Los Alamos
NATIONAL LABORATORY
EST. 1943

Los Alamos National Laboratory/University of California
Environmental Stewardship (ENV)
Environmental Remediation & Surveillance Program (ERS), MS M992
Los Alamos, New Mexico 87545
(505) 667-0469/FAX (505) 665-4747

National Nuclear Security Administration
Los Alamos Site Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
(505) 667-7203/FAX (505) 665-4504

Date: July 29, 2005
Refer to: ER2005-0536

Mr. James Bearzi
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building
Santa Fe, NM 87505-6303

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SUBJECT: SUBMITTAL OF THE "REMEDY COMPLETION REPORT FOR THE INVESTIGATION AND REMEDIATION OF CONSOLIDATED UNIT 19-001-99 (FORMER TECHNICAL AREA 19/EAST GATE LABORATORY)"

Dear Mr. Bearzi:

Enclosed please find two hard copies and electronic files of the "Remedy Completion Report for the Investigation and Remediation of Consolidated Unit 19-001-99 (Former Technical Area 19/ East Gate Laboratory)."

If you have questions, please contact Terry Rust (505) 665-8843 (trust@lanl.gov) or Robert Enz at (505) 667-7640 (renz @doeal.gov).

Sincerely,

David McInroy, Deputy Program Director
Environmental Remediation & Surveillance
Los Alamos National Laboratory

Sincerely,

for

David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Office

1603

TR/jk

Enclosures: 1) Two hard copies with electronic files – "Remedy Completion Report for the Investigation and Remediation of Consolidated Unit 19-001-99 (Former Technical Area 19/ East Gate Laboratory)" (ER2005-0068)
2) Certification by the ENV-ERS Program Technical Representatives

Cy: (w/enc)
P. Reneau, ENV-ECR, MS M992
T. Rust, ENV-ECR, MS M992
D. Gregory, DOE LASO, MS A316
T. Mortillaro, Los Alamos County (2 copies)
T. Taylor, DOE LASO (3 copies)
S. Wirth, Shaw Environmental
L. King, EPA Region 6
ENV-ERS File, MS M992
RPF, MS M707
S-7, MS F674

Cy: (w/o enc)
A. Dorries, ENV-ECR, MS M992
D. McInroy, ENV-ERS, MS M992
B. Criswell, ENV-ERS, MS M992
W. Woodworth, DOE LASO, MS A316
B. Rich, ADO, MS A104
D. Goering, NMED-HWB
D. Pepe, NMED-OB

CERTIFICATION

CERTIFICATION BY THE ENVIRONMENTAL STEWARDSHIP– ENVIRONMENTAL REMEDIATION & SURVEILLANCE PROGRAM TECHNICAL REPRESENTATIVES

Document Title: **SUBMITTAL OF THE "REMEDY COMPLETION REPORT FOR THE INVESTIGATION AND REMEDIATION OF CONSOLIDATED UNIT 19-001-99 (FORMER TECHNICAL AREA 19/EAST GATE LABORATORY)"**

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Name: _____ Date: 7/29/05

David McInroy, Deputy Program Director
Environmental Remediation & Surveillance Program
Los Alamos National Laboratory

or

_____ Date: _____

Ken Hargis, Division Leader
Environmental Stewardship Division
Los Alamos National Laboratory

_____ for Date: 28 JULY 05

David Gregory, Federal Project Director
Environmental Restoration Program
Department of Energy/Los Alamos Site Office

or

_____ Date: _____

John Ordaz,
Assistant Area Manager of Environmental Projects
Department of Energy/Los Alamos Site Office

LA-UR-05-0975
July 2005
ER2005-0068

Remedy Completion Report for the Investigation and Remediation of Consolidated Unit 19-001-99 (Former Technical Area 19/ East Gate Laboratory)

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Prepared by
Environmental Stewardship Division–
Environmental Remediation and Surveillance Program

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LA-UR-05-0975
ER2005-0068

Remedy Completion Report for the Investigation and Remediation of Consolidated Unit 19-001-99 (Former Technical Area 19/ East Gate Laboratory)

July 2005

Responsible project leader:

Printed Name	Signature	Title	Organization	Date
Terry Rust	Terry Rust	Project Leader	ENV-ECR	7/28/05

Responsible UC representative:

Printed Name	Signature	Title	Organization	Date
David McInroy		Deputy Program Director	ENV-ERS	7/29/05

Responsible DOE representative:

Printed Name	Signature	Title	Organization	Date
David Gregory	for	Federal Project Director	DOE-LASO	28 JULY 05

Remedy Completion Professional Engineer Certification

This certification was prepared in accordance with generally accepted engineering principles and practice pursuant to the requirements of Section VII.E.6 of the March 1, 2005 Compliance Order on Consent between the New Mexico Environment Department (NMED) and the United States Department of Energy and Regents of the University of California for a registered professional engineer's certification. These activities have been performed with the care and skill ordinarily exercised by members of the profession practicing under similar conditions at the same time and in the same manner or in a similar locality. I make no other warranty either expressed or implied. The finding and certification are based on: 1) review of the remedy completion report and supporting records and documentation; 2) witnessing remediation and sampling activities; and 3) reviewing the analytical results and supporting documentation.

With the signature and seal below, I certify that, except for the deviations presented in Section 4.3, the investigation and remediation of Consolidated Unit 19-001-99 at TA-19 was conducted in accordance with the accelerated corrective action work plan, "Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory)," January 2004, Los Alamos National Laboratory document LA-UR-04-0199, Los Alamos, New Mexico," approved by NMED on June 23, 2004. The information presented in this report is, to the best of my knowledge and belief, true, accurate, and complete.

Respectfully,

Shaw Environmental, Inc.

P. Scott Den-Baars
NEW MEXICO
10653
7/20/05
REGISTERED PROFESSIONAL ENGINEER

P. Scott den Baars, P.E.

New Mexico Registered Professional Engineer No. 10653

Expires: 12-31-05

Date: 7-20-05

EXECUTIVE SUMMARY

This remedy completion report presents the results of investigation and remediation activities at Consolidated Unit (CU) 19-001-99, former Technical Area (TA) 19 (the former East Gate Laboratory) at Los Alamos National Laboratory. CU 19-001-99 is now part of TA-72 located east of the Los Alamos County airport. The site is situated on Los Alamos Mesa and is bounded by Pueblo Canyon to the north and a side canyon to the southeast. The solid waste management units (SWMUs) and area of concern (AOC) comprising CU 19-001-99 include SWMU 19-001 (septic system), SWMU 19-002 (surface disposal area), SWMU 19-003 (sewer drainline and outfall), and AOC C-19-001 (potential soil contamination beneath buildings).

The former East Gate Laboratory was constructed in the summer of 1944 and used between 1944 and 1947 to conduct spontaneous-fission experiments and to store radioactive source material. In the 1950s, documented site operations included irradiation experiments using sealed lanthanum sources and two scintillation studies involving the use of aromatic compounds. Some site buildings, including the battery building, guard house, and latrine, were removed in 1956, and use of the property was discontinued in 1974, at which time the laboratory building was decommissioned. Currently, CU 19-001-99 is undeveloped and includes access to, and a portion of, a public recreational hiking trail.

The objective of the remedy at CU 19-001-99 was threefold: (1) to remove soil on the basis of historical sampling and to remove any additional battery debris discovered during the field activities; (2) to define the nature and extent of contamination; and (3) to support a determination of whether additional removal activities, additional characterization, or no further corrective action is appropriate for the site.

The field investigations for characterizing the site were conducted as two separate events. Event #1 included field screening activities and Event #2 included sampling for fixed laboratory analysis. Event #1 included field screening of surface and subsurface samples for lead, polychlorinated biphenyls (PCBs), and polyaromatic hydrocarbons (PAHs). The results of the field screening were used to determine locations of surface and subsurface samples to be submitted for fixed laboratory analysis; specifically, PAH concentrations in the upper 20% of the field screening data set drove Event #2 sampling because the screening results for lead and PCBs were primarily nondetections.

Event #2 sampling provided sufficient data for adequately characterizing the nature and extent of residual contamination at CU 19-001-99 and for determining whether residual contamination posed a potential unacceptable risk to human or ecological receptors (the environment). Both the lateral and vertical extent of contamination has been defined by the sampling conducted for this remedy. The residual contamination at CU 19-001-99 occurs at concentrations that are below levels that pose a potential unacceptable risk to human health or the environment.

In summary, the removal and investigation activities conducted at CU 19-001-99 as part of this remedy were sufficient to both mitigate potential risk and demonstrate that the site has been adequately characterized and that residual concentrations of chemicals at the site do not pose a potential unacceptable current or future risk to human or ecological receptors. No further removal or characterization is recommended for CU 19-001-99 and the site can be maintained without controls.

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1.0 INTRODUCTION

1.1 General Site Information

Los Alamos National Laboratory (LANL or the Laboratory) is a multidisciplinary research facility owned by the U.S. Department of Energy (DOE) and managed by the University of California. The Laboratory is located in northcentral New Mexico approximately 60 miles (mi) (97 kilometers [km]) northeast of Albuquerque and 20 mi (32 km) northwest of Santa Fe. The Laboratory site covers 40 square miles (mi^2) (104 square kilometers [km^2]) of the Pajarito Plateau, which consists of a series of finger-like mesas separated by deep canyons. Mesa tops range in elevation from approximately 6,200 to 7,800 feet (ft) (1,890 to 2,377 meters [m]). The eastern portion of the plateau stands 300 to 900 ft (91 to 274 m) above the Rio Grande River valley.

The Laboratory's Environmental Stewardship (ENV) Division-Environmental Remediation and Surveillance (ERS) Program (formerly the Remediation Services Project or the Environmental Restoration Project) is involved in a national DOE effort to reduce risk to human health and the environment at its facilities. The goal of ENV-ERS is to ensure that DOE's past operations do not threaten human or environmental health and safety in and around Los Alamos County. To achieve this goal, ENV-ERS is investigating and remediating, where necessary, sites potentially contaminated by past Laboratory operations.

This remedy completion report presents the results of investigation and remediation activities conducted at the Laboratory's Consolidated Unit (CU) 19-001-99 in former Technical Area (TA) 19 (formerly known as the East Gate Laboratory). TA-19 now is located within TA-72 in Santa Fe County. CU 19-001-99 is located on Los Alamos Mesa east of the Los Alamos County airport and the East Gate industrial park. It is bounded by Pueblo Canyon on the north and by a small side canyon to Pueblo Canyon on the south/southeast. Currently, CU 19-001-99 is undeveloped and includes a recreational hiking trail. Figure 1.1-1 shows the location of CU 19-001-99 and the solid waste management units (SWMUs) and area of concern (AOC) associated with the site, including the location of an inactive underground gas line, the only structure remaining at the site. A brief description of each of the SWMUs and the AOC comprising CU 19-001-99 is provided in the following subsections.

1.1.1 SWMU 19-001, Septic System

The septic system consisted of a septic tank (TA-19-6), the outfall from the tank, and associated piping. The system was operated from about 1957 until about 1974 and reportedly handled sanitary waste from Building TA-19-5, known as the retreat building, which was removed in 1974 (LANL 1997, 71468). Because this system handled only sanitary waste, no hazardous or radioactive contamination is suspected. The septic tank and pipelines were removed as a part of a Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) conducted in 1997 (LANL 1997, 71468). Potential residual contamination in soil and tuff from the septic system and piping was investigated as part of this remedy.

1.1.2 SWMU 19-002, Surface Disposal Area

The surface disposal area covers an area approximately 100 ft by 10 ft (30 m by 3 m) on the site's northern slope where the disposal of building debris from decommissioned structures and numerous old batteries occurred. The building debris and batteries were removed as a part of a voluntary corrective action (VCA) conducted in 1995 (LANL 1996, 05269). Additional battery debris and soil were removed from the northern mesa slope as part of this remedy. Potential residual contamination in soil and tuff from the surface disposal operations was also investigated as part of this remedy.

1.1.3 SWMU 19-003, Sewer Drainline and Outfall

The sewer drainline and outfall handled sanitary waste from the laboratory building (TA-19-1) and was probably used from 1944 until the building was decommissioned in 1974. Wastes were discharged through the sewer drainline to an outfall on the northern slope into Pueblo Canyon (LANL 1992, 07667, p. 3–9). The sewer drainline was removed as a part of the 1997 RFI (LANL 1997, 71468). Potential residual contamination in soil and tuff from the sewer drainline and outfall was investigated as part of this remedy.

1.1.4 AOC C-19-001, Potential Soil Contamination beneath Buildings

AOC C-19-001 contains potentially contaminated soil located beneath the now-demolished laboratory building, battery building, guard house, latrine, retreat building, and shelter building ([TA-19-1, -2, -3, -4, -5, and -7]; LANL 1992, 07667, p. 3–8). None of the former buildings or structures remains at the site, except for an inactive underground gas line. Potential residual contamination in soil and tuff from the former structures and laboratory operations was investigated as part of this remedy.

1.2 On- and Off-Site Land Uses

TA-19 currently includes access to, and a portion of “Camp Hamilton Trail,” a public recreational hiking trail. The trail provides access to Los Alamos mesa slopes and descends into the floodplain of Pueblo Canyon. TA-19 is bounded on the west by the Los Alamos County airport and East Gate industrial park. It is also bounded by Pueblo Canyon on the north and by a small side canyon to Pueblo Canyon on the south/southeast, which converges with Pueblo Canyon east of the site. The current land use is recreational and the future land use may be residential. Therefore, the site was evaluated using a residential scenario in order to complete corrective action.

1.3 Investigation Objectives

The objectives of the remedy were to (1) remove soil on the basis of historical sampling results and remove any additional battery debris discovered during field activities for this remedy; (2) define the nature and extent of contamination; and (3) support a determination of whether additional removal activities or sampling or no further corrective action is appropriate for the site.

To meet the objectives, ENV-ERS completed the following field activities:

- Removed battery debris and soil at locations with elevated concentrations (because of inorganic, radiological, and organic chemical concentrations in historical analytical sample results) in addition to soil and/or tuff confirmation sampling at the removal locations.
- Collected soil and/or tuff surface and subsurface samples to fully characterize the lateral and vertical extent of contamination at the site.
- Evaluated potential human health and ecological risks from exposure to chemicals and radionuclides detected in surface and subsurface samples.

1.4 Completion Report Summary and Outline

This completion report presents the results of the investigation and remediation activities conducted at CU 19-001-99 in August and September 2004 and March 2005. The decisions to remove soil and re-evaluate the nature and extent of contamination at CU 19-001-99 were based on a review of the historical

sampling results and maps associated with the site. All previous investigations performed, including analytical and field screening data collected during previous RFI (LANL 1997, 71468, p. 1–5) and VCA activities (LANL 1996, 05269, p. 5–6) at CU 19-001-99, are presented in section 2.0 of this document. A detailed review of the historical data is also provided in the New Mexico Environment Department (NMED)-approved work plan (LANL 2004, 85521).

Soil removal was conducted at historical sampling locations with concentrations of chemicals of potential concern (COPCs) within CU 19-001-99 (see the NMED-approved work plan; LANL 2004, 85521). The lateral and vertical extent of COPCs at CU 19-001-99 were determined by performing surface and subsurface soil and/or tuff sample collection and field screening and fixed laboratory analyses. Sampling for fixed laboratory analysis was conducted in the following two stages: (1) Sampling according to the NMED-approved work plan (LANL 2004, 85521) was conducted in August and September 2004; and (2) Additional depth sampling to delineate the vertical extent of contamination was conducted in March 2005. The additional depth sampling was driven by the analytical results from the original August and September 2004 sampling, which indicated that vertical extent had not been adequately defined by the samples proposed in the NMED-approved work plan. Field and analytical methods and results from the confirmation and characterization sampling are summarized in this completion report. Confirmation sample results from the soil removal locations were combined with analytical results from the site characterization to determine whether COPC concentrations pose a potential human health or ecological risk to receptors and whether additional soil removal (or other corrective action) is warranted.

This completion report was prepared in accordance with the requirements set forth in the Compliance Order on Consent (hereafter, the Consent Order) signed by NMED, DOE, and the Regents of the University of California on March 1, 2005. The Consent Order was issued pursuant to the New Mexico Hazardous Waste Act, NMSA 1978, § 74-4-10, and the New Mexico Solid Waste Act, NMSA 1978, § 74-9-36(D). The format for this remedy completion report was developed and the document essentially completed before the March 1, 2005, effective date of the Consent Order. As a result of its state of completion at the time the Consent Order was finalized, the reporting approach was verbally approved by telephone in lieu of an outline submittal and approval. To address the requirements of the Consent Order, this completion report is divided into the following seven sections:

- Section 1.0, introduction to the purpose of the investigation and remediation activities at CU 19-001-99
- Section 2.0, background information for CU 19-001-99, including operational history, land use, relationship to other SWMUs and AOCs, and previous investigations, including historical data.
- Section 3.0, scope of remedy activities for CU 19-001-99
- Section 4.0, field investigation methods and results for all activities conducted under this remedy
- Section 5.0, conclusions
- Section 6.0, recommendations
- Section 7.0, references

Supporting information for the remedy at CU 19-001-99 is provided as appendixes to this completion report:

- Appendix A includes a list of acronyms and abbreviations.
- Appendix B (provided on compact disc [CD] in some versions of this report) provides details of the field investigation and remediation activities, including details of Event #1 field screening.

- Appendix C (provided on CD in some versions of this report) presents the analytical program for Event #2, including the analytical data from samples collected at the site, sample collection logs, and chain-of-custody forms. An electronic database is also provided in Appendix C and includes all data qualifiers assigned to the results.
- Appendix D (provided on CD in some versions of this report) includes photographs of the remedy investigation and remediation activities.
- Appendix E presents the screening-level human health and ecological risk assessments.

Requirements of the Consent Order not applicable to the CU 19-001-99 investigation and removal action (e.g., evaluation of surface water conditions) are listed in Table 1.2-1.

2.0 BACKGROUND

2.1 Historical Operations

CU 19-001-99, the former East Gate Laboratory, operated from 1944 to 1974. Figure 1.1-1 shows the locations of the former structures and features at CU 19-001-99. The former East Gate Laboratory was constructed in the summer of 1944 for a scientist who needed an isolated location for experimental work on small radioactive sources. In 1947, the site consisted of a storage hutment and laboratory building used for spontaneous-fission experiments and storing radioactive source material. In the early 1950s, more buildings were added until the site consisted of a laboratory, battery, guard, retreat, and shelter buildings, and a latrine and septic tank. During this period, documented site operations included irradiation experiments using sealed lanthanum sources and two scintillation studies involving the use of aromatic compounds (LANL 1992, 07667, p. 3–9). In 1956, several buildings, including the battery building, guard house, and latrine, were decommissioned and removed. The remaining structures were transferred to the Zia Company in 1957 and 1962. The retreat building operated from 1944 to 1962 when it was transferred to the Zia Company and assigned to the DOE-Los Alamos Area Office's municipal activities branch and used for civil defense purposes. It later was leased to the Los Alamos radio club, which used the site until 1974. The retreat building's septic system operated from 1957 to 1974. All remaining buildings were removed in 1974 when the property was rendered inactive. Since the cessation of operations, the TA-19 site (including CU 19-001-99) has remained undeveloped and has been used only for recreational purposes. It currently includes access to, and a portion of, a public recreational hiking trail.

Subsurface structures, including the septic system and associated piping and the sewer drainline, were removed during the 1997 RFI activities. The only subsurface structure remaining at the site is an inactive underground gas line, shown in Figure 1.1-1.

2.2 Site Conditions

CU 19-001-99 is situated on a far-eastern mesa of the Pajarito Plateau at an elevation of 6,910 ft (2,106 m) above mean sea level. The site is bounded by Pueblo Canyon to the north and a small side canyon to Pueblo Canyon to the south/southeast. The topography on the top of the mesa is relatively flat and dips gently to the east, but drops steeply at greater than 40% slope into the surrounding canyons.

The Pajarito Plateau is drained by several west-to-east oriented canyons, and surface water flows eastward toward the Rio Grande. The average annual rainfall on this portion of the Pajarito Plateau is 18.3 inches (in.) (465 millimeters [mm]), of which at least a third is received from the convective thunderstorms that commonly occur during the months of July and August (LANL 2002, 73876).

Drainages in both Pueblo Canyon and the side canyon to the southeast are generally dry and exhibit ephemeral flow only after intense rainfall events.

2.2.1 Surface Topography and Hydrology

Surficial deposits on the Pajarito Plateau consist of coarse-grained colluvium on steep hill slopes and along the base of cliffs (generally fine-grained fluvial and colluvial sediments with a thin cover of eolian fine-grained sediments on the flatter parts of mesa surfaces) and alluvial fan deposits at the mouths of drainages cut into the mountain front or escarpments related to post-Bandelier faulting. Well-developed soils generally occur only on the gently sloping surfaces associated with the mesas. These soils usually consist of several subhorizons of Bandelier Tuff that contain reddish clay. Soils present on top of the mesas and the soils comprising the steep hill slopes, drainages, and other areas flanking erosionally stable mesa tops are typically thin and weakly developed, possessing only an A and C horizon. Erosion of the mesa tops is caused primarily by shallow runoff on the relatively flat part of the mesas, by deeper runoff in channels cut into mesa surfaces, and by rockfall and colluvial transport on the walls of the canyon.

