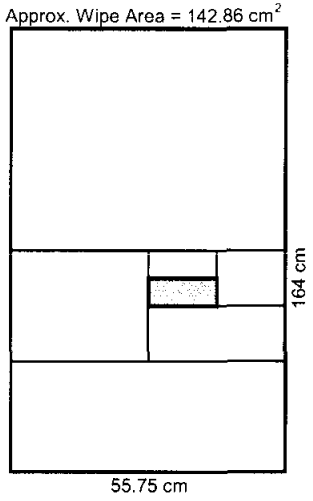
-011	-009	-007	-005	-003	-001
-012	-010	-008	-006	-004	-002

Table C-7d
Dump Truck Decontamination Confirmatory Samples
Front Panel of Dump Truck Bed

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-FRNT-001	55.75 x 82	55.75 x 41	27.88 x 41	27.88 x 20.5	13.94 x 20.5	13.94 x 10.25
Coin Toss	Heads	Heads	Heads	Tails	Heads	Heads
Direction	Up	Up	Right	Down	Right	Up



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-FRNT-002	55.75 x 82	55.75 x 41	27.88 x 41	27.88 x 20.5	13.94 x 20.5	13.94 x 10.25
Coin Toss	Tails	Heads	Heads	Heads	Tails	Tails
Direction	Down	Up	Right	Up	Left	Down

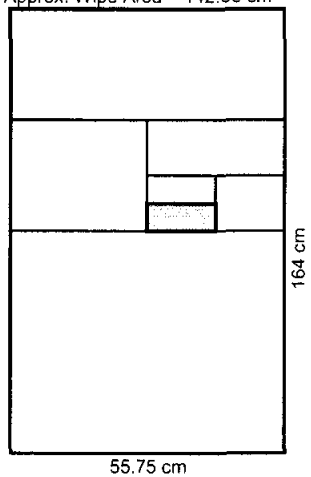


Not to Scale

Table C-7d (Continued)
Dump Truck Decontamination Confirmatory Samples
Front Panel of Dump Truck Bed

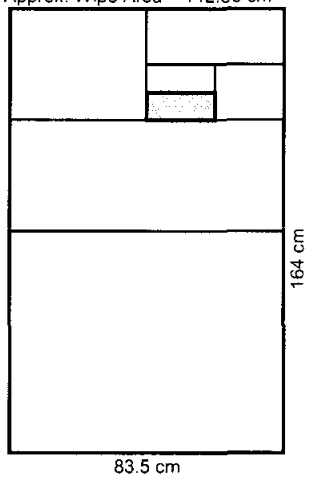
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-FRNT-003	55.75 x 82	55.75 x 41	27.88 x 41	27.88 x 20.5	13.94 x 20.5	13.94 x 10.25
Coin Toss	Heads	Tails	Heads	Tails	Tails	Tails
Direction	Up	Down	Right	Down	Left	Down

Approx. Wipe Area = 142.86 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-FRNT-004	55.75 x 82	55.75 x 41	27.88 x 41	27.88 x 20.5	13.94 x 20.5	13.94 x 10.25
Coin Toss	Heads	Heads	Heads	Tails	Tails	Tails
Direction	Up	Up	Right	Down	Left	Down

Approx. Wipe Area = 142.86 cm^2

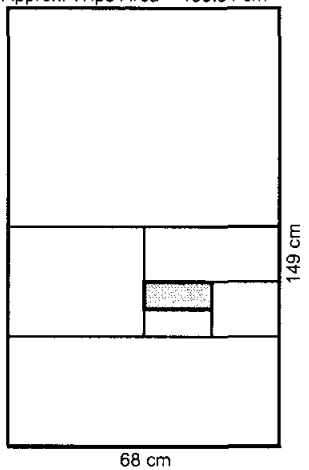


Not to Scale

Table C-7d (Continued)
Dump Truck Decontamination Confirmatory Samples
Front Panel of Dump Truck Bed

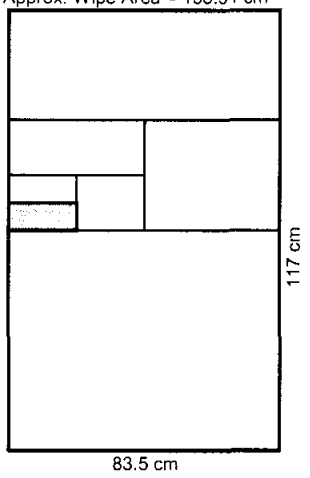
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-FRNT-005	68 x 74.5	68 x 37.25	34 x 37.25	34 x 18.63	17 x 18.63	17 x 9.31
Coin Toss	Tails	Heads	Heads	Tails	Tails	Heads
Direction	Down	Up	Right	Down	Left	Up

Approx. Wipe Area = 158.31 cm^2



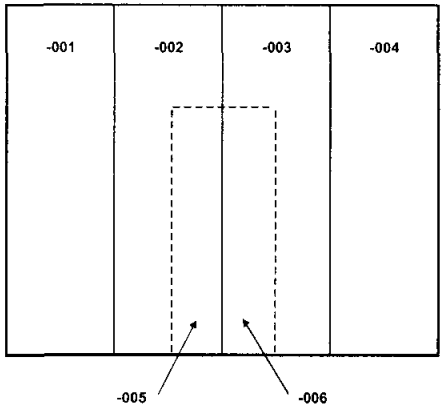
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-FRNT-006	68 x 74.5	68 x 37.25	34 x 37.25	34 x 18.63	17 x 18.63	17 x 9.31
Coin Toss	Heads	Tails	Tails	Tails	Tails	Tails
Direction	Up	Down	Left	Down	Left	Down