CU 19-001-99 is located on a far-eastern mesa of the Pajarito Plateau. A shallow layer of soil is preserved in flat parts of the mesa surface and supports small outcroppings of vegetation. Tuff outcrops dominate the steep mesa slopes, and little-to-no vegetation is present on the upper slope reaches. Soil development and vegetative covering increase progressively downslope. Surface soils at the site are predominantly silty sands formed by the degradation and weathering of the underlying tuff. Subsurface conditions at the site are defined by the Tshirege Member of Bandelier Tuff (Qbt) which consists of multiple layers of ash-flow tuffs approximately 300–600 ft (91–183 m) thick. Portions of the Tshirege Member are highly welded and form vertical cliffs as well as the caprock on the plateau.

2.2.2 Subsurface Geology

The regional stratigraphy of the Pajarito Plateau consists of Bandelier Tuff, the Cerros del Rio lavas, the Puye Formation, the Totavi Lentil deposits, the Santa Fe Group, and Santa Fe-age basalts.
CU 19-001-99 is located on a mesa top; as a result, subsurface conditions defining the site include only the plateau's uppermost stratigraphic unit, the Tshirege Member of Bandelier Tuff, specifically unit 3 (Qbt 3). General descriptions of Bandelier Tuff and unit 3 are provided below. Additional information on Bandelier Tuff is provided in the NMED-approved work plan (LANL 2004, 85521).

Bandelier Tuff: The term "welding" is used to distinguish tuffs that are more compacted and dense (welded) from tuffs that are uncompacted and porous (nonwelded). In the field, the degree of welding in tuff is quantified by the degree of flattening of pumice fragments (a higher degree of flattening and elongation equals a higher degree of welding). Petrographically, welded tuffs show adhesion (welding) of grains, while nonwelded tuffs do not. The term devitrified is applied to tuffs in which volcanic glass has crystallized.

Tshirege Member: The Tshirege Member of Bandelier Tuff is a compound cooling unit that resulted from several successive ash-flow deposits separated by periods of inactivity, which allowed for partial cooling of each unit. Properties related to water flow and contaminant migration (e.g., density, porosity, degree of welding, fracture content, and mineralogy) vary both vertically and laterally as a result of localized emplacement temperature, thickness, gas content, and composition.

Tshirege Member Unit 3 (Qbt 3): Unit 3 of the Tshirege Member of Bandelier Tuff is poorly welded and slightly indurated (cemented) to nonindurated. Forming the cliff caprocks of the Pajarito Plateau, unit 3 defines the tuff at the soil/tuff interface at CU 19-001-99.

2.2.3 Groundwater Hydrology

The hydrogeologic conceptual model for the Pajarito Plateau (LANL 1998, 59599) predicts that surface conditions such as topography, surface water flow, and microclimate greatly influence infiltration of water into the subsurface and the subsequent transport of water, vapor, and solutes through the upper regions of the vadose zone. According to model predictions, movement through deeper layers, including the regional aquifer, is influenced only weakly by surface conditions and is influenced more strongly by hydraulic characteristics of aquifer rocks, regional groundwater flow patterns, and stresses induced by water supply production. The following text provides an overview of infiltration rates and groundwater occurrence in the vicinity of CU 19-001-99.

Infiltration: Surface and near-surface conditions (topography, precipitation, surface runoff) control water infiltration into the subsurface and the transport of contaminants in the shallow subsurface. In this respect, the climate behavior of mesas and canyons forming the plateau differ from one another (LANL 1998, 59599). Mesas are generally dry, both on the surface and within the rock that forms the mesa. Canyons range from wet to relatively dry; the wettest canyons contain continuous streams and perennial groundwater in the canyon-bottom alluvium. Dry canyons, such as those that bound CU 19-001-99, have only occasional stream flow and may lack alluvial groundwater.

The amount of mesa top recharge is minimal along the northeastern portion of the Laboratory where CU 19-001-99 is located. Fractures within mesas do not enhance the movement of dissolved contaminants unless saturated conditions develop. Contaminants in the vapor phase generally migrate in a diffusive manner through mesas (Stauffer et al. 2000, 69794; LANL 1997, 63131, p. 5).

Groundwater: Groundwater beneath the Pajarito Plateau occurs in the following three distinct horizons: (1) in the regional aquifer, (2) in shallow perched zones beneath canyons that maintain relatively wet surface conditions (surface flow) for most of the year, and (3) in intermediate perched zones in the vadose zone, between the regional aquifer and the shallow perched zones (Nylander et al. 2003, 76059).

The regional aquifer occurs within the Santa Fe Group and Puye Formations and is the only aquifer capable of large-scale municipal water supply (Purtymun 1984, 6513). The regional aquifer extends throughout the Española Basin (an area of approximately 2,317 mi^2 [6,000 km^2]) and reaches its maximum thickness beneath the Pajarito Plateau (over 9,800 ft [3,000 m] thick [Cordell 1979, 76049]). Depths to the regional aquifer range between about 1,200 ft (366 m) below ground surface (bgs) along the western edge of the plateau to about 600 ft (183 m) bgs to the east. Beneath CU 19-001-99, the water table elevation is approximately 1,000 ft (305 m) bgs from the mesa top.

Groundwater in the shallow perched zones occurs within the canyon alluvium (i.e., gravel, sand, and finer sediments deposited by surface flow in the canyon bottoms). The alluvial deposits are limited in their geographical extent and highly permeable compared to the underlying Bandelier Tuff; hence, surface water readily infiltrates the alluvium and becomes captured, forming narrow, ribbon-like alluvial aquifers that lie directly beneath the canyon bottoms. These shallow alluvial aquifers generally occur at depths less than 100 ft [30 m]) and are as much as 100 ft (30 m) thick in some locations. With the exception of TA-16, shallow alluvial perched aquifers have been detected only beneath canyons with relatively wet surface conditions (surface flow) for most of the year (i.e., Los Alamos Canyon); a shallow alluvial aquifer is not present beneath CU 19-001-99 (Nylander et al. 2003, 76059).

Groundwater also occurs in intermediate perched water zones. In areas where low-permeability beds impede the downward migration of water, water will pool and collect, forming isolated intermediate depth aquifers. Evidence of intermediate depth aquifers has been found beneath Pueblo, Los Alamos, Sandia, Mortandad, Pajarito, and Ancho Canyons and Cañon de Valle (Nylander et al. 2003, 76059). These perched intermediate aquifers are morphologically similar to the shallow alluvial aquifers, occurring as narrow ribbons that follow the canyons; however, the depths at which these intermediate aquifers occur are highly variable, ranging from less than 100 ft (30 m) bgs to as much as 900 ft (274 m) bgs from the canyon bottoms.

Vadose Zone: The region beneath the ground surface and above the regional aquifer is called the vadose (unsaturated) zone. The source of moisture in the vadose zone is precipitation, most of which is lost as runoff, evaporation, and transpiration (LANL 1997, 63131). The subsurface movement of the remaining moisture (often referred to as recharge) is predominantly vertical in direction and is influenced by the properties and conditions of the vadose zone.

The geologic property of Bandelier Tuff that most influences fluid flow in the unsaturated zone is the degree of welding. Welded tuffs tend to have less matrix porosity and more fractures than nonwelded tuffs. Fractures in welded tuff may include relatively close-spaced cooling joints as well as tectonic fractures. Although nonwelded tuffs also have fractures, they are generally less abundant than in welded tuffs. At CU 19-001-99, the mesa caprock is exposed in several tuff outcroppings. The tuff appears highly welded but shows few, if any, signs of weathering or fractures.

2.3 Sources of Contamination

Radioactive materials were handled and stored at the site for use in experimental research and were of the following three known types: (1) actinides, used for spontaneous-fission experiments in microgram quantities; (2) a cobalt-60, 300-Curie source, used for irradiation as late as 1961 (cobalt-60 has a 5.27 year half-life); and (3) a radioactive lanthanum source used in irradiation experiments. The lanthanum source probably used lanthanum-140 derived from barium-140, both of which have very short half-lives (40 hours and 12 days, respectively); therefore these isotopes would currently not be detected at the site, regardless of the quantity used during historical operations.

Sanitary waste was likely generated from the guard house, from the retreat building septic system, and from the laboratory building's sewer outfall. No evidence exists that radioactive or hazardous materials were disposed of as part of the sanitary waste stream at the site. As discussed in section 1.1.2, the surface debris at the site from the building demolition activities was removed during the 1995 VCA (LANL 1996, 05269).

The following SWMUs and AOC are the only SWMUs and/or AOC within the vicinity of CU 19-001-99: (1) SWMU 73-001(b)-99, (2) SWMUs associated with TA-26 D-Site activities, and (3) AOC 00-018(b). None of these SWMUs are expected to be contributors to contamination at CU 19-001-99 because none are near CU 19-001-99, nor are there contaminant transport pathways from the other SWMUs to CU 19-001-99. The location of the SWMUs and AOC within the vicinity of CU 19-001-99 is provided in the NMED-approved work plan (LANL 2004, 85521).

2.4 Historical Releases

The following potential releases to soil and/or tuff are related to historical activities at the site:

- Releases to surface and subsurface soil and tuff as a result of the septic systems at the site, including SWMU 19-001 (septic system) and SWMU 19-003 (sewer drainline and outfall)
- Releases to surface and subsurface soil and tuff as a result of the surface disposal of building and battery debris at SWMU 19-002
- Releases to surface and subsurface soil and tuff beneath the buildings at the site (AOC C-19-001) as a result of laboratory operations

During property cessation activities in 1974, building and property surveys by various former Health Division groups conducted at the site indicated that the remaining structures were free of high explosive, radioactive, chemical, and toxic contamination; additionally, soil samples collected in the vicinity of two effluent discharge points in 1974 were analyzed for radionuclides and the results indicated that no radioactive materials had been released (LANL 1997, 71468, p. 77–78). Detailed information on historical surveys conducted at the site is provided in the NMED-approved work plan for CU 19-001-99 (LANL 2004, 85521).

2.5 Previous Investigations

2.5.1 1995 VCA

In August 1995, SWMU 19-002 was sampled as part of the Phase I RFI work plan for Operable Unit 1071 (LANL 1992, 07667, p. 5–152). A VCA for SWMU 19-002 was conducted in September 1995 and the results were documented in a February 1996 VCA completion report (LANL 1996, 05269, p. 7–8). As part of the VCA, approximately 2 cubic yard (yd^3) (1.5 cubic meter [m^3]) of concrete debris and 1.5 yd^3 (1.1 m^3) of battery and associated debris were removed from SWMU 19-002 on the north mesa slope into Pueblo Canyon. The VCA examination of SWMU 19-002 included the following samples:

- Eighteen soil samples, one battery material sample, and a waste characterization sample were analyzed using a mobile chemical analytical laboratory
- Five soil confirmation samples and one battery material sample were submitted to an off-site/fixed laboratory

North mesa slope sampling locations from the 1995 VCA completion report (LANL 1996, 05269, p. 4) are presented in Figure 2.5-1. The VCA completion report for SWMU 19-002 concluded that “no release of RCRA hazardous material occurred” at the site and recommended that the site “be removed from the HSWA [Hazardous and Solid Waste Act] list of solid waste management units” (LANL 1996, 05269, p. 9).

2.5.2 1997 RFI

In 1997, further investigation was conducted as part of an RFI (LANL 1997, 71468) to complete the characterization and remediation of the site, specifically at SWMUs 19-001 and 19-003 and AOC C-19-001. The septic system and sewer drainlines were located and removed in July 1997. The drainlines stopped approximately 20 ft (6 m) short of the mesa edge, apparently terminating in gravel-filled trenches. The septic tank was uncovered, pumped dry of approximately 300 gallons (gal.) (1136 liters) of water, primarily infiltration water, and removed. Confirmation samples were collected at two depths (soil and tuff) beneath the septic system and drainlines that had been removed. These samples were analyzed

for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), metals, and radionuclides using gamma spectroscopy. The 1997 RFI included the following samples:

- Two soil samples and seven tuff samples from SWMU 19-001
- Two soil samples and six tuff samples from SWMU 19-003
- Seven soil samples from AOC C-19-001

Figure 2.5-1 shows the 1997 RFI soil sampling locations. The RFI report, completed September 1997, recommended no further action on the basis of Criterion 5 in NMED's "RPMP Document Requirement Guide" (NMED 1998, 57897) for SWMUs 19-001, 19-003, and AOC C-19-001 (LANL 1997, 71468, p. 76–87). However, a subsequent request for supplemental information from NMED in 1998 required further site characterization at CU 19-001-99 (NMED 1998, 59642).

2.5.3 Historical Data

To define the approach to further site remediation or investigation at CU 19-001-99, a comprehensive list of historical COPCs for CU 19-001-99 was created on the basis of historical field analytical and fixed laboratory data from the 25 fixed laboratory analytical sampling locations examined during the two previous site investigations of CU 19-001-99 (see Figure 2.5-1). The historical analytical data collected at CU 19-001-99 are discussed in detail in the remainder of this section. The collected historical tuff and soil samples are summarized in Table 2.5-1.

Inorganic and radiological COPCs were identified on the basis of a comparison to Laboratory background values (BVs) or fallout values (FVs) (LANL 1998, 59730, p. 44–45; Tables 6.0-1 and 6.0-2). No background data sets are available for organic chemicals. COPCs were defined as inorganic and radiological chemicals that exceeded BVs or FVs and detected organic chemicals. COPCs identified from the evaluation of historical data were used to target locations for soil removal under the remedy.

Based on the evaluation of analytical data from the 1995 VCA (LANL 1996, 05269) and 1997 RFI report (LANL 1997, 71468), a total of 12 inorganic chemicals were identified as COPCs. Nine inorganic chemicals—antimony, cadmium, copper, lead, manganese, mercury, silver, thallium, and zinc—were identified as COPCs for soil. Five inorganic chemicals—antimony, arsenic, barium, selenium, and zinc—were identified as COPCs for tuff. Two radionuclides—cesium-137 (soil and tuff) and europium-152 (soil)—were identified as COPCs. A total of 26 organic chemicals (20 organic chemicals found in soil and 21 in tuff, of which 20 were SVOCs and 5 VOCs) were identified as COPCs on the basis of historical data. The following subsections detail the nature and extent of COPCs as determined by previous investigations (Table 2.5-2).

2.5.3.1 Inorganic Chemical Data

Table 2.5-3 summarizes the historical inorganic chemical analytical data, including the range of concentrations measured in the investigative samples, and a comparison of the concentrations for each chemical to the Laboratory BVs for soil and tuff (LANL 1998, 59730, p. 44; Table 6.0-1). Eleven inorganic chemicals (arsenic, barium, cadmium, calcium, copper, lead, magnesium, manganese, mercury, selenium, and zinc) were detected in the historical investigative samples above their respective BVs for soil and/or tuff. Three inorganic chemicals were not detected but had detection limits above their respective BVs (antimony, silver, and thallium in soil, and antimony in tuff). Calcium and magnesium were excluded as COPCs because they are essential nutrients.

In summary, a total of nine inorganic chemicals were identified as historical COPCs for CU 19-001-99 because they were detected at concentrations above BVs, and three inorganic chemicals were identified as historical COPCs because their detection limits exceeded BVs. Table 2.5-4 presents the historical sample analytical results of inorganic chemicals detected (or with detection limits) above BVs.

2.5.3.2 Radionuclide Chemical Data

Table 2.5-5 summarizes the historical radiological data, including the range of activities measured in the investigative samples, and compares activities for each chemical with FVs for soil and BVs for soil and tuff (LANL 1998, 59730, p. 45; Table 6.0-2). Detected radionuclides without BVs or FVs were identified as COPCs. Of the radionuclides analyzed for in the historical samples, cesium-137 was detected above the soil FV. Additionally, europium-152 (no BV or FV available) was detected in one tuff sample. Both radionuclides were identified as historical COPCs for the soil removal action. Table 2.5-6 presents the historical analytical results for all samples with radionuclide activities greater than Laboratory BVs or FVs and detections for radionuclides for which no BV or FV exists.

2.5.3.3 Organic Chemical Data

Table 2.5-7 summarizes the historical analytical data for organic chemicals, including the range of concentrations measured in the investigative samples and estimated quantitation limits (QLs) for all detected organic chemicals. A total of 26 organic chemicals were detected in the samples (20 found in soil and 21 in tuff), and all were identified as historical COPCs. Table 2.5-8 lists all historical samples with detected organic COPCs.

3.0 SCOPE OF REMEDY FIELD ACTIVITIES

This section provides an overview of the components of the field implementation of the NMED-approved work plan for CU 19-001-99 (LANL 2004, 85521). Documentation of the field operations is provided in section 4.0. Premobilization field activities were initiated on July 15, 2004, and a Laboratory-wide stop work notice was issued on July 16, 2004, temporarily suspending the field operations at CU 19-001-99. Field operations resumed on August 12, 2004 and concluded on September 16, 2004. Because of inconclusive results during the 2004 sampling, additional sampling was conducted in March 2005 to define the extent of contamination.

In summary, the field operations included the following three main components:

1. Soil and battery debris removal from the north mesa slope
2. Field screening of surface and subsurface soils for lead, carcinogenic polyaromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs); the field screening is referred to as “Event #1”
3. Sample collection for fixed laboratory analytical sampling (referred to as “Event #2”)

The sequence of the remedy field activities conducted at CU 19-001-99 is detailed in this section as follows:

- Soil and battery debris removal along the north mesa slope
- Confirmation sampling at the soil removal locations

- Site characterization, including
  - mobilization and site preparation
  - presampling geodetic survey
  - surface and subsurface sampling activities (general approach)
  - field screening activities
  - sampling for fixed analytical laboratory analysis, conducted in 2004 and 2005 (additional depth sampling)
  - postsampling geodetic survey
- Site restoration and demobilization

The most current versions of the ENV-ECR standard operating procedures (SOPs), quality procedures (QPs), and of the quality management plan (http://erproject.lanl.gov/documents/procedures.html) were applied to all activities documented in this completion report and are listed in Table 3.0-1. The sampling design for CU 19-001-99 is detailed in the NMED-approved work plan (LANL 2004, 85521). Details, results of the field operations, and deviations from the NMED-approved work plan (LANL 2004, 85521) are provided in this document's section 4.0.

All remedy activities were performed using the following documents:

- Site-Specific Health and Safety Plan (SSHASP) for ACA Activities at Consolidated SWMU 19-001-99 (SSHASP Number 04-001, February 2004)
- SSHASP for ACA Activities at Consolidated SWMU 19-001-99 (SSHASP, Number 04-001, Addendum No. 1, August 2004)
- Integrated Work Documents (IWDs) for Site Mobilization, Geodetic Surveying, Site Restoration and Decontamination Activities for the ACA at Consolidated SWMU 19-001-99 (February 2004)
- IWD for Field Screening and Surface and Subsurface Sampling at Consolidated Solid Waste Management Unit (SWMU) 19-001-99 (February 2004)
- IWD for Investigation-Derived Waste Management Operations for Wastes Generated during the ACA Activities at Consolidated SWMU 19-001-99 (February 2004)
- IWD for Crane Operations (March 2005)
- IWD for Gas-Powered Hand Auger (March 2005)
- Radiological Work Permit from the LANL Health, Safety, and Radiation (HSR-1) Group (February 17, 2004)

3.1 Soil and Battery Debris Removal and Confirmation Sampling

Based on the evaluation of historical analytical data in the NMED-approved work plan (LANL 2004, 85521), historical sampling locations 19-01266 and 19-01268 along the north mesa slope were selected for limited soil removal as part of this remedy (see Figure 2.5-1), as described in section 4.0. Additionally, dry cell batteries that were discovered on the north mesa slope between the soil removal locations were collected and removed at the same time as the soil removal activities.

To confirm the effectiveness of the soil removal, two surface soil samples from two locations (location 19-23318 and 19-23319) were collected from the perimeter of the excavated area at soil

removal location 19-01268, and four samples from two locations (locations 19-23320 [one surface soil sample] and 19-23321 [one surface soil sample and two subsurface tuff samples]) were collected from the perimeter of the excavated area at soil removal location 19-01266. All surface samples were submitted to a fixed laboratory for analysis of target analyte list (TAL) metals, VOCs, SVOCs, PCBs, pesticides/herbicides, and radionuclides. Additionally, two of the surface samples (from locations 19-23319 and 19-23321) were analyzed for dioxins/furans. The two subsurface samples at location 19-23321 were analyzed for TAL metals, PCBs, and dioxins/furans. The chemical analyses of the confirmation samples was consistent with those performed for site characterization; as a result, the analytical results could be combined in the risk assessments. Additional details on the sampling locations and collection methods are provided in section 4.2.1.

The soil removal locations were stabilized using best management practices (BMPs), which included the placement of straw bales and wattles around and downslope of the removal areas.

3.2 Site Characterization

The lateral and vertical extent of COPCs at CU 19-001-99 was determined by collecting samples from the surface (in 2004, 0–0.5 ft [0-0.15 m] bgs) and subsurface (in 2004, 3.5–4 ft [1.1-1.2 m] bgs or the soil/tuff interface, whichever occurred first, and, in 2005, 2 and 4 ft [0.6 and 1.2 m] beyond the soil/tuff interface for locations where additional depth sampling was conducted) soil and/or tuff samples and conducting field screening and/or fixed laboratory analyses. Sampling for field screening was conducted during Event #1 and sampling for fixed laboratory analyses was conducted during Event #2. Event #2 was completed in the following two stages: (1) Sampling in accordance with the NMED-approved work plan (LANL 2004, 85521) was conducted in August and September 2004; and (2) Additional depth sampling beyond that proposed in the work plan was conducted in March 2005 to delineate the extent of contamination.

The characterization sampling scheme was based on potential transport and exposure to human and ecological receptors within the following three areas of distinct topography: (1) flat mesa top (within AOC C-19-001); (2) upper, steeply graded mesa slopes, and (3) lower, moderately graded mesa slopes. The applicable transport and exposure pathways for each topographic group are summarized below, along with the recommended actions for each group.

Mesa Top: Soils in direct contact with buildings, septic systems, and associated functions/operations. The mesa surface is defined by shallow (0–2 ft [0–0.6 m]) capping of unconsolidated soil, outcroppings of densely welded tuff, and widely dispersed clusters of trees and bushes. Transport on the mesa top is dominated by surface water flow across the site and towards the mesa slopes. The flat mesa top is easily accessible to both human and ecological receptors. The NMED-approved work plan (LANL 2004, 85521) proposed sampling for additional site characterization to assess the potential risk to human and ecological receptors from chemicals in surface and subsurface soils on the mesa.

Upper Mesa Slope: Soils in direct contact with former debris piles and/or septic system outfall. The upper mesa slopes are defined by exposed cliffs of densely welded tuff. Little-to-no soil or vegetation is present, occurring only in drainages and small ledges formed by slight breaks in slope. Transport of soil through surface water runoff and/or erosion occurs from the mesa top to the lower slopes. Because of the very steep gradient of the cliff faces, the upper mesa slopes are inaccessible to humans and most ecological receptors (some birds may use these areas). The NMED-approved work plan (LANL 2004, 85521) proposed sampling for additional site characterization downgradient of the upper slopes to assess potential transport (and define extent) of soils from the upper mesa slopes through surface water runoff

and/or erosion and to evaluate the potential risk to human and ecological receptors from chemicals in surface and subsurface soils on the upper mesa slopes.

Lower Mesa Slope: Soils in direct contact with former debris piles. The lower mesa slopes are defined by soil and tuff outcroppings with sparse vegetation. Transport of soil occurs from the upper mesa slopes to downgradient locations through surface water runoff and/or erosion. Human and ecological receptor accessibility and potential use varies as a result of the extreme slope angles and degraded surface of the slopes, generally increasing as the slope gradient decreases. The NMED-approved work plan (LANL 2004, 85521) proposed sampling for additional site characterization downgradient of the lower slopes to assess potential transport (and define extent) of soils from the lower mesa slopes to Pueblo Canyon and to evaluate the potential risk to human and ecological receptors from chemicals in surface and subsurface soils on the lower mesa slopes.

The sampling locations and sample types collected as part of this remedy are summarized in Table 3.2-1, including deviations in the sampling from the NMED-approved work plan (LANL 2004, 85521). The sampling locations are shown in Figure 3.2-1 according to whether they are historical locations or new locations. The type of field screening conducted at each location is shown in Figure 3.2-2. The field screening results for PAHS, PCBs, and lead are presented in Figure 3.2-3, Figure 3.2-4, and Figure 3.2-5, respectively.

Mesa Top: Field screening for carcinogenic PAHs, PCBs, and lead was conducted for 62 surface and subsurface soil and/or tuff samples at 31 locations within AOC C-19-001. Thirteen samples from locations with screening-level concentrations within the upper 20% of the entire field screening data set were submitted to a fixed laboratory for analysis of VOCs, SVOCs, PCBs, TAL metals, and pesticides or herbicides. The selection of locations for fixed laboratory analysis was based on the PAH field screening results; because of a high number of nondetections (NDs) in the PCB and lead screening, the upper 20% of detected concentrations could not be based on the PCB and lead screening results.

Mesa Slopes: Field screening for PAHs, PCBs, and lead was conducted for 16 surface and subsurface soil and/or tuff samples collected on the site's north and south mesa slopes. Eight of the 16 lower mesa slope locations were selected to characterize the downgradient extent of potential contamination at CU 19-001-99. The sampling locations were determined from field reconnaissance of drainage features on the mesa slopes and were located in areas of preferential deposition on the mesa slopes. All 16 mesa slope samples were submitted to a fixed laboratory for analysis of VOCs, SVOCs, PCBs, TAL metals, and pesticides/herbicides.

Historical Locations: Field screening for PAHs, PCBs, and lead was performed at 20 historical VCA surface sampling locations on the north mesa slope. The upper 20% (a total of five samples) of the PAH screening results was used to select the sampling locations for the fixed laboratory analysis of VOCs, SVOCs, PCBs, TAL metals, and pesticides/herbicides. As with the mesa top field screening, a high number of NDs for lead and PCBs precluded their use for determining fixed analytical samples.

Twenty historical RFI surface sampling locations were to be field-screened for PCBs in accordance with NMED comments to the work plan. Because of health and safety or other concerns described in section 4.0 of this document, 14 surface soil samples were collected from historical RFI locations for field screening. The proposed approach in the NMED-approved work plan (LANL 2004, 85521) to determine sampling locations for fixed laboratory analysis was based on the upper 20% of the PCB field screening results. However, because all PCB field screening results were ND, four randomly selected sampling locations were selected for fixed laboratory analysis of PCBs at the historical RFI sampling locations.

3.2.1 Mobilization and Site Preparation

Mobilization and site preparation activities included (1) mobilizing equipment (e.g., field trailer, gas generator, safety materials, etc.) and (2) ensuring site control, including waste management and support areas, to prevent unauthorized entry by workers or the public, using fences, signs, and other access controls. All workers entering hazardous waste operations zones were trained/qualified for 29 CFR (U.S. Code of Federal Regulations) 1910.120(f), Hazardous Waste Operations.

3.2.2 Presampling Geodetic Survey

Land surveys were conducted to properly identify and stake new and historical locations that were sampled as part of the remedy. Sampling locations were surveyed by Precision Surveys, Inc., and State Plane New Mexico Central North American Datum 83 coordinates were recorded for sampling locations (Tables 3.2-2 and 3.2-3). The survey data meet Laboratory Information Architecture (LIA) project standards found in IA-CB02, "GIS Horizontal Spatial Reference System" and IA-D802, "Geospatial Positioning Accuracy Standards for A/E/C and Facility Management."

3.2.3 Surface and Subsurface Sampling

Surface soil samples were collected for field screening (Event #1, 2004) and site characterization (Event #2, 2004) from a depth of 0–0.5 ft (0–0.15 m) bgs. Subsurface soil samples were also collected during Events #1 and #2 in 2004 from a depth of 3.5–4.0 ft (1.0 m) or less, depending on the occurrence of the soil/tuff interface and/or hand auger refusal, in accordance with the NMED-approved work plan (LANL 2004, 85521). Additional depth sampling for Event #2 in 2005 included the collection of subsurface samples from 2 and 4 ft (0.6 and 1.2 m) below the soil/tuff interface. Sample collection was performed in accordance with all applicable ENV-ECR SOPs, QPs (Table 3.0-1), and the LANL-approved SSHASP and SSHASP Addendum. Details of soil and/or tuff sample collection methods and results for Events #1 and #2 are provided in section 4.0; the analytical methods are summarized in the following section.

3.2.4 Field Screening Analytical Methods

In accordance with the NMED-approved work plan (LANL 2004, 85521), enzyme immunoassay test kits (Strategic Diagnostics, Inc., RaPID Assay®) were used for the field screening of total PCBs and PAHs. A Spectrace 9000 field-portable x-ray fluorescence (XRF) instrument was used to screen for the presence of lead. Field screening was performed in accordance with all applicable ENV-ECR SOPs, QPs (Table 3.0-1), and the LANL-approved SSHASP. Field screening for gamma- and alpha-emitting radionuclides was also conducted by LANL HSR-1 as a health and safety measure before the handling of samples for either field screening or preparation for fixed laboratory analysis.

Samples were screened in the field using the following methodology:

- PCBs using U.S. Environmental Protection Agency (EPA) Method 4020 (PCBs Screening by Immunoassay)
- Carcinogenic PAHs using EPA Method 4035 (Soil Screening for Polynuclear Aromatic Hydrocarbons by Immunoassay)
- Lead using a Spectrace 9000 Field-Portable XRF Instrument in accordance with the manufacturer's instructions

3.2.5 Fixed Laboratory Analytical Methods

Sample preparation and shipment for the fixed laboratory analysis were coordinated with the LANL Sample Management Office (SMO). Once samples were collected, they were stored and transported to the SMO in accordance with all applicable ENV-ECR SOPs and QPs (Table 3.0-1). The SMO shipped the samples to an independent analytical laboratory which was qualified according to QP-7.2, "Supplier Evaluation," and which was included on the LANL-approved list of suppliers.

Samples were submitted to the SMO for off-site contract laboratory analysis for the following contaminant suites in accordance with the NMED-approved work plan (LANL 2004, 85521):

- TAL metals using EPA Method 6010B
- VOCs using EPA Method 8260B
- SVOCs using EPA Method 8270C
- PCBs using EPA Method 8082
- Organochlorine pesticides using EPA Method 8081A
- Chlorinated herbicides using EPA Method 8151A
- Dioxins and furans using EPA Method 8290A
- Radionuclides using EPA Method 901.1

3.2.6 Postsampling Geodetic Survey

As documented in the Documentation of Technical Changes, dated August 24, 2004, and September 1, 2004 (Appendix B, Attachment B3), some samples were moved from the proposed locations, resulting in deviations from the NMED-approved work plan (LANL 2004, 85521), as detailed in section 4.2 (see also Table 3.2-1). A postsampling geodetic survey was conducted to document the locations of samples moved from proposed locations. Postsampling surveying was performed on September 15, 2004, by Precision Surveys, Inc. The coordinates for the sampling locations are summarized in Tables 3.2-2 and 3.2-3 for all samples. The survey data meet LIA project standards found in IA-CB02, "GIS Horizontal Spatial Reference System," and IA-D802, "Geospatial Positioning Accuracy Standards for A/E/C and Facility Management."

3.3 Site Restoration and Demobilization

Following the soil excavation at historical sampling locations 19-01266 and 19-01268, the removal areas were stabilized using BMPs, which included placement of straw bales and wattles downgradient of the two removal areas.

Demobilization included the following activities:

- Storage of waste in a secured, locking roll-off bin
- Decontamination of equipment used for soil sampling (e.g., tools, containers, etc.)
- Return of soil collected for analysis, but unused, to collection locations
- Radiological swipe sampling of field trailer spikes and steps, diesel generator, crane, work vehicles, and other heavy equipment before release from the site

4.0 FIELD INVESTIGATION RESULTS

This section presents the results of the remedy at CU 19-001-99. As described in the NMED-approved work plan (LANL 2004, 85521), limited soil and battery debris removal and characterization of the lateral and vertical extent of contamination were performed as part of the remedy. Field activities detailed in this section include soil and battery debris removal activities; confirmation sampling at the removal locations; and surface and subsurface sampling for characterization.

4.1 Soil and Battery Debris Removal and Confirmation Sampling

Based on the evaluation of historical analytical data in the NMED-approved work plan (LANL 2004, 85521), historical sampling locations 19-01266 and 19-01268 along the north mesa slope were selected for limited soil removal as part of this remedy (Figure 2.5-1). The two locations were targeted for soil removal because historical metal concentrations at 19-01266 and cesium-137 and fluoranthene concentrations at 19-01268 were elevated by comparison to corresponding concentrations at the other historical sampling locations. Although the potential risk to human and ecological receptors from exposure to these COPCs in soil at these two locations was not evaluated in previous reports, ENV-ERS chose to perform soil removal at these locations as part of the remedy for CU 19-001-99.

Additionally, dry cell batteries were discovered on the north mesa slope between the two soil removal locations, covering approximately 10% of the ground surface where the debris was located. Most of the debris was concentrated in the drainage areas below the proposed soil removal locations. Remaining debris was minimal and scattered laterally across the north mesa slope between the two soil removal locations. The battery debris was removed on September 9, 2004, at the same time as the soil removal.

A two-person sampling team was transported to the north mesa slope's soil removal locations using a light-duty (25-ton [22,680 kg]) boom truck equipped with an Occupational Safety and Health Administration (OSHA)-certified hanging man basket. Personnel fall-protection equipment consisted of harnesses with 6-ft lanyards secured to anchor points on the man basket. Using stainless steel shovels, soil was removed from an area approximately 9 ft by 7 ft (3 m by 2 m) at location 19-01268 to a depth of approximately 18 in. (46 centimeters [cm]). An area approximately 7 ft by 3 ft (2 m by 1 m) was removed at location 19-01266 to a depth of 22 in. (56 cm). The volume of soil removed at each location was approximately 1 yd^3 (0.76 m^3). Excavated soil was placed in King Bags®, which were transported to the mesa top and placed into a roll-off bin for characterization and storage. Two waste characterization samples were collected from each King Bag® and submitted for waste characterization (toxicity characteristic leaching procedure for metals, VOCs, and SVOCs).

Because of health and safety concerns of accessing and working on the steep slope, the battery debris removal was limited to areas within a 6-ft (1.8-m) radius (the length of the lanyards) of the soil removal locations. This working radius was sufficient to remove all visible battery debris along the north slope.

The battery debris was separated from the excavated soil for waste characterization and disposal and placed into 1-gal. (0.004-m^3) bags. The 1-gal. (0.004-m^3) bags were transferred to approximately four 5-gal. (0.02 m^3) buckets along with several pairs of nitrile gloves used during the removal activities. The buckets were sealed and placed into a 55-gal. (0.21-m^3) drum on the mesa top for storage before waste disposal.

To confirm the effectiveness of the soil removal, two surface soil samples from two locations (locations 19-23318 and 19-23319) were collected from the perimeter of the excavated area at soil removal location 19-01268, and four samples from two locations (locations 19-23320 [one surface soil

sample] and 19-23321 [one surface soil sample and two subsurface tuff samples]) were collected from the perimeter of the excavated area at soil removal location 19-01266.

Surface confirmation samples were collected following ENV-ECR SOP-06.09, R2,"Spade and Scoop Method for Collection of Soil Samples," which involves digging a hole with a stainless steel scoop to the desired depth, placing the soil in a stainless steel bowl, and collecting a discrete grab sample. Subsurface (> 0.5 ft [> 0.15 m]) samples were collected in accordance with ENV-ECR SOP-06.10, R3, "Hand Auger and Thin-Wall Tube Sampler." A gas-powered hand auger was used, as necessary, during the additional sampling performed in 2005 to collect subsurface samples from tuff. To minimize the loss of VOCs, samples for VOC analysis were collected immediately upon recovery. Samples were transferred to precleaned, certified sample collection containers, and pertinent comments or deviations were recorded on SCLs (Appendix C Attachment C1) and in a field logbook. The samples were classified as soil and/or tuff using the LANL- and SMO-approved soil classification system, and the information was recorded on the SCLs. No visual staining or apparent odors were noted in the field.

Field screening analyses (Event #1) were not conducted at the removal locations because all confirmation samples collected as part of the soil removal action were submitted to a fixed laboratory for analysis, as summarized in section 3.1. For health and safety purposes, all samples were screened by HSR-1 according to the SSHASP for alpha and beta/gamma radiation before handling. Results of the confirmation sampling at the removal locations were compiled with the results for site characterization for the purposes of performing the screening risk assessments; the confirmation sample analytical data are presented with the characterization data in section 4.2.3.

4.1.1 Waste Types and Quantities

The following types and quantities of waste were generated during the CU 19-001-99 remedy activities:

- Spent methanol (hazardous liquid waste) from the Event #1 immunoassay test kits, 1 liter (0.26 gal. or 0.001 m^3)
- Soil, vegetation, and nitrile gloves (solid low-level radioactive waste) from the soil removal and sampling activities, 2 yd^3 (1.53 m^3)
- Battery debris, miscellaneous plastic shards, and nitrile gloves (solid waste) from the battery debris removal activities, 110 pounds (lb) (49.9 kg)
- Used PPE and sampling supplies, e.g., nitrile gloves, plastic baggies, and paper towels (solid waste) from the soil sampling activities, 130 lb (58.9 kg)

4.2 Site Characterization

Investigations of surface and subsurface soil were conducted at CU 19-001-99 to define the extent of contamination and to collect data for the human health and ecological screening risk assessments. Site characterization focused on the following topographical areas at CU 19-001-99 (section 3.2): (1) mesa top, (2) north and south mesa slopes and drainages, and (3) historical sampling locations, primarily on the upper north and south slopes. The following subsections describe the methods for sample collection and field screening performed for site characterization.

4.2.1 Sampling Locations and Collection Methods

Surface and subsurface soil samples were collected for field screening analyses (Event #1) and fixed laboratory analyses (Event #2) from within the boundaries of AOC C-19-001 and on the surrounding

mesa slopes. The selection process for Event #1 and Event #2 sampling locations is described in sections 4.2.2 and 4.2.3. The number and type of samples collected for the remedy at CU 19-001-99 are summarized in Table 3.2-1. Locations at CU 19-001-99 sampled as part of the field screening (Event #1) are summarized in Table 4.2-1 and presented in Figures 3.2-1 and 3.2-2. Locations at CU 19-001-99 sampled for fixed laboratory analysis (Event #2) are summarized in Table 4.2-2 and presented in Figure 4.2-1. The collection of samples for Event #1 and #2 followed the same procedures as those used for the collection of confirmation samples at the soil removal locations (section 4.1).

Eight field replicate samples were taken from locations 19-22598, 19-22599, 19-22600, and 19-23268 during Event #1. These replicates represented second aliquots taken from eight samples collected and analyzed for in the field screening process. Seven field duplicate samples were collected from seven unique location/depth combinations during Event #2 at sampling locations 19-0106, 19-01258, 19-22607, 19-22608 [two depths], 19-22630, and 19-23267.

Sampling equipment was decontaminated in accordance with ENV-ECR SOP 01.08, “Field Decontamination of Drilling and Sampling Equipment.” To reduce the volume of rinsate from equipment decontamination, “dry decontamination” procedures were used. This dry decontamination procedure was conducted by first using a wire brush to scrape dirt or mud from the equipment. The equipment was then sprayed with Fantastik® and wiped with paper towels. At the end of the sampling event, all equipment was washed with water and Alconox®.

4.2.2 Field Screening (Event #1) Methods and Results

4.2.2.1 PAH Screening by Immunoassay

A semi-quantitative RaPID Assay® enzyme immunoassay test kit was used to screen samples for the presence of PAHs, specifically the carcinogenic PAH, benzo(a)pyrene, as an indicator chemical for PAHs. Samples were extracted with reagents supplied in a sample extraction kit and the assay was performed with a diluted extract of the sample. The presence of benzo(a)pyrene is determined by an enzyme-mediated color reaction, in which the intensity of the resulting yellow color (as measured with a portable RPA-I spectrophotometer) is inversely proportional to the concentration of benzo(a)pyrene in the sample. The test kit method detection limit (MDL) and QL are 8 part(s) per billion (ppb) and 20 ppb, respectively. The MDL is the lowest concentration that can be detected in the sample using the assay technique. The QL is the lowest concentration that can be quantified. All assays were conducted following the manufacturer’s instructions, including equipment calibration, use, and sample, diluent, and reagent storage. The results of the PAH field screening analyses are presented in Table 4.2-2 and Figure 3.2-3. The PAH field screening results drove the fixed analytical sampling presented in Table 4.2-3 and Figure 4.2-1.

Mesa Top: PAH screening concentrations within the boundaries of AOC C-19-001 ranged from ND to 846 ppb in surface soils and ND to 745 ppb in subsurface soils. Samples with PAH concentrations in the upper 20% (11 of 31 surface samples and 2 of 31 subsurface samples within AOC C-19-001 boundaries) were submitted to a fixed laboratory for analysis. Samples submitted to the fixed laboratory contained PAH screening concentrations of 115 ppb or greater.

Mesa Slopes: PAH screening concentrations in the north mesa slope drainage ranged from ND to 75 ppb (surface) and ND to 16 ppb (subsurface). PAH screening concentrations in the south mesa slope drainage ranged from ND to 71 ppb (surface) and ND to 16 ppb (subsurface). All mesa slope location samples were submitted to a fixed laboratory for analysis.