Approx. Wipe Area = 158.31 cm^2

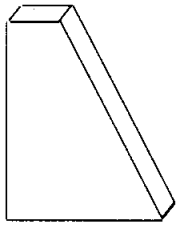


Not to Scale

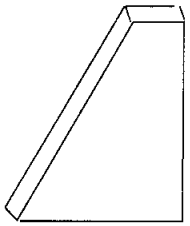
Table C-7d (Concluded)
Dump Truck Decontamination Confirmatory Samples
Front Panel of Dump Truck Bed



TA2-2-DUMP-FRNT-001 thru -004



TA2-2-DUMP-FRNT-005

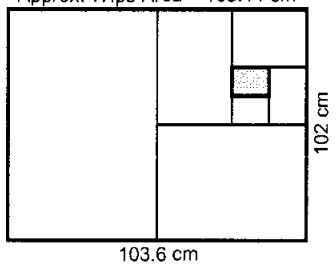


TA2-2-DUMP-FRNT-006

Table C-7e
Dump Truck Decontamination Confirmatory Samples
Right Side Panel of Dump Truck Bed

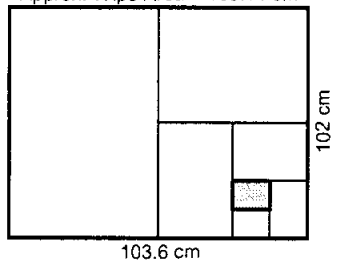
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-RSID-001	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Heads	Heads	Heads	Tails	Tails	Heads
Direction	Right	Up	Right	Down	Left	Up

Approx. Wipe Area = 165.11 cm^2



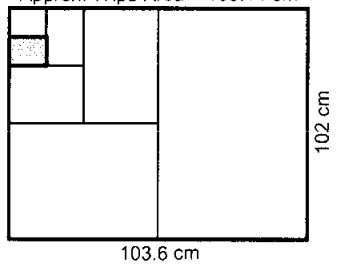
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-RSID-002	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Heads	Tails	Heads	Tails	Tails	Heads
Direction	Right	Down	Right	Down	Left	Up

Approx. Wipe Area = 165.11 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-RSID-003	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Tails	Heads	Tails	Heads	Tails	Tails
Direction	Left	Up	Left	Up	Left	Down

Approx. Wipe Area = 165.11 cm^2

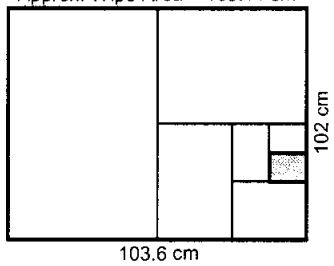


Not to Scale

Table C-7e (Concluded)
Dump Truck Decontamination Confirmatory Samples
Right Side Panel of Dump Truck Bed

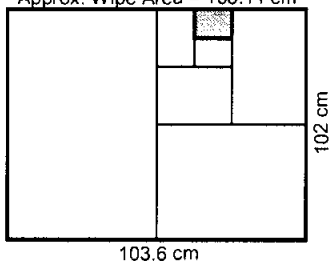
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-RSID-004	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Heads	Tails	Heads	Heads	Heads	Tails
Direction	Right	Down	Right	Up	Right	Down

Approx. Wipe Area = 165.11 cm^2

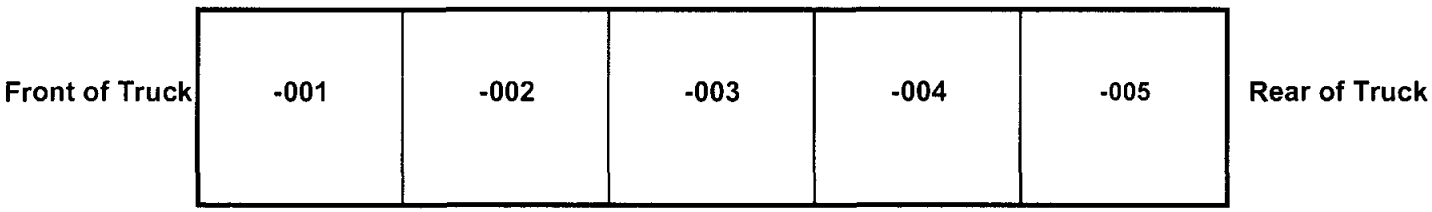


	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-RSID-005	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Heads	Heads	Tails	Heads	Heads	Heads
Direction	Right	Up	Left	Up	Right	Up

Approx. Wipe Area = 165.11 cm^2



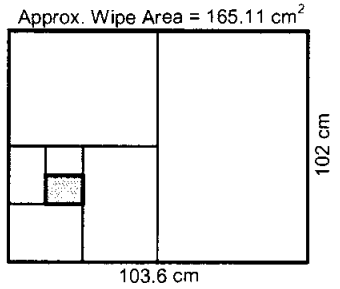
Not to Scale



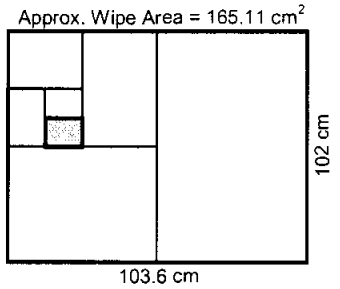
TA2-2-DUMP-RSID-001 thru -005

Table C-7f
Dump Truck Decontamination Confirmatory Samples
Left Side Panel of Dump Truck Bed

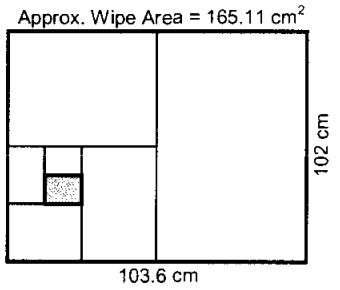
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-LSID-001	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Tails	Tails	Tails	Heads	Heads	Tails
Direction	Left	Down	Left	Up	Right	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-LSID-002	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Tails	Heads	Tails	Tails	Heads	Tails
Direction	Left	Up	Left	Down	Right	Down



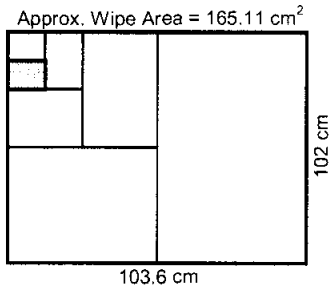
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-LSID-003	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Tails	Tails	Tails	Heads	Heads	Tails
Direction	Left	Down	Left	Up	Right	Down



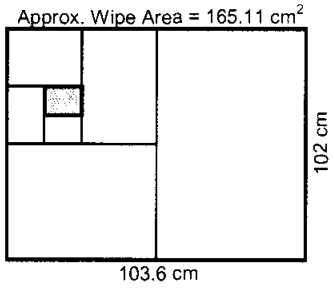
Not to Scale

Table C-7f (Concluded)
Dump Truck Decontamination Confirmatory Samples
Left Side Panel of Dump Truck Bed

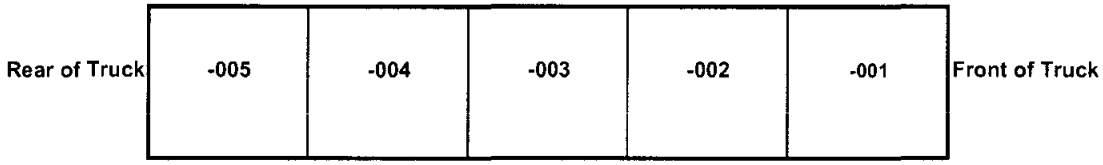
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-LSID-004	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Tails	Heads	Tails	Heads	Tails	Tails
Direction	Left	Up	Left	Up	Left	Down



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-LSID-005	102 x 51.8	51 x 51.8	51 x 25.9	25.5 x 25.9	25.5 x 12.95	12.75 x 12.95
Coin Toss	Tails	Heads	Tails	Tails	Heads	Heads
Direction	Left	Up	Left	Down	Right	Up



Not to Scale

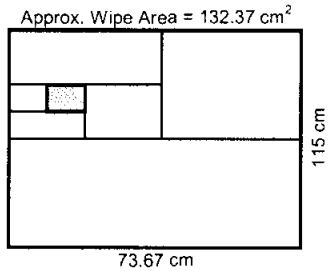


TA2-2-DUMP-LSID-001 thru -005

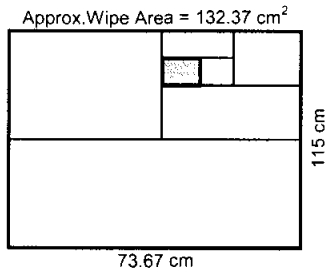
Table C-7g
Dump Truck Decontamination Confirmatory Samples
Dump Truck Rear

Rear Panel of Dump Truck Bed

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-REAR-001	73.67 x 57.5	36.83 x 57.5	36.83 x 28.75	18.41 x 28.75	18.41 x 14.38	9.21 x 14.38
Coin Toss	Heads	Tails	Tails	Tails	Heads	Heads
Direction	Up	Left	Down	Left	Up	Right



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-REAR-002	73.67 x 57.5	36.83 x 57.5	36.83 x 28.75	18.41 x 28.75	18.41 x 14.38	9.21 x 14.38
Coin Toss	Heads	Heads	Heads	Tails	Tails	Tails
Direction	Up	Right	Up	Left	Down	Left

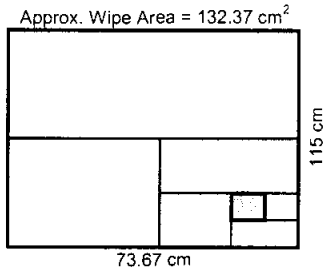


Not to Scale

Table C-7g (Continued)
Dump Truck Decontamination Confirmatory Samples
Dump Truck Rear

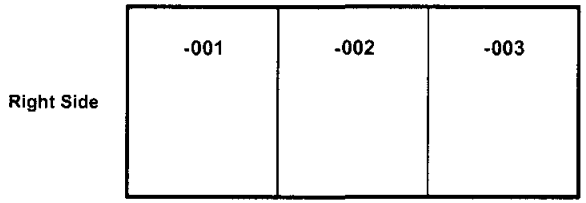
Rear Panel of Dump Truck Bed (Continued)

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-REAR-003	73.67 x 57.5	36.83 x 57.5	36.83 x 28.75	18.41 x 28.75	18.41 x 14.38	9.21 x 14.38
Coin Toss	Tails	Heads	Tails	Heads	Heads	Tails
Direction	Down	Right	Down	Right	Up	Left



Not to Scale

Rear of Truck



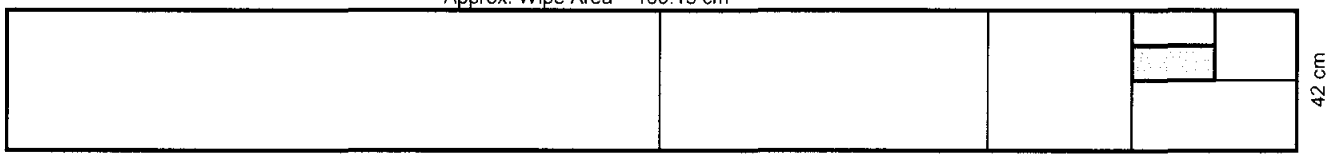
TA2-2-DUMP-REAR-001 thru -004

Table C-7g (Concluded)
Dump Truck Decontamination Confirmatory Samples
Dump Truck Rear