Historical Locations: PAH screening concentrations at the historical VCA locations on the north mesa slope ranged from 11 to 798 ppb. Samples with PAH concentrations in the upper 20% (screening concentrations greater than 64 ppb) were submitted to a fixed laboratory for analysis.

4.2.2.2 PCB Screening by Immunoassay

A semi-quantitative RaPID Assay® enzyme immunoassay test kit was used to screen samples for the presence of PCBs, specifically Aroclor 1254 as an indicator chemical. Samples were extracted with reagents supplied in a sample extraction kit, and the assay was performed with a diluted extract of the sample. A colorimetric method was used to determine the presence of Aroclor 1254, the concentration of which is inversely proportional to the color intensity (as measured with a portable RPA-I spectrophotometer). The test kit MDL and QL for Aroclor 1254 are 0.2 and 0.5 parts per million (ppm), respectively. All assays were conducted following the manufacturer's instructions, including equipment calibration, use, and sample, diluent, and reagent storage. The results of the PCB field screening analyses are presented in Table 4.2-2 and Figure 3.2-4; all PCB field screening results were ND. Note that the screening QL of 0.5 ppm is well below the typical action level of 1.0 ppm, indicating that no action as a result of PCBs is indicated by the screening results. As discussed in section 4.2.2.1, PAH detections drove the fixed analytical sampling presented in Table 4.2-3. Additionally, four historical RFI locations were randomly selected and all surface and subsurface samples along the north and south mesa slope drainages were submitted to a fixed laboratory for PCB analysis to confirm the screening results.

4.2.2.3 Field-Portable XRF Screening

Samples were screened for the presence of lead using a Spectrace 9000 Field-Portable XRF Instrument. The instrument contains a high resolution mercury iodide detector for the identification and semiquantitative analysis of inorganic chemicals. All analyses were performed in accordance with applicable operating instructions, including equipment calibration and pre-operation testing (Appendix B Attachment B1). The results of the field screening analyses for lead are presented in Table 4.2-2 and Figure 3.2-5; the majority of the lead screening results were ND. In accordance with the manufacturer's instructions, the results of the XRF analysis were interpreted as follows:

- Negative values are ND.
- Values greater than 10 times the instrument-reported standard deviation indicate lead is present and the results are semiquantitative.
- Values less than 3 times the standard deviation indicate lead is either present below the detection limit or the result is ND.
- Values between 3 and 10 times the standard deviation are interpreted as estimated (J) values.

PAH detections drove the fixed analytical sampling presented in Table 4.2-3. Additionally, one north mesa slope location (19-01013) was selected for fixed laboratory analysis as a result of an elevated lead screening value of 211 ppm.

4.2.3 Fixed Laboratory Sampling (Event #2) Methods and Results

This section presents the results of the fixed laboratory analytical sampling. The methods employed for the sampling are presented in sections 4.1 and 4.2.1 and the analytical methods used for the fixed laboratory analyses are presented in section 3.2.5. The results of the data quality analysis are provided with the fixed analytical data (Appendix C, Attachment C3).

Analytical suites included in the CU 19-001-99 confirmation and characterization samples are as follows (Table 4.2-3): TAL metals (herein referred to as inorganic chemicals); organic chemicals (VOCs, SVOCs, PCBs, pesticides, herbicides, and dioxins/furans); and radionuclides (americium-241, cesium-134, cesium-137, cobalt-60, europium-152, ruthenium-106, sodium-22, and uranium-235). Table 3.2-1 summarizes the number and type of samples collected at CU 19-001-99; the locations and depths of the samples are shown in Figure 4.2-1.

4.2.3.1 Inorganic Chemical Comparison to Background

Six of the 23 inorganic chemicals analyzed for in the surface and subsurface soil samples exceeded their respective BVs: cadmium, copper, lead, manganese, selenium, and zinc. Thirteen of the 23 inorganic chemicals analyzed for in subsurface tuff samples exceeded their respective BVs: aluminum, arsenic, barium, beryllium, calcium, chromium, cobalt, copper, lead, manganese, selenium, silver, and zinc. Table 4.2-4 summarizes the background screening analysis, including number of samples, frequency of detection, range of concentrations measured for each inorganic chemical, and the BVs used for the comparison. A chemical is defined as a COPC if it is detected in one or more samples (or has an MDL) above the BV for either soil or tuff. Calcium, though detected above the BV for tuff in three samples, was eliminated as a COPC because it is an essential nutrient and not considered a potential risk for either human or ecological receptors (EPA 1989, 08021). Samples with detections (or MDLs) greater than BVs are listed in Table 4.2-5 and are shown in Figure 4.2-2.

4.2.3.2 Radionuclide Chemical Comparison to Background

Of the radionuclides analyzed for in surface and subsurface soil and tuff samples, only one—uranium-235 (Figure 4.2-3)—exceeded its tuff BV. One other radionuclide—cesium-237—was detected in samples from the site. The radionuclide background screening analysis is presented in Table 4.2-4, including number of samples, frequency of detection, range of activities measured for each detected radionuclide, and BVs/FVs used for the comparison. Samples with detections greater than background are listed in Table 4.2-6.

4.2.3.3 Evaluation of Organic Chemicals

Organic chemicals do not have background data so the identification of organic COPCs is based on their detection. The organic chemicals identified as COPCs are as follows:

- VOCs: acetone and toluene
- SVOCs: benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzoic acid; bis(2-ethylhexyl)phthalate; chrysene; di-n-butylphthalate; fluoranthene; indeno(1,2,3-cd)pyrene; isophorone; phenanthrene; and pyrene
- Pesticides: 4,4'-dichlorodiphenyldichloroethane (DDD); 4,4'-dichlorodiphenyldichloroethylene (DDE); 4,4'-dichlorodiphenyltrichloroethane (DDT); and dieldrin
- Herbicides: dinoseb; methyl chlorophenoxy acetic acid (MCPA); 2-(2-methyl-4-chlorophenoxy)propionic acid (MCPP); and (2,4,5-trichlorophenoxy) acetic acid (2,4,5-T)
- PCBs: Aroclor 1242, Aroclor 1254, and Aroclor 1260
- Dioxins/furans: 1,2,3,4,6,7,8-heptachlorodibenzodioxin (HPCDD); total HPCDD; 1,2,3,4,6,7,8-heptachlorodibenzofuran (HPCDF); total HPCDF; total hexachlorodibenzodioxin; total

hexachlorodibenzofuran; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; total pentachlorodibenzofuran; and total tetrachlorodibenzofuran

The detection frequency of organic chemicals detected in samples from the site is presented in Table 4.2-7. Samples with detections of organic chemicals are listed in Table 4.2-8 and shown in Figures 4.2-4 through 4.2-6.

4.2.4 Nature and Extent of Contamination

The sample analytical results of COPCs identified for CU 19-001-99 are detailed in several figures, as follows: inorganic COPCs above background (Figure 4.2-2); radiological COPCs above background (Figure 4.2-3); detected VOCs and SVOCs (Figure 4.2-4); detected pesticides and herbicides (Figure 4.2-5); and detected PCBs, including Aroclors and dioxins/furans (Figure 4.2-6). Each figure provides location IDs, COPC concentrations, and sample depth.

The fixed laboratory analytical data adequately determined the lateral extent of residual COPC concentrations at the site since the sampling extended beyond the boundaries of CU 19-001-99 and into drainage locations and potential routes of off-site transport. The analytical results do not indicate that contamination from CU 19-001-99 is being transported outside of the boundary. Subsurface sampling for the definition of vertical extent was performed in the following two stages: (1) to a depth of 4.0 ft (1.2 m) bgs or the soil/tuff interface, whichever came first (sampling conducted in 2004), and (2) at locations where 2004 sample results indicated additional depth samples were needed to define contamination at depth (sampling conducted in 2005). The vertical extent of residual COPC concentrations was also adequately captured in the fixed laboratory analytical data since the analytical results do not indicate contamination at CU 19-001-99 is an issue at depth requiring additional removal or investigation activities.

Inorganic COPCs

The inorganic COPCs do not appear to have defined spatial patterns; each COPC appears to have a unique, and random, spatial distribution. In general, inorganic COPCs greater than background levels are located within the boundaries of CU 19-001-99. Concentrations generally decrease laterally. The northern slope is of particular concern because historical operations are expected to have had the most impact on this area as a result of (1) the disposal that occurred along the upper north slope, and (2) the two septic system outfalls on the upper north slope. All of the potential sources of contamination on the upper north slope may have contributed to potential off-site transport of contamination to the lower north slopes. With the exception of one location where barium was detected above background levels (location 19-23266), no inorganic COPCs were detected greater than background at the northern off-site locations. As for inorganic COPCs greater than BVs along the southern slope, there are no apparent trends or correlations with the mesa top and upper slope locations with COPCs greater than BVs.

Aluminum: One sample in tuff (location 19-22630) had a detection of aluminum (8,080 milligrams per kilogram [mg/kg]) above the tuff BV (7340 mg/kg). However, this concentration falls within the range of measured background concentrations of aluminum (LANL 1998, 59730), indicating that aluminum is not a site-related COPC.

Arsenic: Three samples in tuff—locations 19-22630 (two depths) and 19-22631—had detections of arsenic above the tuff BV of 2.79 mg/kg. At both above-BV locations, deeper samples were collected that do not have detections of arsenic above background, indicating that the depth of arsenic concentrations has been defined at CU 19-001-99. Additionally, two of the three detections above the tuff BV were within

the range of measured background concentrations of arsenic in tuff (maximum value of 5 mg/kg; LANL 1998, 59730).

Barium: Five samples in tuff from three locations had detections of barium above the tuff BV of 46 mg/kg: locations 19-22627 (two depths), 19-22630 (one depth) and 19-23266 (two depths). At all locations where barium was detected above background levels, deeper samples were collected that do not have detections of barium above background levels, indicating that the depth of barium concentrations has been defined at CU 19-001-99. Additionally, one of the detections above the tuff BV was within the range of measured background concentrations of barium in tuff (maximum value of 51.6 mg/kg; LANL 1998, 59730).

Beryllium: Two samples in tuff from location 19-22631 had detections of beryllium above the tuff BV of 1.21 mg/kg. Some deeper samples collected at this location do not have detections of beryllium above background levels, indicating that the depth of beryllium concentrations has been defined at CU 19-001-99. Additionally, one of the two detections above the tuff BV was within the range of measured background concentrations of beryllium in tuff (maximum value of 1.8 mg/kg; LANL 1998, 59730).

Cadmium: Cadmium was detected above the soil BV of 0.4 mg/kg in surface soils at four locations: locations 19-01002, 19-01013, 19-01028, and 19-23320. None of the samples collected at depth from these locations (depth sampling at location 19-23321 was performed to capture the depth of potential contamination at locations19-01013 and 19-23320) had detections of cadmium above background levels, indicating that the depth of cadmium concentrations has been defined at CU 19-001-99. Additionally, three of the four detections above the soil BV were within the range of measured background concentrations of cadmium in soil (maximum value of 2.6 mg/kg; LANL 1998, 59730).

Chromium: Ten samples in tuff from five locations had detections of chromium above the tuff BV of 7.14 mg/kg: locations 19-22608 (two depths), 19-22615 (one depth), 19-22627 (two depths), 19-22630 (three depths), and 19-22631 (two depths). At all locations with chromium detected above background, the deepest samples collected had detections of chromium above background levels. Four of these locations are along the southern mesa edge and slope of the site. Chromium was not detected above background in any of the surface soil samples or in the subsurface samples to a depth of 2.5 ft (0.76 m) bgs collected across the CU, including the debris disposal area and the outfall areas. Chromium also was not detected above BV on the north slope, but was detected above BV at depth on the south slope at two locations. Chromium was only detected above background at depths of 3.8 ft to 6.5 ft (1.7 m to 2 m) bgs on the mesa top and on the south slope. (Note: Chromium was detected above BV between 2.5 ft and 4 ft (0.76 m and 1.2 m) bgs in three samples, but the concentrations were within the range of background concentrations for Qbt 2,3,4.) The chromium concentrations detected above BV at depth on the mesa top were in the vicinity of the former laboratory and retreat buildings. However, these buildings did not have foundations, nor was the area excavated after their removal. Given the data and site descriptions, it is difficult to know how or why the elevated chromium concentrations are present at depth, but are not detected between the surface and several feet of tuff. Therefore, it is presumed that chromium concentrations above background at depth are not the result of historical operations at TA-19, and that the extent of inorganic chemical contamination has been defined for this CU.

Cobalt: Ten samples in tuff from five locations had detections of cobalt above the tuff BV of 3.14 mg/kg: locations 19-22608 (two depths), 19-22615 (two depths), 19-22627 (two depths), 19-22630 (two depths), and 19-22631 (two depths). At all locations with cobalt detected above background, the deepest samples collected had detections of cobalt above background. As with chromium, four of these locations are along the southern mesa edge and slope of the site. Cobalt was not detected above background in any of the surface soil samples or in the subsurface samples to a depth of 3.5 ft (1.1 m) bgs collected across the CU, including the debris disposal area and the outfall areas. Cobalt also was not detected above BV on the

north slope, but was detected above BV at depth on the south slope at two locations. Cobalt was only detected above background at depths of 3.5 ft to 6.5 ft (1.1 m to 2m) bgs. The cobalt concentrations detected above BV at depth on the mesa top were in the vicinity of the former laboratory and retreat buildings. However, these buildings did not have foundations, nor was the area excavated after their removal. Given the data and site descriptions, it is difficult to know how or why the elevated cobalt concentrations are present at depth, but are not detected between the surface and several feet of tuff. Therefore, it is presumed that cobalt above background levels at depth is not the result of historical operations at TA-19, and that the extent of inorganic chemical contamination has been defined for this CU.

Copper: Copper was detected above the soil BV of 14.7 mg/kg in surface soils at the following four locations: locations 19-01013, 19-01028, 19-22615, and 19-23320. Copper was detected in the two deepest tuff samples from one location (location 19-22631) above the BV of 4.66 mg/kg. Because none of the samples collected at depth from the locations where soil samples exceeded background (depth sampling at location 19-23321 was performed to capture the depth of potential contamination at locations19-01013 and 19-23320) had detections of copper above background, and because only one location had copper detected above background in tuff, the vertical extent of copper concentrations has been adequately defined at CU 19-001-99. Additionally, one of the detections above the tuff BV was within the range of measured background concentrations of copper in tuff (maximum value of 6.2 mg/kg; LANL 1998, 59730).

Lead: Lead was detected above the soil BV of 22.3 mg/kg in surface soils at eleven locations and above the tuff BV of 11.2 mg/kg at three locations. However, none of the deepest samples collected at the site had detections of lead above background, most notably in the debris disposal areas, which indicates that the vertical extent of lead concentrations has been adequately defined at CU 19-001-99. Additionally, three detections above the soil BV, and one detection above the tuff BV, were within the ranges of measured background concentrations of lead in soil tuff (maximum values of 28 and 15.5 mg/kg, respectively; LANL 1998, 59730).

Manganese: Manganese was detected above the soil BV of 671 mg/kg in surface soils at the following three locations: locations 19-01002, 19-01028, and 19-23320. None of the samples collected at depth from these locations (depth sampling at location 19-23321 was performed to capture depth of potential contamination at location 19-23320) had detections of manganese above background, which indicates that the depth of the manganese concentrations has been defined at CU 19-001-99. Additionally, two of the three detections above the soil BV were within the range of measured background concentrations of manganese in soil (maximum value of 1,100 mg/kg; LANL 1998, 59730).

Selenium: Selenium was detected above the tuff BV of 0.3 mg/kg at one location—location 19-22630. Deeper samples collected from this location did not have detections of selenium above background, which indicates that the depth of selenium concentrations has been defined at CU 19-001-99.

Silver: Silver was detected above the tuff BV of 1.0 mg/kg in four samples at the following three locations: locations 19-22627, 19-22630, and 19-22631 (two depths). As with chromium and cobalt, these locations are along the southern mesa edge and slope of the site. Silver was not detected above background in any of the surface soil samples or in the subsurface samples to a depth of 4 ft bgs collected across the CU, including the debris disposal area and the outfall areas. Silver also was not detected above BV on the north slope, but was detected above BV at depth on the south slope at two locations. Silver was only detected above background at depths of 4 ft to 6 ft (1.2 m to 1.8 m) bgs. (Note: Silver was detected above the BV at 5.8 ft (1.77 m) bgs in one sample, but the concentration was within the range of background concentrations for Qbt 2,3,4.) The silver concentrations detected above BV at depth on the mesa top were in the vicinity of the former laboratory and retreat buildings. However, these buildings did not have foundations, nor was the area excavated after their removal. Given the data and site descriptions, it is

difficult to know how or why the elevated silver concentrations are present at depth, but are not detected between the surface and several feet of tuff. Therefore, it is presumed that silver above background at depth is not the result of historical operations at TA-19, and that the extent of inorganic chemical contamination has been defined for this CU.

Zinc: Zinc was detected above the soil BV of 44.8 mg/kg in surface soils at ten locations and above the tuff BV of 635 mg/kg at two locations. However, none of the deepest samples collected at the site had detections of zinc above background, most notably in the debris disposal areas, which indicates that the vertical extent of zinc concentrations has been adequately defined at CU 19-001-99. Additionally, four detections above the soil BV were within the range of measured background concentrations of zinc in soil (maximum value of 75.5 mg/kg; LANL 1998, 59730).

Radiological COPCs

Uranium-235 was the only radionuclide detected above background. This detected activity (0.33 picocuries per gram) was reported at 2.5–3 ft (0.76–0.9 m) bgs in tuff from a northern drainage sample (location 19-23268) and not within the CU boundary. Both the lateral and vertical extent of radiochemical contamination at CU 19-001-99 have been defined.

Organic COPCs

As with other COPCs at CU 19-001-99, the organic COPCs do not appear to have defined spatial patterns for the locations of their detections, except that the vast majority of the detections are within the surface (0 to 0.5 ft [0 to 0.15 m] bgs) of the CU boundaries. All COPCs appear to have unique, and random, spatial distributions, though there do appear to be general trends of decreasing lateral concentrations with increasing distance from the CU. The following is a discussion of the organic COPCs within three major groups—VOCs and SVOCs, pesticides and herbicides, and PCBs.

VOCs and SVOCs: The detections of VOCs and SVOCs are largely limited to surface soil samples from within the AOC on the mesa top and the upper north mesa slope. Subsurface sampling did not detect VOCs or SVOCs at depth, with the exception of three estimated detections at trace concentrations for Bis(2-ethylhexly)phthalate and Di-n-butylphthalate from the deepest samples at two locations (locations 19-22628 and 19-23267), which indicates that the depth of VOC and SVOC concentrations has been defined at CU 19-001-99.

Pesticides and Herbicides: The detections of pesticides and herbicides are limited to surface soil samples, which are primarily scattered across the AOC on the mesa top, and also occur at a few downgradient, off-site locations to the north and south. There are generally decreasing trends laterally and no contamination of pesticides and herbicides at depth.

PCBs: Detections of Aroclors are limited to surface soil samples within the AOC on the mesa top and within the boundaries of the debris piles on the upper north slope; Aroclors were detected at three subsurface tuff sampling locations (locations 19-22599, 19-22606, and 19-22608). Dioxins and furans were detected in surface and subsurface samples from the two locations where dioxin/furan analyses were conducted (locations 19-023319 and 19-23321); however, only two dioxin/furan compounds were detected at depth (total HPCDD and a component of this, 1,2,3,4,6,7,8-HPCDD at location 19-23211). No PCBs were detected at any of the downgradient, off-site locations, which indicates that the lateral extent of PCBs has been defined. Additionally, PCB detections are largely limited to surface soils, indicating that depth of PCB contamination has also been defined at CU 19-001-99.

4.3 Limitations and Deviations from the NMED-Approved Work Plan

The soil removal action and confirmation sampling were completed as proposed in the NMED-approved work plan (LANL 2004, 85521) and in ENV-ERS's SSHASP 04-001 and SSHASP Addendum. However, a modified approach was needed to (1) gain safe access to the historical surface soil sampling locations on the steep upper north mesa slope and (2) remove and separate battery debris from soil at the excavation locations. A SSHASP addendum (and associated IWD) was issued on August 31, 2004, to update and supplement the existing health and safety information. The modifications involved the use of a light-duty (25-ton [22,680 kg]) boom truck and OSHA-certified hanging man basket to lower a two-person sampling team for battery debris and soil removal on the steep upper north mesa slope and for sample collection on the steep slopes of the north and south upper mesa slopes.