Dump Truck Rear Bumper

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DUMP-REAR-004	42 x 122	42 x 61	42 x 30.5	21 x 30.5	21 x 15.25	10.5 x 15.25
Coin Toss	Heads	Heads	Heads	Heads	Tails	Tails
Direction	Right	Right	Right	Up	Left	Down

Approx. Wipe Area = 160.13 cm^2



Not to Scale

Table C-8a
Loader Decontamination Confirmatory Samples
Loader Surfaces Sampled for PCB Contamination

Inside of Bucket (TA2-2-LODR-BKTI-001 thru -007)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one rectangular surface, 260 x 280 cm = 72,800 cm^2	7.28	7	40 x 260	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25	162.5
Bucket Side—Inside Surface (TA2-2-LODR-BKTS-001 thru -002)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the inside bucket sides; treated as two rectangular surfaces, 84 x 132 cm = 11,088 cm^2	1.11	2 (1 right side,1 left side)	84 x 132	84 x 66	42 x 66	42 x 33	21 x 33	21 x 16.5	10.5 x 16.5	173.25
Bucket Side—Outside Surface (TA2-2-LODR-BKTS-003 thru -004)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of the outside bucket sides; treated as two rectangular surfaces, 88 x 114 cm = 10,032 cm^2	1.00	2 (1 right side,1 left side)	88 x 114	88 x 57	44 x 57	44 x 28.5	22 x 28.5	22 x 14.25	11 x 14.25	156.75
Bucket Bottom (TA2-2-LODR-BKTB-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Swipe Area (cm^2)
Consists of one rectangular surface, 112 x 286 cm = 32,032 cm^2	3.2	3	95.33 x 112	95.33 x 56	47.67 x 56	47.67 x 28	23.83 x 28	23.83 x 14	11.92 x 14	166.83

Refer to footnotes at end of table.

Table C-8a (Continued)
Loader Decontamination Confirmatory Samples
Loader Surfaces Sampled for PCB Contamination

Right Front Tire (TA2-2-LODR-RFT-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of 1 tire; treated as a rectangular surface 58.5 cm (tread width—side wall not included in surface area) x 496 cm (circumference) = 29,016 cm^2	2.9	3	58.5 x 165.33	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33	151.13
Left Front Tire (TA2-2-LODR-LFT-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Swipe Area (cm^2)
Consists of 1 tire; treated as a rectangular surface 58.5 cm (tread width—side wall not included in surface area) x 496 cm (circumference) = 29,016 cm^2	2.9	3	58.5 x 165.33	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33	151.13
Right Rear Tire (TA2-2-LODR-RRT-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Swipe Area (cm^2)
Consists of 1 tire; treated as a rectangular surface 58.5 cm (tread width—side wall not included in surface area) x 496 cm (circumference) = 29,016 cm^2	2.9	3	58.5 x 165.33	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33	151.13

Refer to footnotes at end of table.

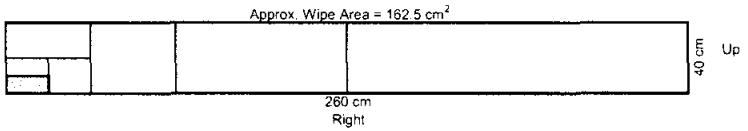
Table C-8a (Concluded)
Loader Decontamination Confirmatory Samples
Loader Surfaces Sampled for PCB Contamination

Left Rear Tire (TA2-2-LODR-LRT-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Size (cm)	1	2	3	4	5	6	Approx. Swipe Area (cm^2)
Consists of 1 tire; treated as a rectangular surface 58.5 cm (tread width—side wall not included in surface area) x 496 cm (circumference) = 29,016 cm^2	2.9	3	58.5 x 165.33	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33	151.13
Total No. Samples		**26**								

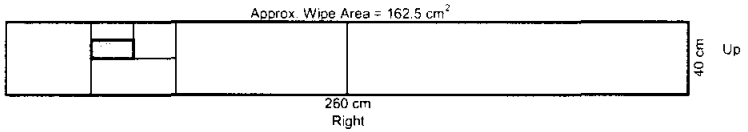
cm = Centimeter(s).
cm^2 = Square centimeter(s).
m^2 = Square meter(s).
No. = Number.
PCB = Polychlorinated biphenyl.

Table C-8b
Loader Decontamination Confirmatory Samples
Inside of Loader Bucket

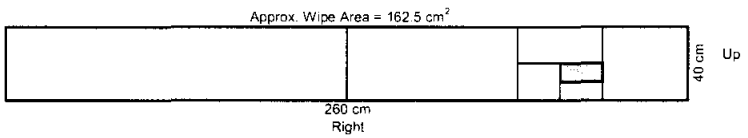
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTI-001	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25
Coin Toss	Tails	Tails	Tails	Heads	Tails	Heads
Direction	Down	Down	Down	Right	Down	Right



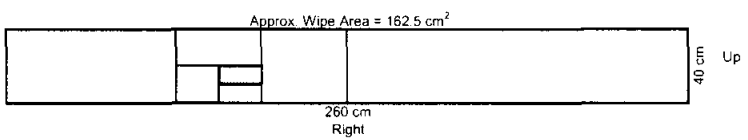
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTI-002	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25
Coin Toss	Tails	Tails	Heads	Tails	Tails	Heads
Direction	Down	Down	Up	Left	Down	Right



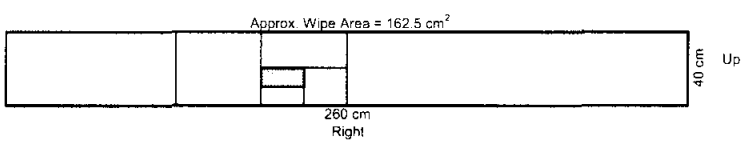
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTI-003	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25
Coin Toss	Heads	Heads	Tails	Heads	Heads	Tails
Direction	Up	Up	Down	Right	Up	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTI-004	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25
Coin Toss	Tails	Heads	Tails	Heads	Heads	Tails
Direction	Down	Up	Down	Right	Up	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTI-005	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25
Coin Toss	Tails	Heads	Heads	Heads	Tails	Tails
Direction	Down	Up	Up	Right	Down	Left

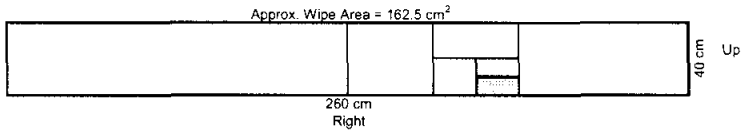


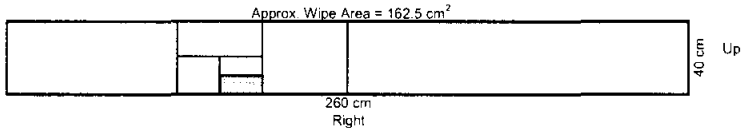
Not to Scale

Table C-8b (Concluded)
Loader Decontamination Confirmatory Samples
Inside of Loader Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTI-006	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25
Coin Toss	Heads	Tails	Heads	Heads	Heads	Heads
Direction	Up	Down	Up	Right	Up	Right

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTI-007	40 x 130	40 x 65	40 x 32.5	20 x 32.5	20 x 16.25	10 x 16.25
Coin Toss	Tails	Heads	Tails	Heads	Heads	Heads
Direction	Down	Up	Down	Right	Up	Right





Not to Scale

Top of Bucket

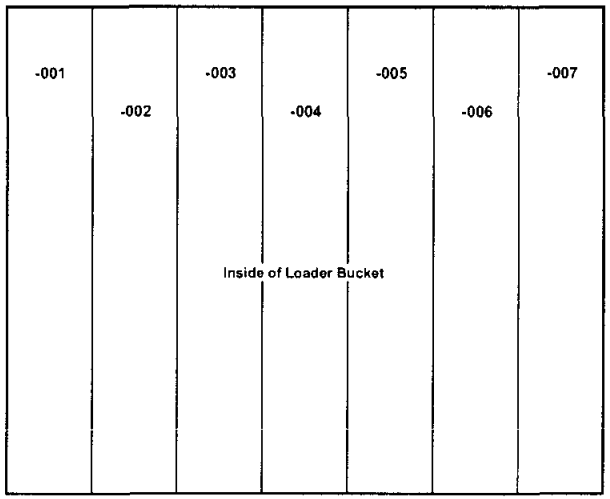
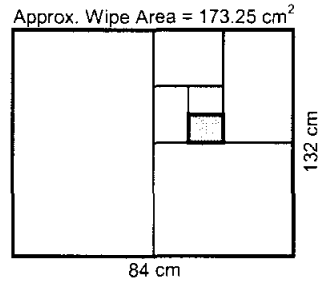


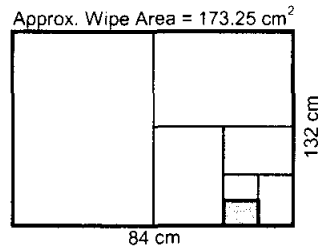
Table C-8c
Loader Decontamination Confirmatory Samples
Bucket Inside and Outside Surfaces

Sides of Loader Bucket

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-SIDE-001	84 x 66	42 x 66	42 x 33	21 x 33	21 x 16.5	10.5 x 16.5
Coin Toss	Heads	Heads	Tails	Tails	Heads	Tails
Direction	Right	Up	Left	Down	Right	Up

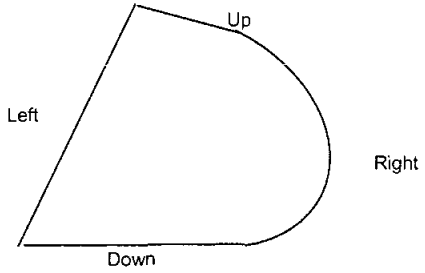


	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-SIDE-002	84 x 66	42 x 66	42 x 33	21 x 33	21 x 16.5	10.5 x 16.5
Coin Toss	Heads	Tails	Heads	Tails	Tails	Tails
Direction	Right	Down	Right	Down	Left	Down

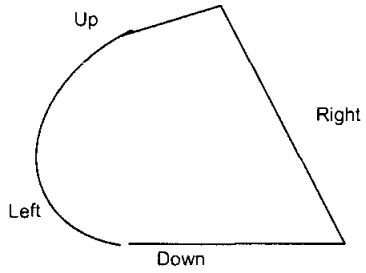


Not to Scale

Bucket Side - Inside Surface



TA2-2- LODR-BKTS-001

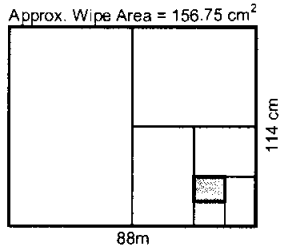


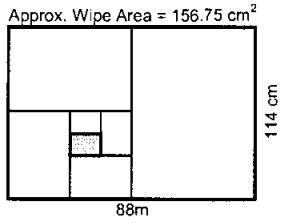
TA2-2- LODR-BKTS-002

Table C-8c (Concluded)
Loader Decontamination Confirmatory Samples
Bucket Inside and Outside Surfaces