Changes in sampling locations were made in accordance with NMED's comments and approval of the CU 19-001-99 work plan in addition to health and safety concerns. Deviations from the NMED-approved work plan (LANL 2004, 85521) are summarized in Table 3.2-1. Deviations occurred as a result of additional information obtained on the exact locations of the 1995 VCA samples in terms of sampling commitments to NMED based on NMED's comments and approval of the TA-19 work plan. In addition, deviations occurred as a result of health and safety or other concerns at historical RFI locations. Documentation of the changes, dated August 24, 2004, and September 1, 2004, provided for more comprehensive fixed analytical sampling at CU 19-001-99 than originally agreed upon with NMED (Appendix B Attachment B3).

For 20 historical VCA sampling locations it was determined that field screening would be conducted for PAHs, PCBs, and lead. The field screening results were used to determine four locations (representing the upper 20% of the field screening results) from which samples were analyzed at a fixed analytical laboratory. All 20 historical VCA samples were located on the upper north mesa slope.

Twenty historical RFI sampling locations were proposed for field screening. The commitment was to revisit all 20 locations and conduct field screening analysis for PCBs. The field screening results were used to determine four locations (representing the upper 20% of the PCB field screening results) from which samples were analyzed at a fixed analytical laboratory. The 20 historical RFI locations include three locations on the upper south mesa slope, four locations on the upper north mesa slope, and thirteen locations on the mesa top.

During a site visit on August 18, 2004, it was determined that two historical sampling locations on the upper south slope (locations 19-01254 and 19-01255) could not be accessed safely and would not be sampled during the remedy activities.

The four upper north mesa slope historical RFI locations were (1) within the area being revisited for the field screening of the 20 historical VCA locations on the upper north mesa slope and (2) near the two areas where additional soil removal activities were planned, each of which included a location to be sampled and submitted for analysis at a fixed analytical laboratory.

The samples for fixed laboratory analysis were collected on the upper north mesa slope at six locations (two at soil removal locations, and four at historical VCA sampling locations). Because these six locations encompass the area of the four historical upper north mesa slope RFI locations, sampling of the RFI locations was considered an overrepresentation of fixed analytical samples from the upper north mesa slope compared to the mesa top or the south mesa slope. Therefore, sampling at historical RFI locations was limited to the RFI locations present on the mesa top and south mesa slope to provide for a more balanced approach to the fixed laboratory analytical sampling and a more thorough characterization of CU 19-001-99. These confirmation sampling locations were selected randomly because all PCB field

screening results were ND. In summary, field screening for PCBs was not performed at the four upper north slope historical RFI locations (locations 19-01266, 19-01267, 19-01268, and 19-01269) and the upper 20% was determined based on the remaining 14 historical RFI sampling locations on the mesa top and south mesa slope.

During a site visit conducted on August 18, 2004, it was determined that two historical sampling locations along the south edge of the mesa top (locations 19-01252 and 19-01253) could not be accessed safely. Therefore, the sampling at these locations occurred as close to the original sampling locations as possible, but not within 6 ft (1.8 m) of the edge of the mesa. The postsampling geodetic survey documented the actual locations of samples collected during the remedy activities. Locations in current surface flow pathways off of the mesa top were given preference to characterize potential areas where sediments may be transported from the mesa top into the adjoining canyons and mesa slopes.

Postsampling geodetic survey locations that deviated from presampling survey locations are as follows:

- Sampling location 19-01252 (mesa top, south of AOC C-19-001) was moved 26 ft (7.9 m) northwest of the historical original location as a result of health and safety hazards on the cliff edge.
- Sampling location 19-01253 (mesa top, south of AOC C-19-001) was moved 29 ft (8.8 m) northeast of the historical original location as a result of health and safety hazards on the cliff edge.
- Subsurface sampling location 19-22598 (mesa top, inside AOC C-19-001) was moved 1 ft (0.3 m) south of surface sampling location 19-22598 because of a required 2-ft (0.6-m) setback from a gas line.
- Subsurface sampling location 19-22599 (mesa top, inside AOC C-19-001) was moved 2.5 ft (0.76 m) north of surface sampling location 19-22599 because of a required 2-ft (0.6-m) setback from a gas line.
- Subsurface sampling location 19-22618 (mesa top, inside AOC C-19-001) was moved 2 ft (0.6 m) southeast of surface sampling location 19-22618 as a result of hand auger refusal.
- Subsurface sampling location 19-22625 (mesa top, inside AOC C-19-001) was moved 2 ft (0.6 m) west of surface sampling location 19-22625 as a result of hand auger refusal.
- Subsurface sampling location 19-22626 (mesa top, inside AOC C-19-001) was moved 2 ft (0.6 m) northwest of surface sampling location 19-22626 as a result of hand auger refusal.
- Sampling location 19-23269 (upper north mesa slope outfall, east between drainage channels near outfall) was used to approximate the historical VCA location 19-01015, which could not be located.
- Sampling location 19-23318 (upper north mesa slope outfall, west in vicinity of RFI location 19-01268) was added as a verification sample for soil removal.
- Sampling location 19-23319 (upper north mesa slope outfall, west in vicinity of RFI location 19-01268) was added as a verification sample for soil removal.
- Sampling location 19-23320 (upper north mesa slope outfall, east in vicinity of RFI location 19-01266) was added as a verification sample for soil removal.
- Sampling location 19-23321 (upper north mesa slope outfall, east in vicinity of RFI location 19-01266) was added as a verification sample for soil removal.

The additional depth sampling conducted in 2005 represents a positive variance from the proposed sampling in the NMED-approved work plan (LANL 2004, 85521). Thirteen locations were also sampled 2 ft and 4 ft (0.6 m and 1.2 m) below the soil/tuff interface.

4.4 Regulatory Criteria

In accordance with the NMED-approved work plan (LANL 2004, 85521), all data collected at CU 19-001-99 were evaluated in screening risk assessments for both human and ecological receptors.

The human health and ecological screening assessments were performed in accordance with the following documents:

- EPA (U.S. Environmental Protection Agency), November 2004. "EPA Region 6 Human Health Medium-Specific Screening Levels," U.S. Environmental Protection Agency document, Washington, D.C. (EPA 2004, 87478)
- LANL (Los Alamos National Laboratory), May 2005. "Derivation and Use of Radionuclide Screening Action Levels," Revision 1, Los Alamos National Laboratory document LA-UR-05-1849, Los Alamos, New Mexico. (LANL 2005, 88493),
- NMED (New Mexico Environment Department), 2004. "Technical Background Document for Development of Soil Screening Levels, Revision 2.0," New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2004, 85615)
- LANL (Los Alamos National Laboratory), December 2004. "Screening Level Ecological Risk Assessment Methods," Revision 2, Los Alamos National Laboratory document LA-UR-04-8246, Los Alamos, New Mexico. (LANL 2004, 87630),

Soil screening levels (SSLs) specific to residential receptors used in the human health screening assessment are presented in Appendix E. The ecological screening levels (ESLs) used in the ecological screening assessment are also presented in Appendix E.

5.0 CONCLUSIONS

All surface and subsurface structures related to historical operations at CU 19-001-99 have been removed from the site, with the exception of an inactive gas line that was discovered during the remedy activities. Additionally, all surface debris and soil with elevated COPC concentrations (as determined in historical investigations) have been removed from CU 19-001-99. Investigative sampling conducted at the site was adequate to define the nature and extent of contamination (both laterally and vertically) at the site.

All chemicals retained as COPCs in the data review process were screened for their potential risk to human and ecological receptors (Appendix E). The human health screening risk assessment determined that under a residential scenario, exposure point concentrations of all noncarcinogenic and carcinogenic COPCs were less than their respective SSLs and less than the SAL for the radionuclide COPC. Further, the incremental excess cancer risk was 9×10^{-6}, the hazard index (HI) was 0.4, and the dose was 0.2 mrem/yr, which are below the NMED target risk level of 1×10^{-5}, the NMED target HI of 1.0, and DOE's target dose limit of 15 mrem/yr. The dose of 0.2 mrem/yr is equivalent to a risk of 1.3×10^{-6} based on a comparison of the 95% UCL to the EPA's residential preliminary remediation goals for radionuclides (http://epa.prgs.ornl.gov/radionuclide). The human health screening risk assessment concluded that the

residual concentrations of COPCs at CU 19-001-99 do not pose unacceptable levels of risk or dose to human receptors. The ecological screening risk assessment conducted by a comparison of soil concentrations to ESLs for terrestrial receptors eliminated all COPCs as final chemicals of potential ecological concern at the site. The ecological screening risk assessment concluded that the residual concentrations of COPCs at CU 19-001-99 do not pose an unacceptable level of risk to ecological receptors.

6.0 RECOMMENDATIONS

Based on the information presented in this completion report, the recommendation for CU 19-001-99 is that corrective actions are complete without controls at the site. The Laboratory therefore requests that NMED issue a Certificate of Completion for CU 19-001-99 pursuant to Section VII.E.6.b of the Consent Order. The Laboratory requests that this Certificate of Completion state that the Corrective Action is Complete Without Controls.

7.0 REFERENCES

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author, publication date, and ER ID number. This information is also included in text citations. ER ID numbers are assigned by the ENV-ERS Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the ENV-ERS reference set titled "Reference Set for OU 1071."

Copies of the reference sets are maintained at the NMED Hazardous Waste Bureau; the DOE Los Alamos Site Office; the U.S. Environmental Protection Agency, Region 6; and at ENV-ERS. The sets were developed to ensure that the administrative authority has all material needed to review this document, and they are updated periodically as needed. Documents previously submitted to the administrative authority are not included.

Cordell, L., 1979. "Gravimetric Expression of Graben Faulting in Santa Fe County and the Española Basin, New Mexico," New Mexico Geological Society Guidebook, 30th Annual Field Conference, Santa Fe, New Mexico. (Cordell 1979, 76049)

EPA (U.S. Environmental Protection Agency), 1989. "Risk Assessment Guidance for Superfund, Human Health Evaluation Manual," Washington, D.C. (EPA 1989, 08021)

EPA (U.S. Environmental Protection Agency), November 2004. "EPA Region 6 Human Health Medium-Specific Screening Levels," U.S. Environmental Protection Agency document, Washington, D.C. (EPA 2004, 87478)

LANL (Los Alamos National Laboratory), May 1992. "RFI Work Plan for Operable Unit 1071," Los Alamos National Laboratory document LA-UR-92-810, Los Alamos, New Mexico. (LANL 1992, 07667)

LANL (Los Alamos National Laboratory), February 1996. "Voluntary Corrective Action Completion Report for PRS 19-002, Surface Disposal Area Former TA-19," Los Alamos National Laboratory document LA-UR-96-433, Los Alamos, New Mexico. (LANL 1996, 05269)

LANL (Los Alamos National Laboratory), March 1997. "Performance Assessment and Composite Analysis for Los Alamos National Laboratory Material Disposal Area G," Los Alamos National Laboratory document LA-UR-97-85, Los Alamos, New Mexico. (LANL 1997, 63131)

LANL (Los Alamos National Laboratory), September 1997. “RFI Report for TA-19, PRSs 19-001, 19-003, and C-19-001,” Los Alamos National Laboratory document LA-UR-97-3791, Los Alamos, New Mexico. (LANL 1997, 71468)

LANL (Los Alamos National Laboratory), May 1998. “Hydrogeologic Workplan Los Alamos National Laboratory,” Los Alamos National Laboratory document LA-UR-01-6511, Los Alamos, New Mexico. (LANL 1998, 59599)

LANL (Los Alamos National Laboratory), September 1998. “Inorganic and Radionuclide Background Data for Soils, Canyon Sediments, and Bandelier Tuff at Los Alamos National Laboratory,” draft, Los Alamos National Laboratory document LA-UR-98-4847, Los Alamos, New Mexico. (LANL 1998, 59730)

LANL (Los Alamos National Laboratory), September 2002. “Environmental Surveillance at Los Alamos during 2001,” Los Alamos National Laboratory report LA-13979-ENV, Los Alamos, New Mexico. (LANL 2002, 73876)

LANL (Los Alamos National Laboratory), January 2004. “Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory),” Los Alamos National Laboratory document LA-UR-04-0199, Los Alamos, New Mexico. (LANL 2004, 85521)

LANL (Los Alamos National Laboratory), December 2004. “Screening Level Ecological Risk Assessment Methods,” Revision 2, Los Alamos National Laboratory document LA-UR-04-8246, Los Alamos, New Mexico. (LANL 2004, 87630)

LANL (Los Alamos National Laboratory), May 2005. “Derivation and Use of Radionuclide Screening Action Levels,” Revision 1, Los Alamos National Laboratory document LA-UR-05-1849, Los Alamos, New Mexico. (LANL 2005, 88493),

NMED (New Mexico Environment Department), March 1998. “RPMP Document Requirement Guide,” RCRA Permits Management Program, Hazardous and Radioactive Materials Bureau, Santa Fe, New Mexico. (NMED 1998, 57897)

NMED (New Mexico Environment Department), June 10, 1998. “Request for Supplemental Information RFI Report for TA-19 Potential Release Sites (PRSs) 19-001, 19-003, and C-19-001,” New Mexico Environment Department letter (NM0890010515) to Los Alamos National Laboratory from R.S. Dinwiddie, RCRA Permits Management Program, Hazardous and Radioactive Materials Bureau, Santa Fe, New Mexico. (NMED 1998, 59642)

NMED (New Mexico Environment Department), 2004. “Technical Background Document for Development of Soil Screening Levels, Revision 2.0,” New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2004, 85615)

Nylander, C.L., K.A. Bitner, G. Cole, E.H. Keating, S. Kinkead, P. Longmire, B. Robinson, D.B. Rogers, and D. Vaniman, March 2003. “Groundwater Annual Status Report for Fiscal Year 2002,” Los Alamos National Laboratory document LA-UR-03-0244, Los Alamos, New Mexico. (Nylander et al. 2003, 76059)

Purtymun, W.D., January 1, 1984. “Hydrologic Characteristics of the Main Aquifer in the Los Alamos Area: Development of Groundwater Supplies,” Los Alamos National Laboratory report LA-9957-MS, Los Alamos, New Mexico. (Purtymun 1984, 6513)

Stauffer, P.H., K.H. Birdsell, M. Witkowski, T. Cherry, and J. Hopkins, March 2000. “Subsurface Vapor-Phase Transport of TCA at MDA L: Model Predictions,” Los Alamos National Laboratory document LA-UR-00-2080, Los Alamos, New Mexico. (Stauffer et al. 2000, 69794)

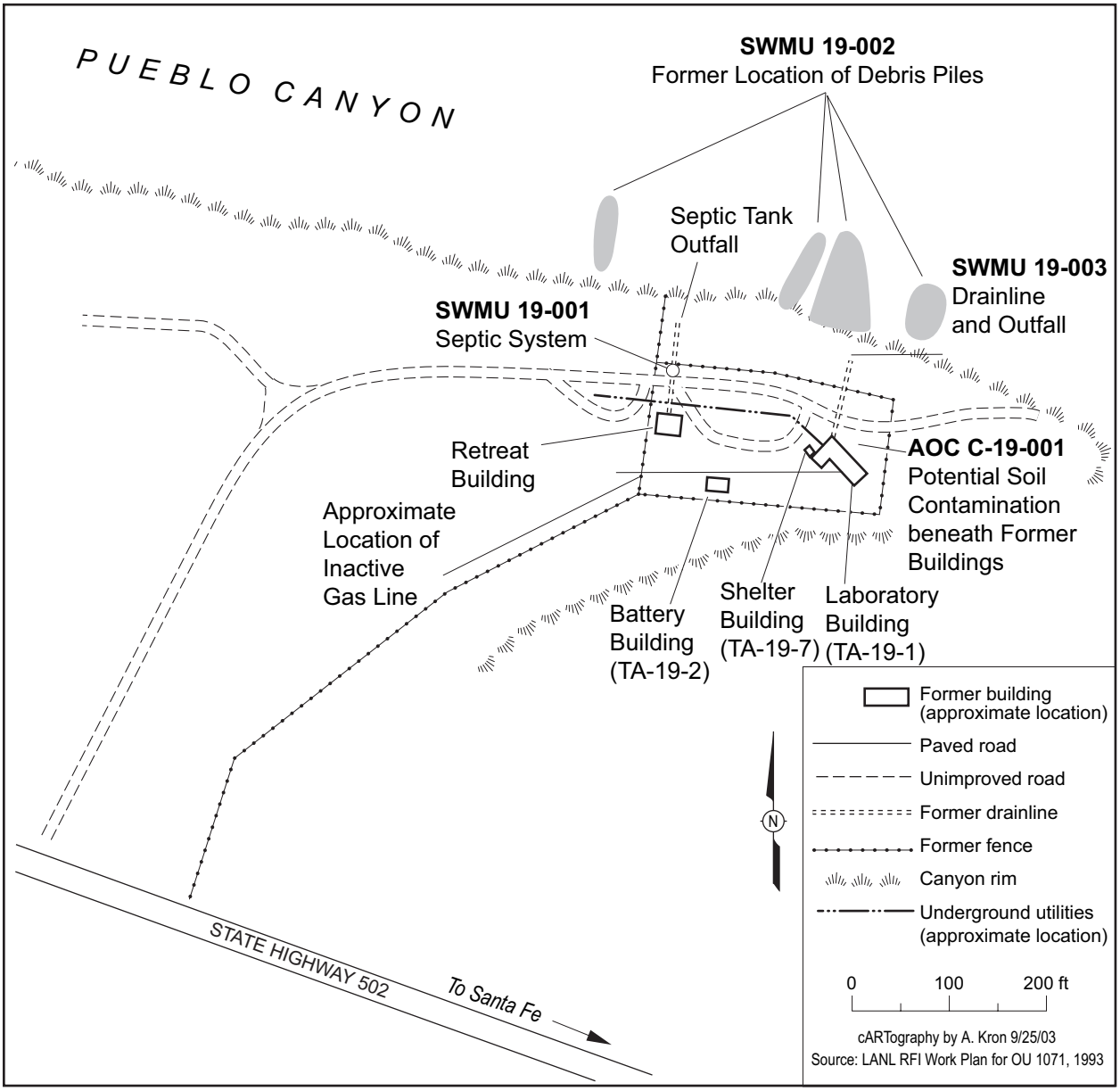

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Figure 1.1-1. Consolidated Unit 19-001-99

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Figure 2.5-1. Historical sample locations at CU-19-001-99

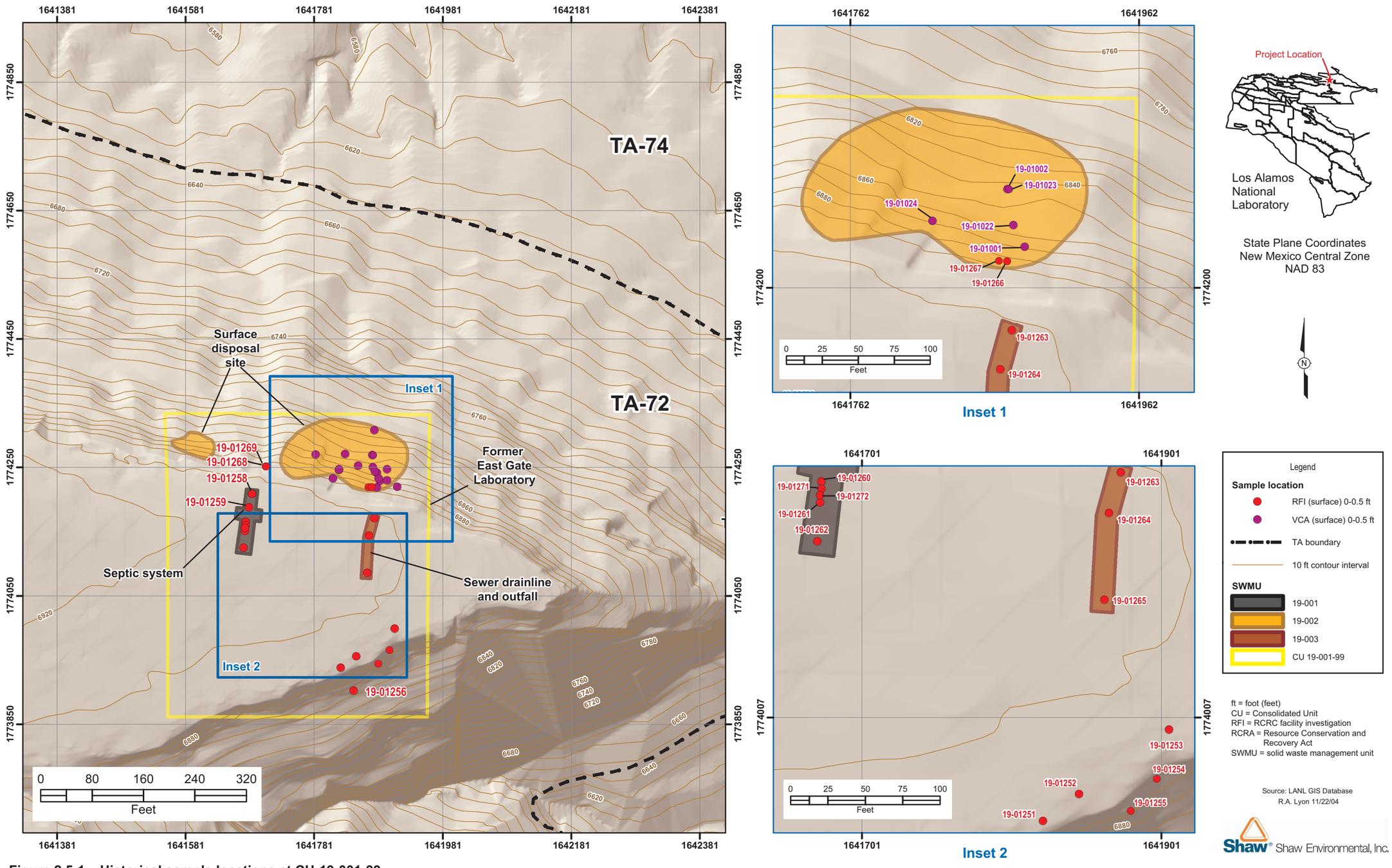

Figure 2.5-1. Historical sample locations at CU-19-001-99

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Figure 3.2-1. Sampling locations and depths at CU 19-001-99