	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-SIDE-003	88 x 57	44 x 57	44 x 28.5	22 x 28.5	22 x 14.25	11 x 14.25
Coin Toss	Heads	Tails	Heads	Tails	Tails	Heads
Direction	Right	Down	Right	Down	Left	Up

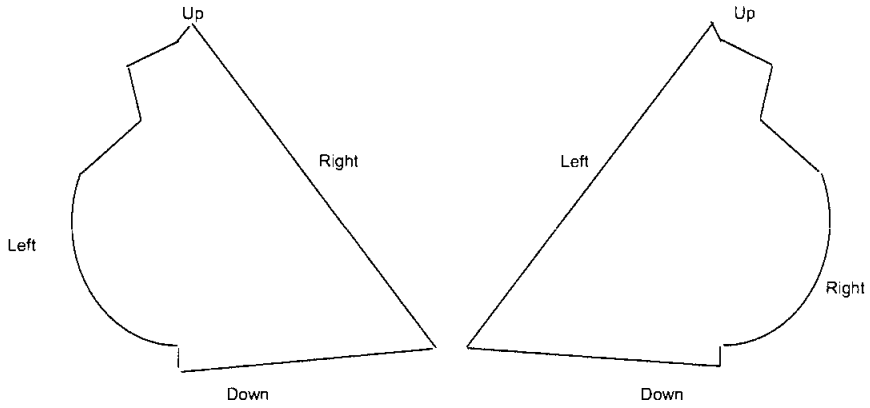
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-DOZR-SIDE-004	88 x 57	44 x 57	44 x 28.5	22 x 28.5	22 x 14.25	11 x 14.25
Coin Toss	Tails	Tails	Heads	Heads	Tails	Tails
Direction	Left	Down	Right	Up	Left	Down





Not to Scale

Bucket Side - Outside Surface

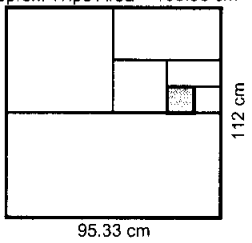


TA2-2- LODR-BKTS-003 **TA2-2- LODR-BKTS-004**

Table C-8d
Loader Decontamination Confirmatory Samples
Bottom of Loader Bucket

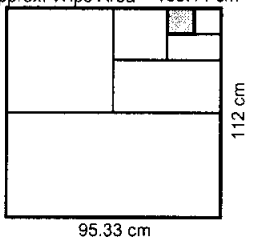
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTB-001	95.33 x 56	47.67 x 56	47.67 x 28	23.83 x 28	23.83 x 14	11.92 x 14
Coin Toss	Heads	Heads	Tails	Heads	Tails	Tails
Direction	Up	Right	Down	Right	Down	Left

Approx. Wipe Area = 166.83 cm^2



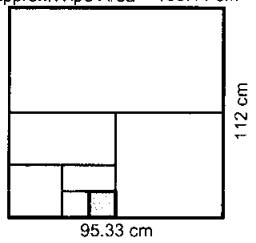
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTB-002	95.33 x 56	47.67 x 56	47.67 x 28	23.83 x 28	23.83 x 14	11.92 x 14
Coin Toss	Heads	Heads	Heads	Heads	Heads	Tails
Direction	Up	Right	Up	Right	Up	Left

Approx. Wipe Area = 165.11 cm^2

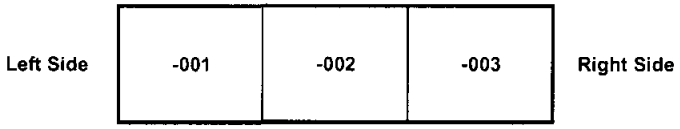


	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-BKTB-003	95.33 x 56	47.67 x 56	47.67 x 28	23.83 x 28	23.83 x 14	11.92 x 14
Coin Toss	Tails	Tails	Tails	Heads	Tails	Heads
Direction	Down	Left	Down	Right	Down	Right

Approx.Wipe Area = 165.11 cm^2



Not to Scale

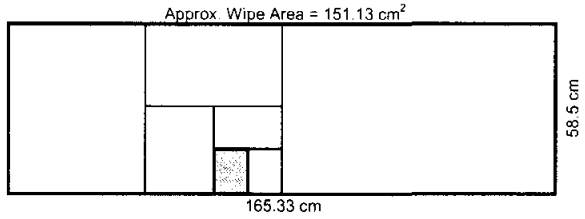


TA2-2-LODR-BKTB-001 thru -003

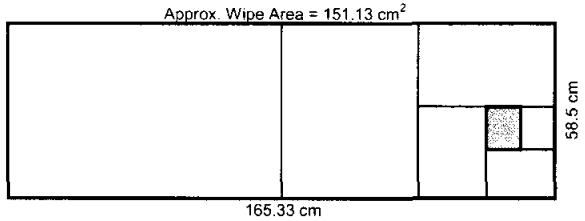
Table C-8e
Loader Decontamination Confirmatory Samples
Left Tires