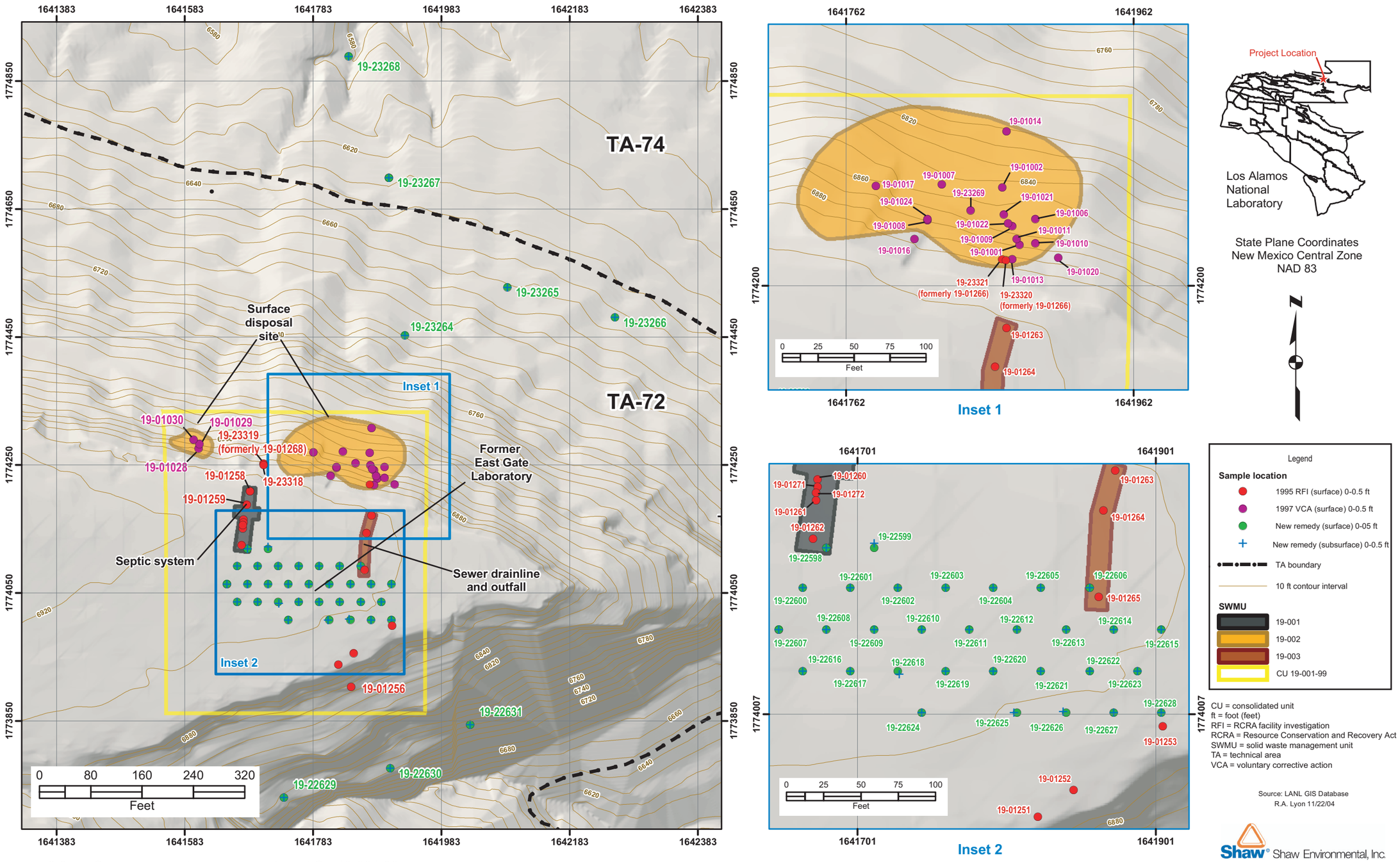

Figure 3.2-1. Sampling locations and depths at CU 19-001-99

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Figure 3.2-2. Sampling locations and depths at CU 19-001-99 distinguished by field-screening analyses

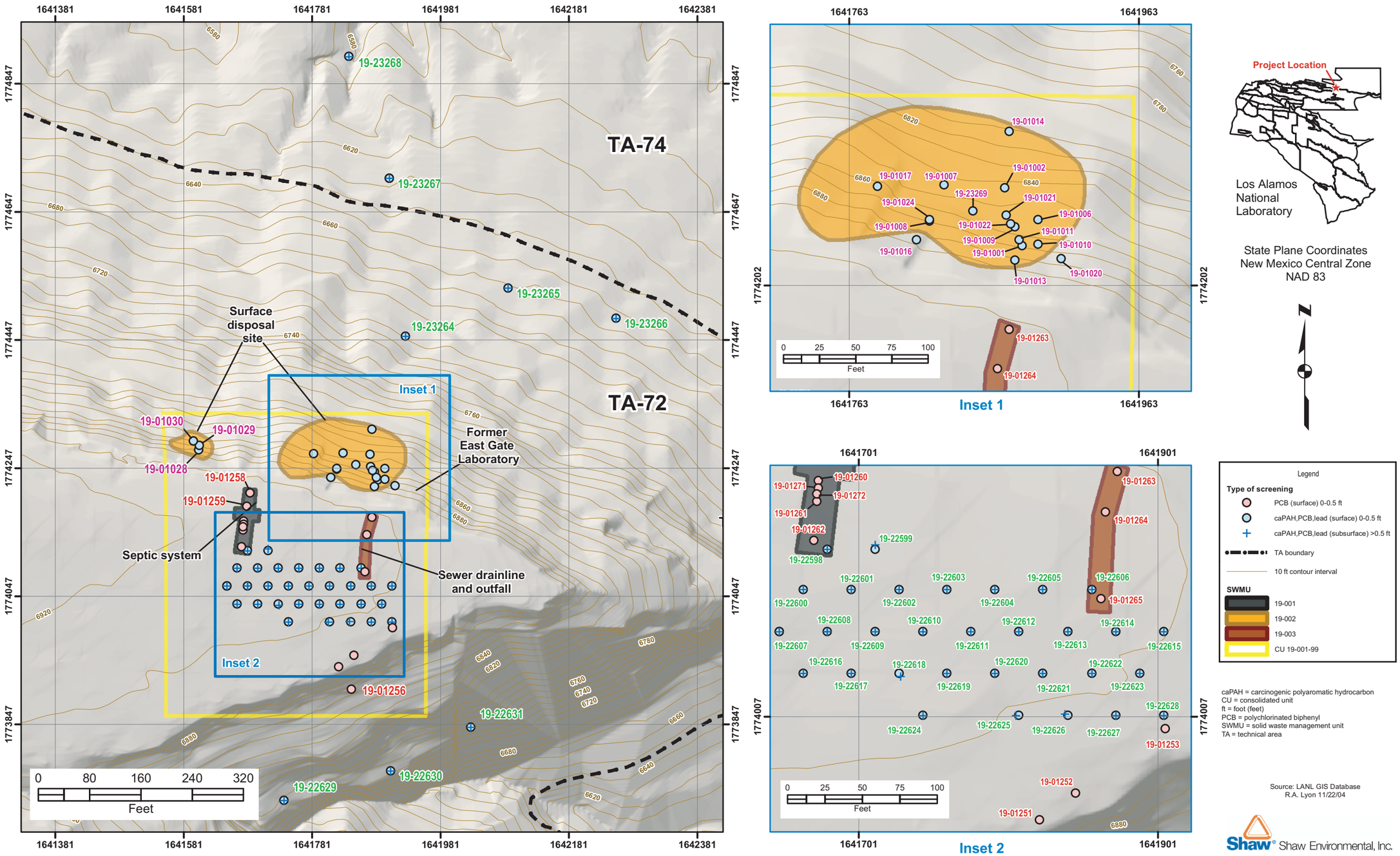

Figure 3.2-2. Sampling locations and depths at CU 19-001-99 distinguished by field-screening analyses

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Figure 3.2-3. Carcinogenic PAH field-screening analytical results, CU 19-001-99

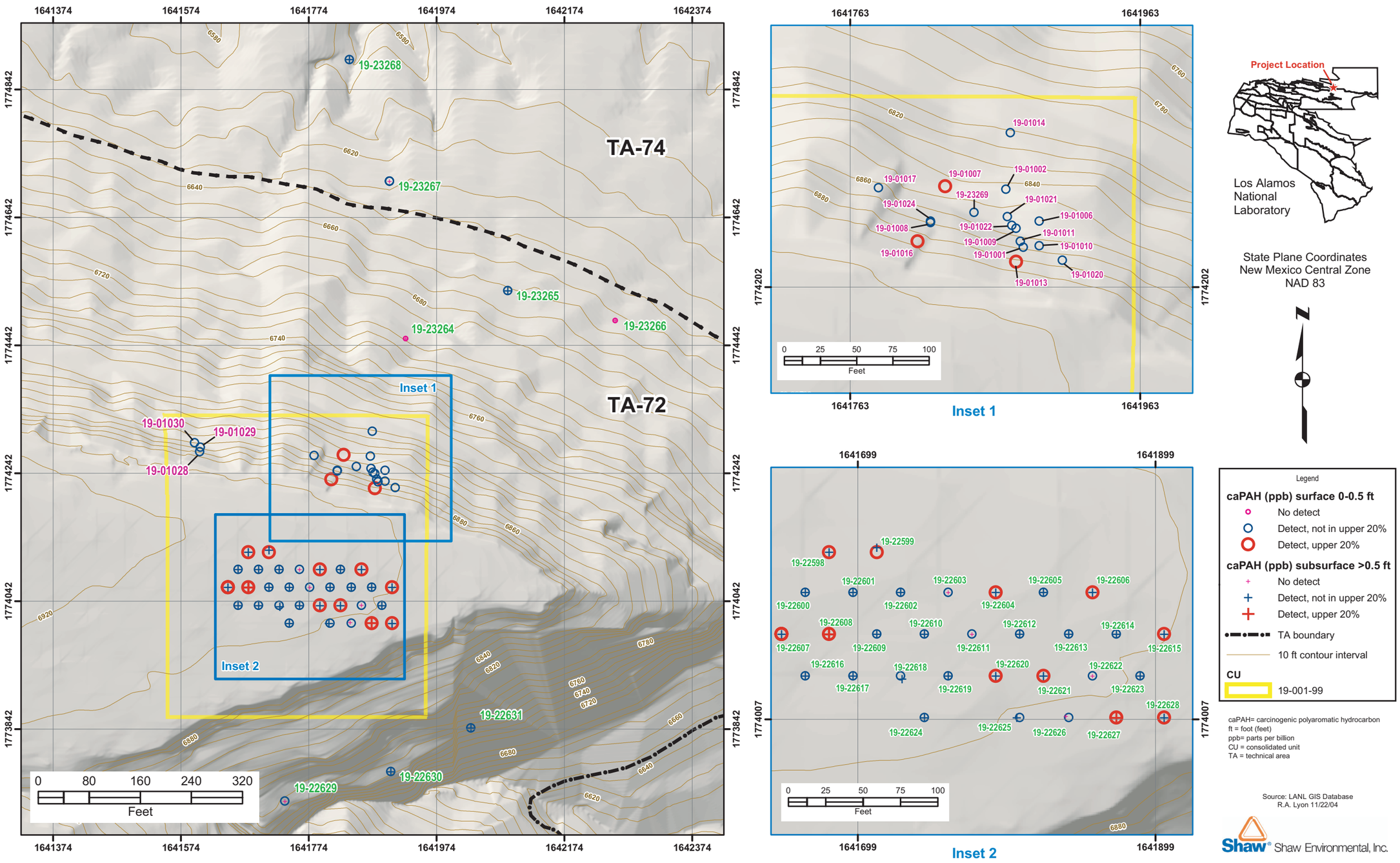

Figure 3.2-3. Carcinogenic PAH field-screening analytical results, CU 19-001-99

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Figure 3.2-4. PCB field-screening analytical results, CU 19-001-99

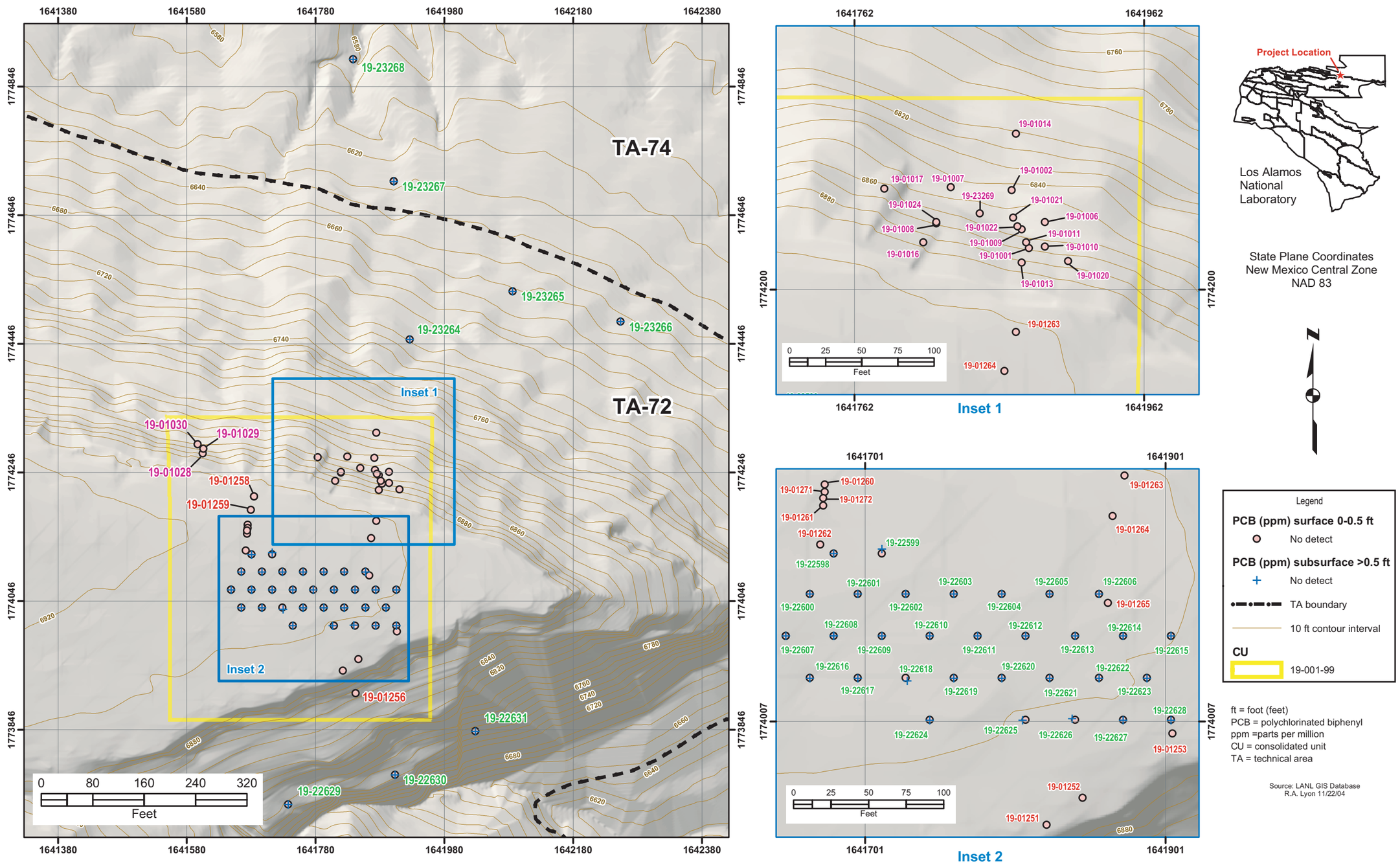

Figure 3.2-4. PCB field-screening analytical results, CU 19-001-99

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Figure 3.2-5. Lead field-screening analytical results, CU 19-001-99

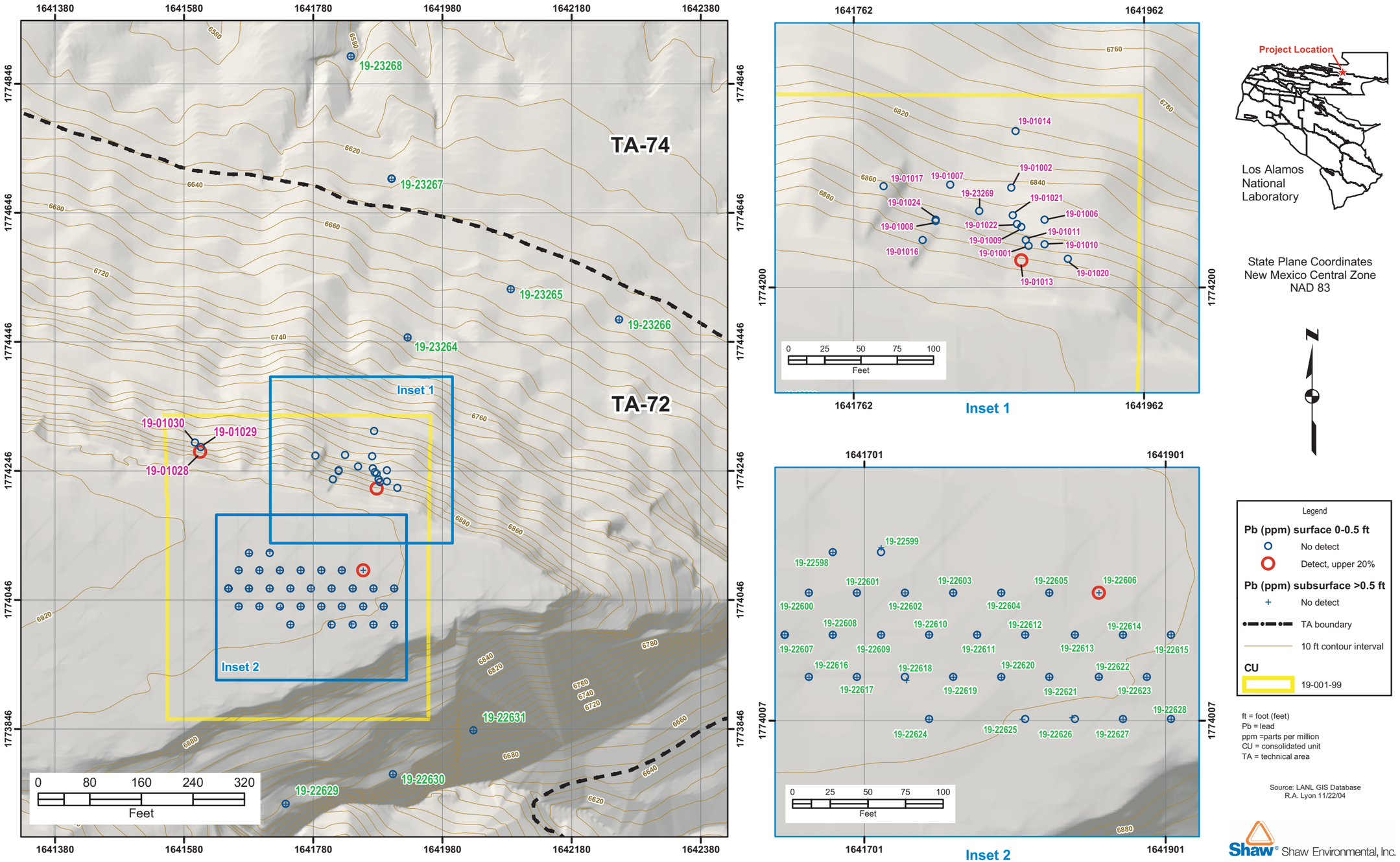

Figure 3.2-5. Lead field-screening analytical results, CU 19-001-99

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Figure 4.2-1. Fixed-laboratory analytical sampling locations, CU 19-001-99