Left Front Tire

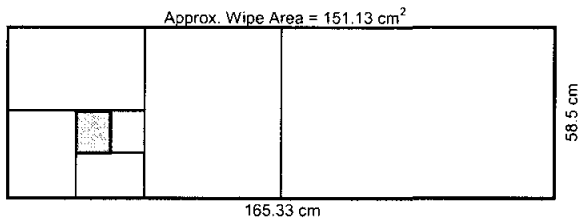
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-LFT-001	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Tails	Heads	Tails	Heads	Tails	Tails
Direction	Left	Right	Down	Right	Down	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-LFT-002	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Heads	Heads	Tails	Heads	Heads	Tails
Direction	Right	Right	Down	Right	Up	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-LFT-003	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Tails	Tails	Tails	Heads	Heads	Tails
Direction	Left	Left	Down	Right	Up	Left

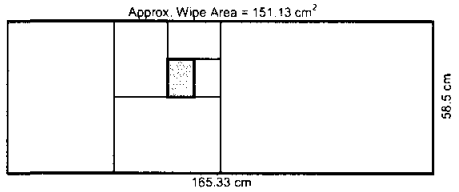


Not to Scale

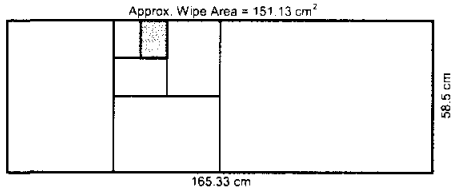
Table C-8e (Concluded)
Loader Decontamination Confirmatory Samples
Left Tires

Left Rear Tire

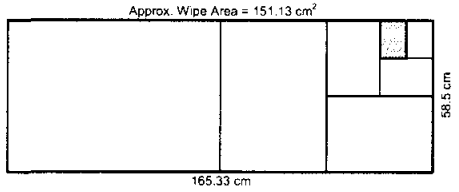
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-LRT-001	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Tails	Heads	Heads	Heads	Tails	Tails
Direction	Left	Right	Up	Right	Down	Left



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-LRT-002	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Tails	Heads	Heads	Tails	Heads	Heads
Direction	Left	Right	Up	Left	Up	Right



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-LRT-003	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Heads	Heads	Heads	Heads	Heads	Tails
Direction	Right	Right	Up	Right	Up	Left



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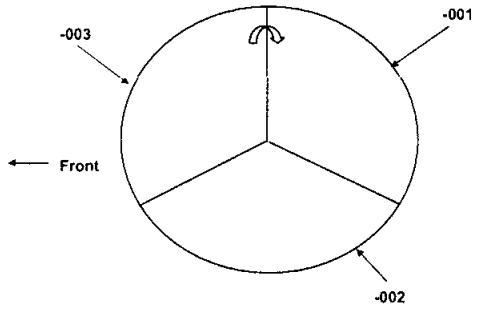
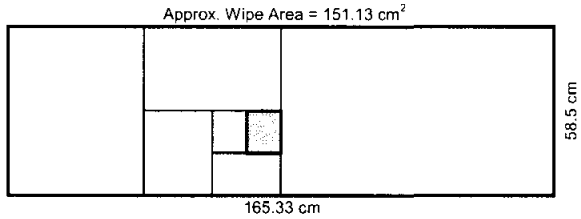


Left Tires

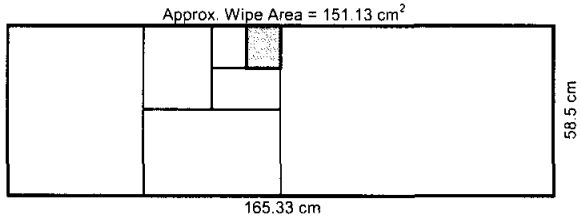
Table C-8f
Loader Decontamination Confirmatory Samples
Right Tires

Right Front Tire

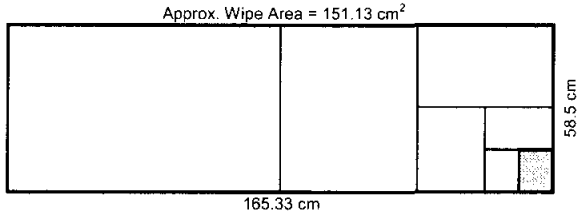
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-RFT-001	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Tails	Heads	Tails	Heads	Heads	Heads
Direction	Left	Right	Down	Right	Up	Right



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-RFT-002	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Tails	Heads	Heads	Heads	Heads	Heads
Direction	Left	Right	Up	Right	Up	Right



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-LODR-RFT-003	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Heads	Heads	Tails	Heads	Tails	Heads
Direction	Right	Right	Down	Right	Down	Right

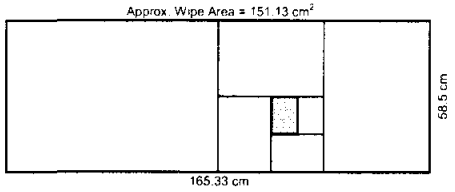


Not to Scale

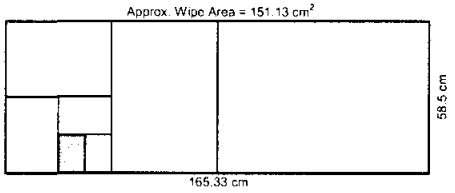
Table C-8f (Concluded)
Loader Decontamination Confirmatory Samples
Right Tires

Right Rear Tire

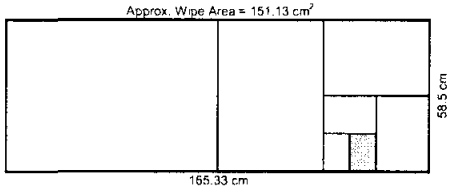
ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-LODR-RRT-001	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Heads	Tails	Tails	Heads	Heads	Tails
Direction	Right	Left	Down	Right	Up	Left