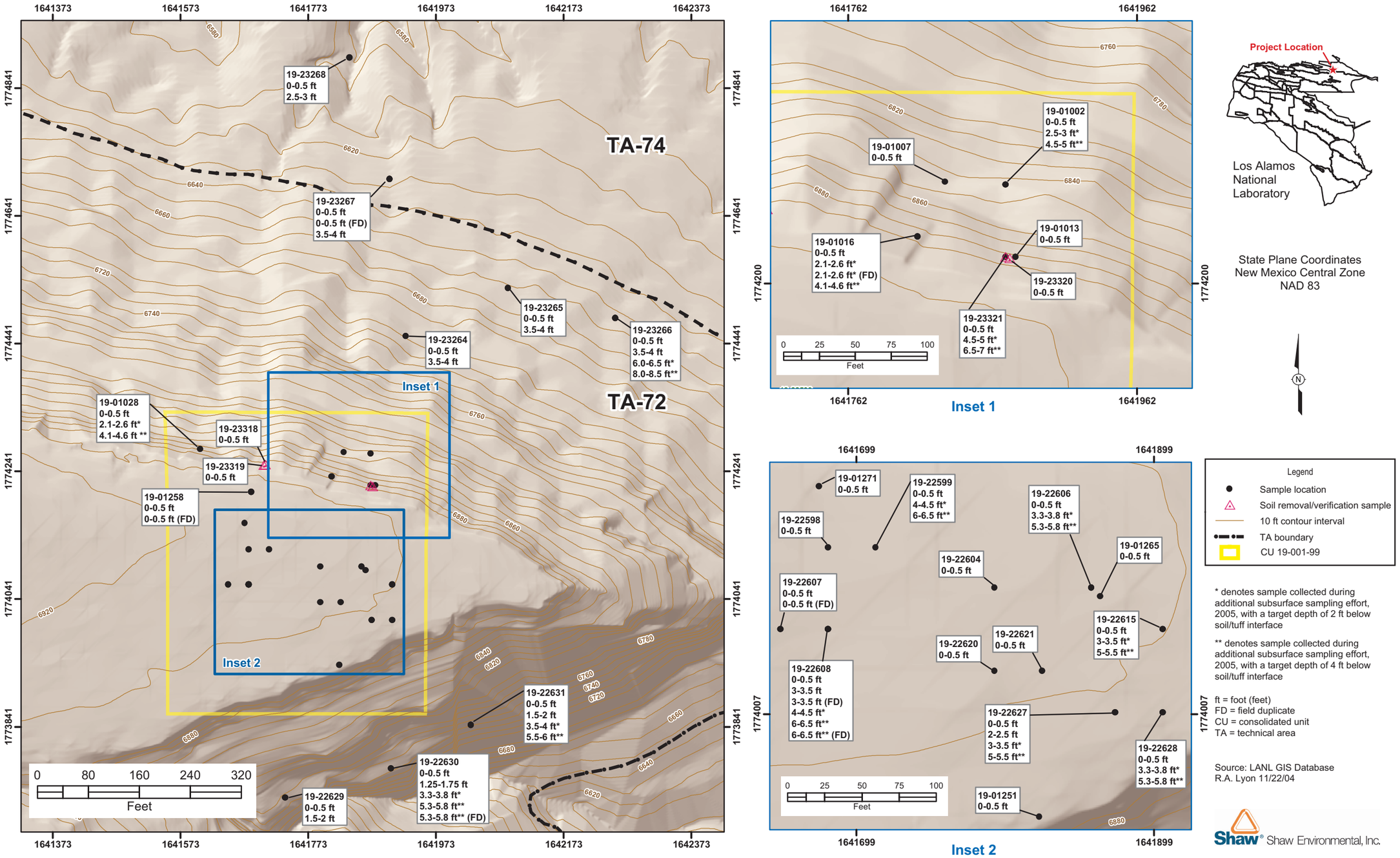

Figure 4.2-1. Fixed-laboratory analytical sampling locations, CU 19-001-99

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Figure 4.2-2. Inorganic COPCs above background values at CU 19-001-99

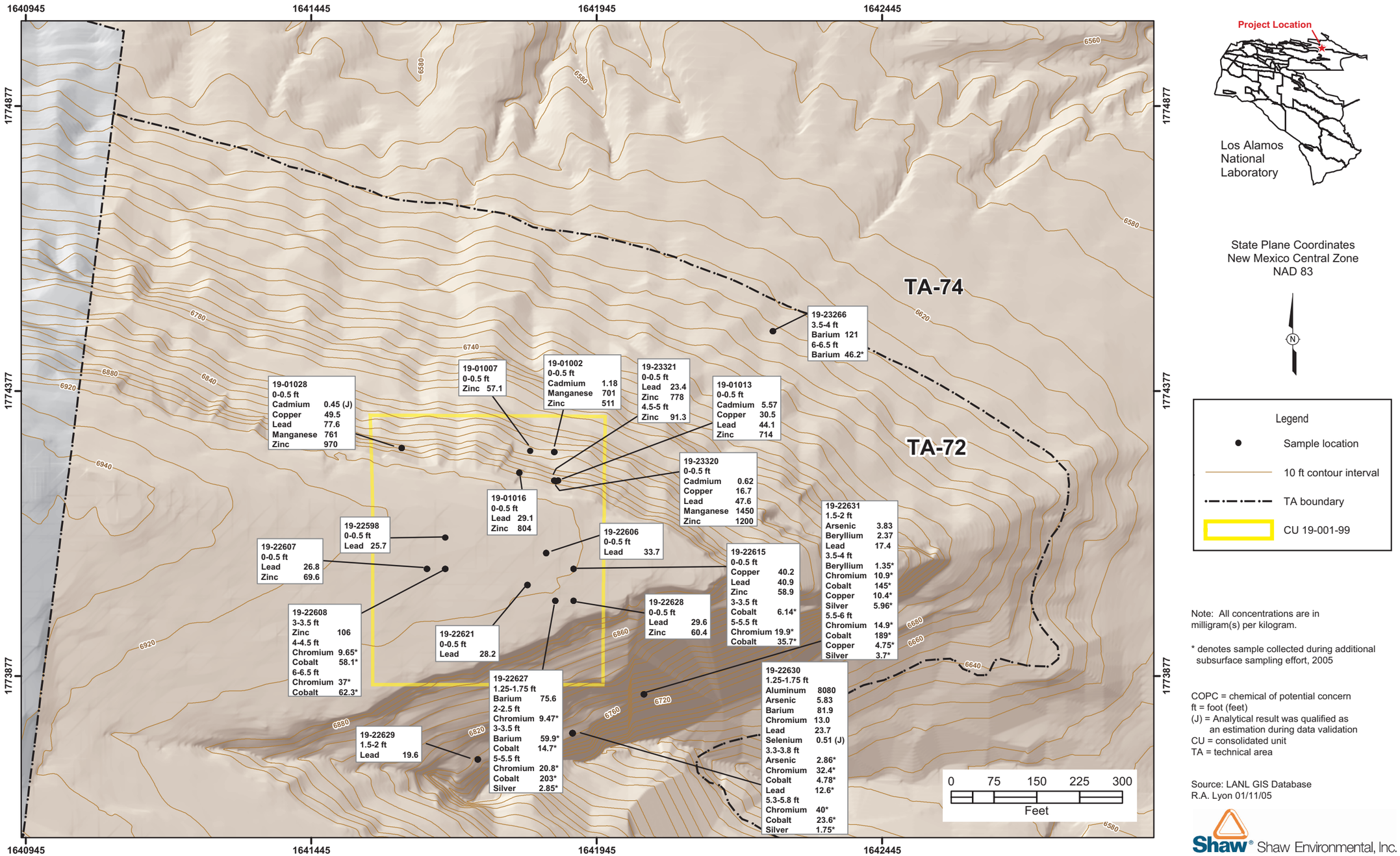

Figure 4.2-2. Inorganic COPCs above background values at CU 19-001-99

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Figure 4.2-3. Radiological COPCs above background or fallout values at CU 19-001-99

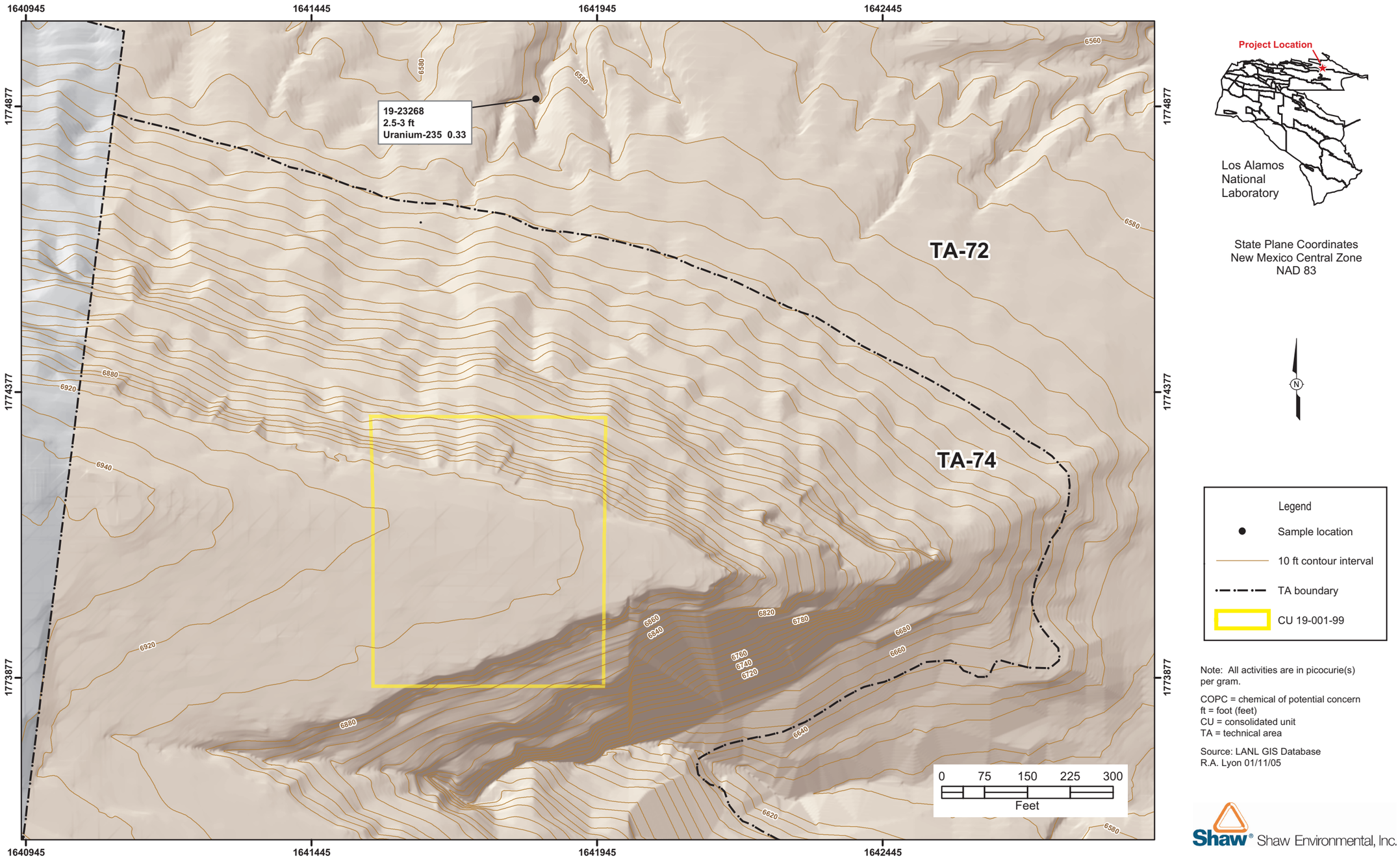

Figure 4.2-3. Radiological COPCs above background or fallout values at CU 19-001-99

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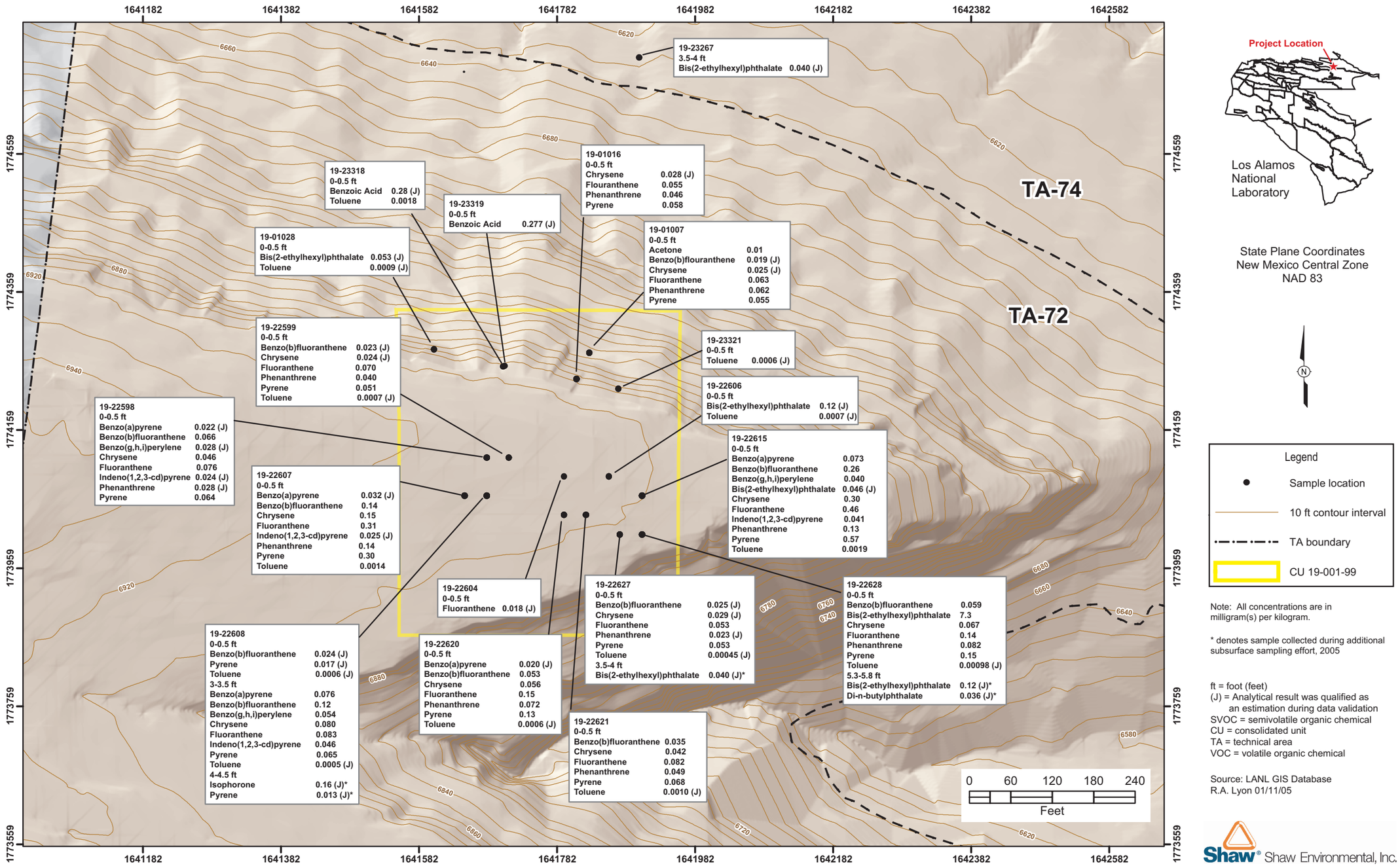
Figure 4.2-4. VOCs and SVOCs detected at CU 19-001-99



State Plane Coordinates
New Mexico Central Zone
NAD 83

Legend

- Sample location
- 10 ft contour interval
- TA boundary
- CU 19-001-99

Note: All concentrations are in milligram(s) per kilogram.

* denotes sample collected during additional subsurface sampling effort, 2005

ft = foot (feet)
(J) = Analytical result was qualified as an estimation during data validation
SVOC = semivolatile organic chemical
CU = consolidated unit
TA = technical area
VOC = volatile organic chemical

Source: LANL GIS Database
R.A. Lyon 01/11/05

Shaw® Shaw Environmental, Inc.

Figure 4.2-4. VOCs and SVOCs detected at CU 19-001-99

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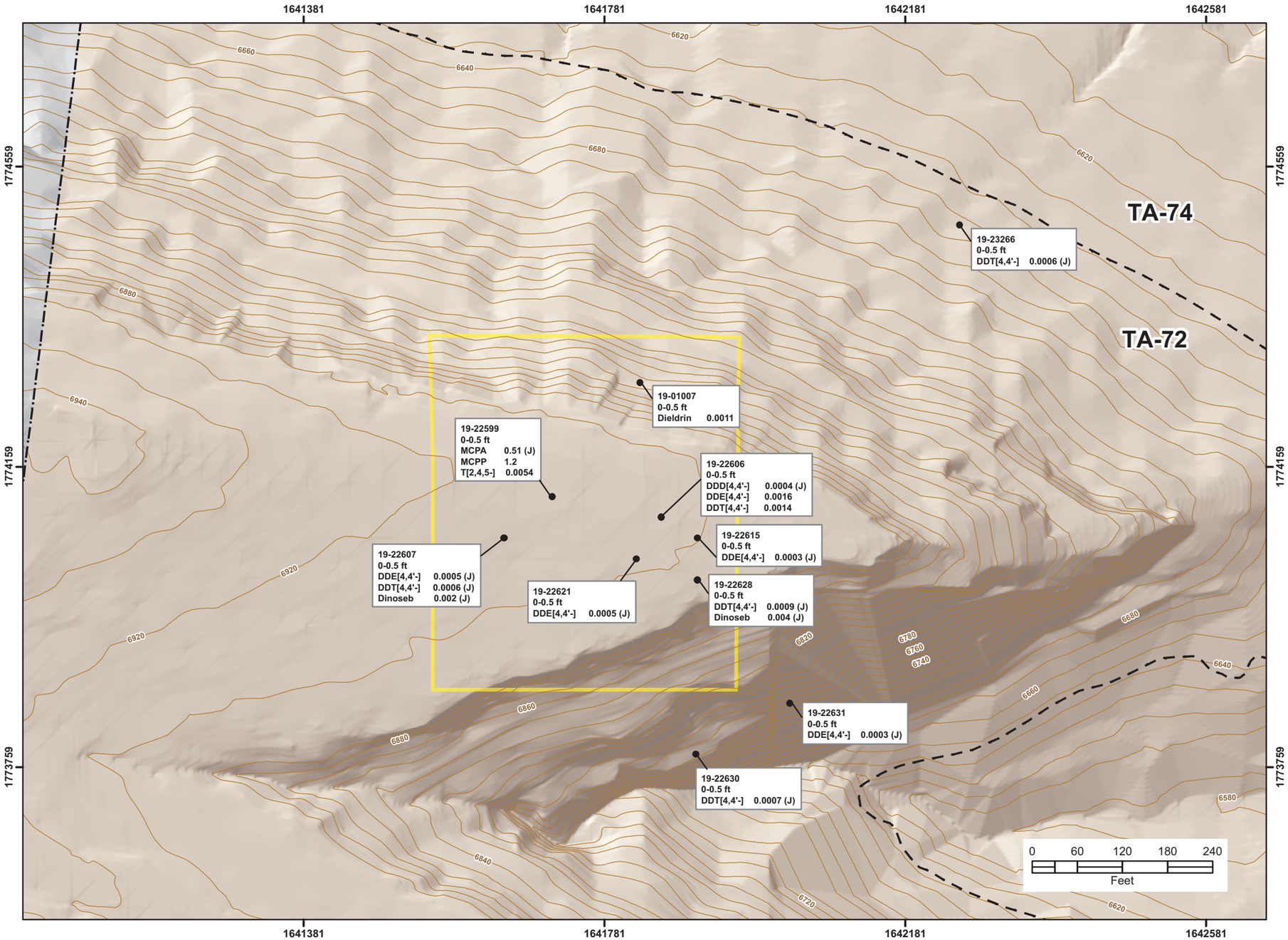
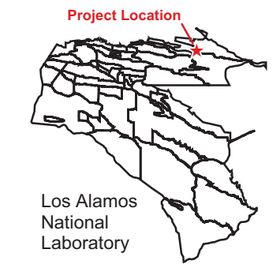
Figure 4.2-5. Pesticides and herbicides detected at CU 19-001-99





State Plane Coordinates
New Mexico Central Zone
NAD 83

N

Legend

- Sample location
- 10 ft contour interval
- TA boundary
- CU 19-001-99

Note: All concentrations are in milligram(s) per kilogram.