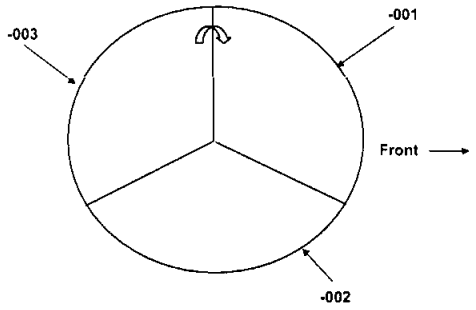
ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-LODR-RRT-002	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Tails	Tails	Tails	Heads	Tails	Tails
Direction	Left	Left	Down	Right	Down	Left



ER Sample ID	Division Size (cm)					
	1	2	3	4	5	6
TA2-2-LODR-RRT-003	58.5 x 82.67	58.5 x 41.33	29.25 x 41.33	29.25 x 20.67	14.63 x 20.67	14.63 x 10.33
Coin Toss	Heads	Heads	Tails	Tails	Tails	Heads
Direction	Right	Right	Down	Left	Down	Right



Not to Scale



Right Tires

Table C-9a
Skid Steer Decontamination Confirmatory Samples
Skid Steer Surfaces Sampled for PCB Contamination

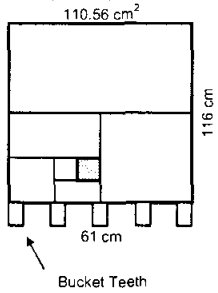
Inside of Bucket (TA2-2-SKID-BKTI-001 thru -003)				Division Size (cm)						
Description	Approx. Surface Area (m^2)	No. Samples	Approx. Sample Area (cm)	1	2	3	4	5	6	Approx. Wipe Area (cm^2)
Consists of one rectangular surface, 183 x 116 cm (excluding bucket teeth) = 32,828 cm^2	3.28	3	61 x 116	61 x 58	30.5 x 58	30.5 x 29	15.25 x 29	15.25 x 14.5	7.63 x 14.5	110.56
Total No. Samples		**3**								

cm = Centimeter(s).
cm^2 = Square centimeter(s).
m^2 = Square meter(s).
No. = Number.
PCB = Polychlorinated biphenyl.

Table C-9b
Skid Steer Decontamination Confirmatory Samples
Inside of Skid Steer Bucket

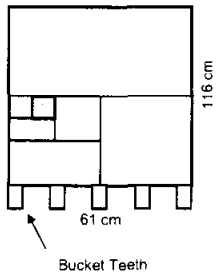
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-SKID-IBKT-001	61 x 58	30.5 x 58	30.5 x 29	15.25 x 29	15.25 x 14.5	7.63 x 14.5
Coin Toss	Tails	Tails	Tails	Heads	Heads	Heads
Direction	Down	Left	Down	Right	Up	Right

Approx. Wipe Area = 110.56 cm^2



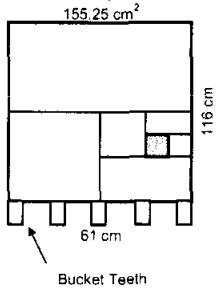
	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-SKID-IBKT-002	61 x 58	30.5 x 58	30.5 x 29	15.25 x 29	15.25 x 14.5	7.63 x 14.5
Coin Toss	Tails	Tails	Heads	Tails	Heads	Heads
Direction	Down	Left	Up	Left	Up	Right

Approx. Wipe Area = 110.56 cm^2



	Division Size (cm)					
ER Sample ID	1	2	3	4	5	6
TA2-2-SKID-IBKT-003	61 x 58	30.5 x 58	30.5 x 29	15.25 x 29	15.25 x 14.5	7.63 x 14.5
Coin Toss	Tails	Heads	Heads	Heads	Tails	Tails
Direction	Down	Right	Up	Right	Down	Left

Approx. Wipe Area = 155.25 cm^2



Not to Scale

Appendix D

APPENDIX D
SWMU 2 Equipment Decontamination Summary and Inventory

LIST OF TABLES

Table

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Table D-1
Summary of Equipment Decontamination Waste Characterization

Description	Sample ID	Date Sampled	Date Analyzed	Analysis	No. Samples	Batch Log No.	Movement Survey No.
Canvas Tarp	TA2-DECON-005	9-18-03	10-13-03	Tritium, Gross Alpha/Beta	1	330545	S71365
Felt Cloth	TA2-DECON-006 TA2-DECON-007	9-18-03	10-13-03	Tritium, Gross Alpha/Beta	2	330545	S71365
Soft Waste	TA2-DECON-004	9-18-03	10-13-03	Tritium, Gross Alpha/Beta	1	330545	S71365
Nonreusable Tools	TA2-DECON-003	9-18-03	10-13-03	Tritium, Gross Alpha/Beta	1	330545	S71365
Soil	TA2-DECON-001 TA2-DECON-002	9-18-03	10-13-03	Tritium, Gross Alpha/Beta	2	330545	S71365
Soil	TA-2-DECON-001 TA-2-DECON-002 TA-2-DECON-003	9-17-03	10-27-03	Q^2 Low-Level Gamma Spectroscopy	3 (1 per 55-gallon drum)	330597	S72165

DECON = Decontamination.
TA = Technical Area.

Table D-2
Inventory of Equipment Decontamination Waste

Waste Description	Quantity	Date Delivered to SNL/NM SWTF
Canvas Tarp	1 cubic yard	11-5-03
Felt Cloth	2 cubic yards	11-5-03
Soft Waste	2 each - 55-gallon drum	11-5-03
Nonreusable Tools	1/2 each - 55-gallon drum	11-5-03
Soil	3 each - 55-gallon drum	1-15-04

SNL/NM = Sandia National Laboratories/New Mexico.
SWTF = Solid Waste Transfer Facility.