DDD = dichlorodiphenyldichloroethane
DDE = dichlorodiphenyldichloroethylene
DDT = dichlorodiphenyltrichloroethane
ft = foot (feet)
(J) = Analytical result was qualified as an estimation during data validation
MCPA = methyl chlorophenoxy acetic acid
MCPP = 2-(2-methyl-4-chlorophenoxy)propionic acid
CU = consolidated unit
T = trichlorophenoxyacetic acid
TA = technical area

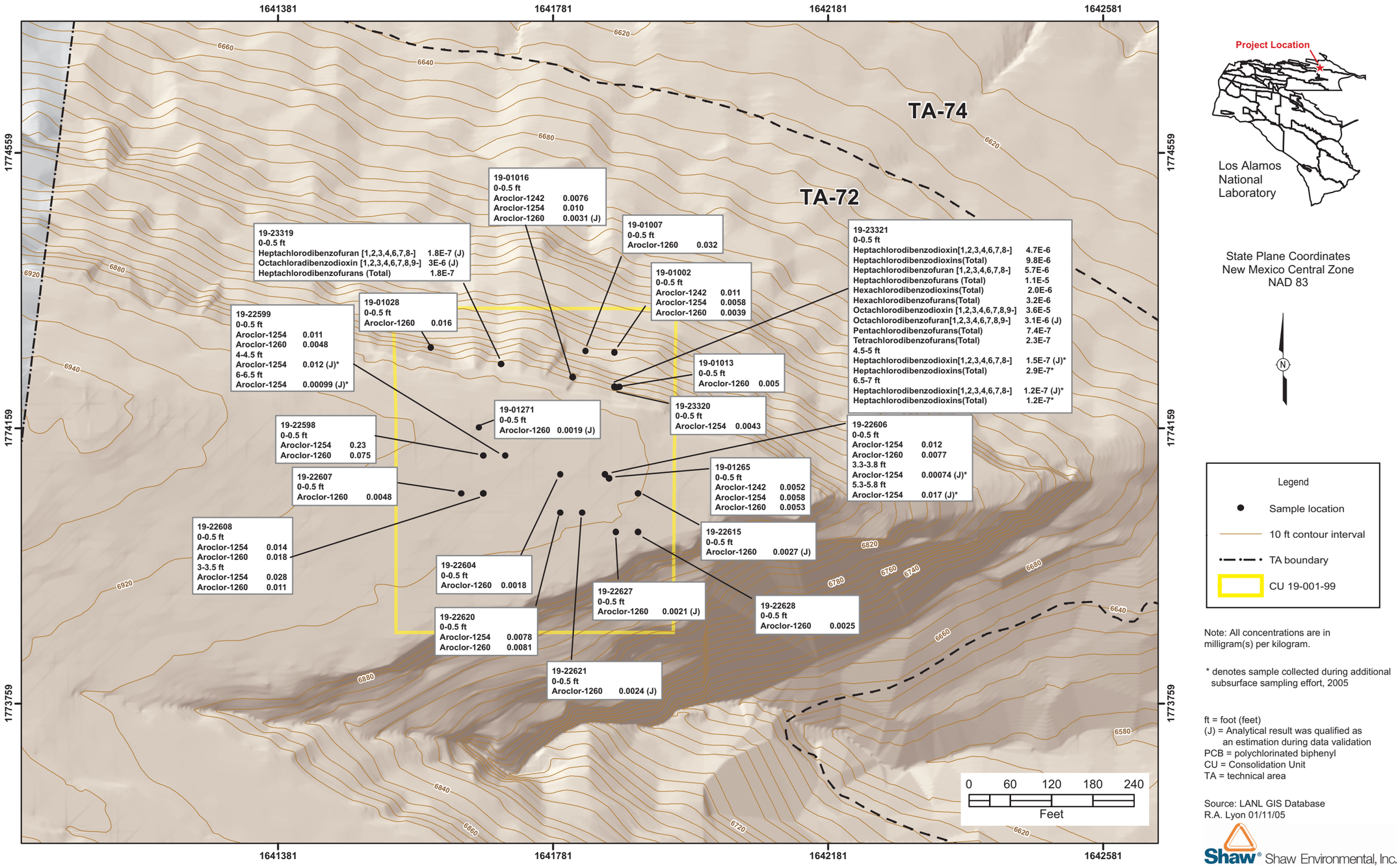
Source: LANL GIS Database
R.A. Lyon 01/11/05

Shaw® Shaw Environmental, Inc.

Figure 4.2-5. Pesticides and herbicides detected at CU 19-001-99

11x17

Figure 4.2-6. PCBs (Aroclors and Dioxins/Furans) detected at CU 19-001-99



State Plane Coordinates
New Mexico Central Zone
NAD 83

Legend

- Sample location
- 10 ft contour interval
- TA boundary
- CU 19-001-99

Note: All concentrations are in milligram(s) per kilogram.

* denotes sample collected during additional subsurface sampling effort, 2005

ft = foot (feet)
(J) = Analytical result was qualified as an estimation during data validation
PCB = polychlorinated biphenyl
CU = Consolidation Unit
TA = technical area

Source: LANL GIS Database
R.A. Lyon 01/11/05

Shaw Environmental, Inc.

Figure 4.2-6. PCBs (Aroclors and Dioxins/Furans) detected at CU 19-001-99

Table 1.2-1
March 1, 2005, Consent Order Reporting Requirements Not Applicable to the CU 19-001-99 Remedy Completion Report

Consent Order Reporting Requirements	Element(s) Excluded from CU 19-001-99 Remedy Completion Report	Justification for Exclusion
XI.C.6 Scope of Activities	Background information research • Discussion of drilling • Discussion of well construction methods • Discussion of aquifer testing • Discussion of remediation system pilot tests	• Background information research was conducted within the scope of the NMED-approved work plan (Appendix B, Attachment B1). • Well drilling, well construction, aquifer testing, and development of a remediation system were not elements of the remedy at CU 19-001-99.
XI.C.7 Field Investigation Results	• Discussion of pilot test results • Presentation of logging activities • Presentation of construction details	• A remediation system was not an element of the remedy at CU 19-001-99. • Geological/geophysical logging was not an element of the remedy at CU 19-001-99. • No construction activities were conducted as part of the remedy at CU 19-001-99.
XI.C.7.b Exploratory Drilling or Excavation Investigations	• Discussion of boring and test pit logs of all exploratory borings and test pits	• Exploratory drilling and test pit construction were not elements of the remedy at CU 19-001-99.
XI.C.7.c Exploratory and Monitoring Well Boring Geophysical Logging	• Discussion of geophysical logging	• Geological/geophysical logging was not an element of the remedy at CU 19-001-99.
XI.C.7.e Monitoring Well Construction and Boring or Excavation Abandonment	• Description of monitoring well construction • Description of abandonment activities of exploratory borings and excavations.	• Monitoring wells were not installed as part of the remedy at CU 19-001-99. • Exploratory drilling and test pit construction were not elements of the remedy at CU 19-001-99.

Table 1.2-1 (continued)

NMED Compliance Order on Consent Reporting Requirement	Element(s) Excluded from CU 19-001-99 Completion Report	Justification for Exclusion
XI.C.7.f Groundwater Conditions	• Groundwater characterization	• Groundwater characterization was not an element of the remedy at CU 19-001-99.
XI.C.7.h Surface Air and Subsurface Vapor Conditions	• Discussion of surface air and subsurface vapor characterization and monitoring	• Surface or subsurface air and vapor characterization/monitoring was not an element of the remedy at CU 19-001-99.
XI.C.7.i Materials Testing Results	• Description of materials testing	• Materials testing was not an element of the remedy at CU 19-001-99.
XI.C.7.j Pilot Testing Results	• Description of pilot testing	• Pilot testing was not an element of the remedy at CU 19-001-99.
XI.C.9.d Groundwater Sampling	• Discussion of groundwater sampling	• Groundwater sampling was not an element of the remedy at CU 19-001-99.
XI.C.9.e Groundwater General Chemistry	• Discussion of groundwater general chemistry	• Groundwater sampling was not an element of the remedy at CU 19-001-99.
XI.C.9.f Groundwater Chemical Analytical Results	• Presentation of groundwater chemical analytical results	• Groundwater sampling was not an element of the remedy at CU 19-001-99.
XI.C.9.g Surface Water Sampling	• Surface water sampling	• Surface water sampling was not an element of the remedy at CU 19-001-99.
XI.C.9.h Surface Water General Chemistry	• Discussion of surface water general chemistry	• Surface water sampling was not an element of the remedy at CU 19-001-99.
XI.C.9.i Surface Water Chemical Analytical Results	• Presentation of surface water chemical analytical results	• Surface water sampling was not an element of the remedy at CU 19-001-99.
XI.C.9.j Air and Subsurface Vapor Sampling	• Discussion of surface air and subsurface vapor sampling	• Surface or subsurface air and vapor sampling was not an element of the remedy at CU 19-001-99.
XI.C.9.k Air and Subsurface Vapor Screening Results	• Discussion of surface air and subsurface vapor screening sample results	• Surface or subsurface air and vapor sampling was not an element of the remedy at CU 19-001-99.

CU = Consolidated unit
NMED =New Mexico Environment Department

Table 2.5-1
Historical Soil and Tuff Samples Collected for Fixed Laboratory Analysis, CU 19-001-99

Sample ID	Location ID	SWMU	Depth (ft bgs)	Medium	Collection Date[b]	Requested Analyses[a]			
						TAL Metals	SVOCs	VOCs	Gamma Spectroscopy
0119-95-0002	19-01001	19-002	0–0.5	Soil	6/22/1995	—	548	548	550
0119-95-0003	19-01002	19-002	0–0.5	Soil	6/22/1995	—	548	548	550
0119-95-0024	19-01022	19-002	0–0.5	Soil	8/29/1995	—	—	1019	—
0119-95-0025	19-01023	19-002	0–0.5	Soil	8/29/1995	—	—	1019	—
0119-95-0026	19-01024	19-002	0–0.5	Soil	8/29/1995	—	—	1019	—
0119-97-0051	19-01251	C-19-001	0–0.5	Soil	6/17/1997	3254R	—	3253R	3255R
0119-97-0057	19-01251	C-19-001	0–0.5	Soil	6/20/1997	—-	3256R	—	—
0119-97-0052	19-01252	C-19-001	0–0.5	Soil	6/17/1997	3254R	3253R	3253R	3255R
0119-97-0053	19-01253	C-19-001	0–0.5	Soil	6/16/1997	3254R	3253R	3253R	3255R
0119-97-0054	19-01254	C-19-001	0–0.5	Soil	6/17/1997	3254R	3253R	3253R	3255R
0119-97-0056	19-01255	C-19-001	0–0.5	Soil	6/17/1997	3254R	3253R	3253R	3255R
0119-97-0055	19-01256	C-19-001	0–0.5	Soil	6/17/1997	3254R	3253R	3253R	3255R
0119-97-0058	19-01258	19-001	5–5.3	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0059	19-01259	19-001	5–5.3	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0060	19-01260	19-001	5–5.3	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0061	19-01261	19-001	4.5–4.8	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0062	19-01262	19-001	4.5–4.8	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0063	19-01263	19-003	3–3.3	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0077	19-01263	19-003	3–3.3	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0073	19-01263	19-003	4–4.3	Tuff	7/17/1997	3424R	3423R	3423R	3425R
0119-97-0064	19-01264	19-003	3–3.3	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0065	19-01265	19-003	3–3.3	Tuff	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0066	19-01266	19-002/19-003	0–0.25	Soil	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0067	19-01267	19-002/19-003	0–0.25	Soil	7/15/1997	3386R	3385R	3385R	3387R

Table 2.5-1 (continued)

Sample ID	Location ID	SWMU	Depth (ft bgs)	Medium	Collection Date[b]	Requested Analyses[a]			
						TAL Metals	SVOCs	VOCs	Gamma Spectroscopy
0119-97-0068	19-01268	19-001	0–0.25	Soil	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0069	19-01269	19-001	0–0.25	Soil	7/15/1997	3386R	3385R	3385R	3387R
0119-97-0071	19-01271	19-001	10–10.5	Tuff	7/17/1997	3424R	3423R	3423R	3425R
0119-97-0072	19-01272	19-001	10–10.5	Tuff	7/17/1997	3424R	3423R	3423R	3425R
0119-97-0076	19-01272	19-003	10–10.5	Tuff	7/17/1997	3424R	3423R	3423R	3425R

[a] Analysis request numbers provided.

[b] Samples collected in 1995 as part of VCA (LANL 1996, 05269). Samples collected in 1997 as part of RFI (LANL 1997, 71468).

— denotes analytical sampling not performed for this sample.

bgs = Below ground surface
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
LANL = Los Alamos National Laboratory
RCRA = Resource Conservation and Recovery Act
RFI = RCRA facility investigation
SVOC = Semivolatile organic chemical
SWMU = Solid waste management unit
TAL = Target Analyte List
VCA = Voluntary corrective action
VOC = Volatile organic chemical

Table 2.5-2
Summary of COPCs, CU 19-001-99 Historical Data

Chemical	Soil	Tuff	Rationale
Inorganic Chemicals			
Aluminum	—	—	Eliminated for soil and tuff because detected concentrations did not exceed established BVs
Antimony	X	X	Retained for soil and tuff because detection limits exceeded established BVs
Arsenic	—	X	Retained for tuff because detected concentrations exceeded established BV
Barium	—	X	Retained for tuff because detected concentrations exceeded established BV
Beryllium	—	—	Eliminated for soil and tuff because detected concentrations did not exceed established BVs
Cadmium	X	—	Retained for soil because detected concentrations exceeded established BV
Cobalt	—	—	Eliminated for soil and tuff because detected concentrations did not exceed established BVs
Copper	X	—	Retained for soil because detected concentrations exceeded established BV
Iron	—	—	Eliminated for soil and tuff because detected concentrations did not exceed established BVs
Lead	X	—	Retained for soil because detected concentrations exceeded established BV
Manganese	X	—	Retained for soil because detected concentrations exceeded established BV
Mercury	X	—	Retained for soil because detected concentrations exceeded established BV
Nickel	—	—	Eliminated for soil and tuff because detected concentrations did not exceed established BVs
Selenium	—	X	Retained for tuff because detected concentrations exceeded established BV
Silver	X	—	Retained for soil because detection limits exceeded established BV
Thallium	X	—	Retained for soil because detection limits exceeded established BV
Vanadium	—	—	Eliminated for soil and tuff because detected concentrations did not exceed established BVs
Zinc	X	X	Retained for soil and tuff because detected concentrations exceeded established BVs
Radionuclides			
Americium-241	—	—	Eliminated for soil and tuff because there were no detected activities
Cesium-134	—	—	Eliminated for soil and tuff because there were no detected activities
Cesium-137	X	X	Retained for soil and tuff because detected activities exceeded established BVs

Table 2.5-2 (continued)

Chemical	Soil	Tuff	Rationale
Cobalt-60	—	—	Eliminated for soil and tuff because there were no detected activities
Europium-152	X	—	Retained for soil because detected activities exceeded established BVs
Ruthenium-106	—	—	Eliminated for soil and tuff because there were no detected activities
Sodium-22	—	—	Eliminated for soil and tuff because there were no detected activities
Uranium-235	—	—	Eliminated for soil and tuff because there were no detected activities
Organic Chemicals			
Acenaphthene	X	X	Retained for soil and tuff because concentrations were detected
Acenaphthylene	X	—	Retained for soil because concentrations were detected
Acetone	X	X	Retained for soil and tuff because concentrations were detected
Anthracene	—	X	Retained for tuff because concentrations were detected
Benzo(a)anthracene	X	X	Retained for soil and tuff because concentrations were detected
Benzo(a)pyrene	—	X	Retained for tuff because concentrations were detected
Benzo(b)fluoranthene	X	X	Retained for soil and tuff because concentrations were detected
Benzo(g,h,i)perylene	—	X	Retained for tuff because concentrations were detected
Benzo(k)fluoranthene	—	X	Retained for tuff because concentrations were detected
Bis(2-ethylhexyl)phthalate	X	X	Retained for soil and tuff because concentrations were detected
Butanone[2-]	X	—	Retained for soil because concentrations were detected
Carbazole	X	X	Retained for soil and tuff because concentrations were detected
Chrysene	X	X	Retained for soil and tuff because concentrations were detected
Dibenz(a,h)anthracene	—	X	Retained for tuff because concentrations were detected
Dibenzofuran	X	X	Retained for soil and tuff because concentrations were detected
Dichloroethene[1,1-]	X	—	Retained for soil because concentrations were detected
Fluoranthene	X	X	Retained for soil and tuff because concentrations were detected
Fluorene	X	X	Retained for soil and tuff because concentrations were detected
Indeno(1,2,3-cd)pyrene	—	X	Retained for tuff because concentrations were detected
Methylene Chloride	X	X	Retained for soil and tuff because concentrations were detected

Table 2.5-2 (continued)

Chemical	Soil	Tuff	Rationale
Methylnaphthalene[2-]	X	X	Retained for soil and tuff because concentrations were detected
Naphthalene	X	X	Retained for soil and tuff because concentrations were detected
Phenanthrene	X	X	Retained for soil and tuff because concentrations were detected
Pyrene	X	X	Retained for soil and tuff because concentrations were detected
Toluene	X	—	Retained for soil because concentrations were detected
Trichloro-1,2,2-triflouoroethane[1,1,2-]	X	—	Retained for soil because concentrations were detected

X denotes chemical was retained as a COPC.
— denotes chemical was eliminated as a COPC.
BV = Background value
COPC = Chemical of potential concern
CU = Consolidated unit

Table 2.5-3
Historical Inorganic Chemical Data Summary, CU 19-001-99

Chemical	Medium	Number of Analyses	Number of Detections	Concentration Range[a] (mg/kg)	LANL BV[b] (mg/kg)	Frequency of Detection (%)
Aluminum	Soil	10	10	2,100 to 8,300	29,200	100
	Tuff	11	11	793 to 4,990	7340	100
Antimony	Soil	10	0	[4.53] to [11.0]	0.83	0
	Tuff	11	0	[0.70] to [4.99]	0.50	0
Arsenic	Soil	10	10	1 to 6.7	8.17	100
	Tuff	11	11	0.56 to 3.26	2.79	100
Barium	Soil	10	10	35.7 to 140	295	100
	Tuff	11	11	27.0 to 82.0	46.0	100
Beryllium	Soil	10	9	0.42 to 0.94	1.83	90
	Tuff	11	4	[0.34] to 0.90	1.21	36.4
Cadmium	Soil	10	2	[0.49] to 10.3	0.40	20
	Tuff	11	0	[0.08] to [0.50]	1.63	0
Calcium	Soil	10	10	1,510 to 10,000	6120	100
	Tuff	11	11	1,830 to 27,400	2200	100
Chromium	Soil	10	10	2.00 to 6.30	19.3	100
	Tuff	11	10	[0.98] to 2.50	7.14	90.9
Cobalt	Soil	10	10	1.40 to 3.40	8.64	100
	Tuff	11	4	[0.84] to 1.70	3.14	36.4
Copper	Soil	10	10	2.80 to 128	14.7	100
	Tuff	11	11	1.20 to 2.89	4.66	100
Iron	Soil	10	10	2,340 to 8,800	21,500	100
	Tuff	11	11	1,030 to 4,400	14,500	100
Lead	Soil	10	10	11.0 to 173	22.3	100
	Tuff	11	11	4.49 to 11.0	11.2	100
Magnesium	Soil	10	10	500 to 1900	4610	100
	Tuff	11	11	549 to 4,390	1690	100
Manganese	Soil	10	10	102 to 6210	671	100
	Tuff	11	11	47.7 to 113	482	100
Mercury	Soil	10	2	[0.05] to 3.31	0.10	20
	Tuff	11	2	[0.02] to 0.06	0.10	18.2
Nickel	Soil	10	9	[2.10] to 7.24	15.4	90
	Tuff	11	11	1.87 to 4.00	6.58	100
Potassium	Soil	10	10	409 to 1600	3460	100
	Tuff	11	11	242 to 905	3500	100
Selenium	Soil	10	0	[0.23] to [0.33]	1.52	0
	Tuff	11	1	[0.20] to [0.57]	0.30	9.1

Table 2.5-3 (continued)

Chemical	Medium	Number of Analyses	Number of Detections	Concentration Range[a] (mg/kg)	LANL BV[b] (mg/kg)	Frequency of Detection (%)
Silver	Soil	10	0	[0.45] to [2.20]	1.00	0
	Tuff	11	0	[0.25] to [0.50]	1.00	0
Sodium	Soil	10	10	73.0 to 315	915	100
	Tuff	11	11	84.9 to 760	2770	100
Thallium	Soil	10	0	[0.18] to [1.10]	0.73	0
	Tuff	11	0	[0.16] to [0.46]	1.10	0
Vanadium	Soil	10	10	4.70 to 13.0	39.6	100
	Tuff	11	11	3.20 to 7.30	17.0	100
Zinc	Soil	10	10	30.0 to 6380	48.8	100
	Tuff	11	11	5.73 to 102	63.5	100

[a] [#] denotes value is a nondetection; sample QL is shown.
[b] LANL (1998, 59730).
BV = Background value
CU = Consolidated unit
LANL = Los Alamos National Laboratory
mg/kg = Milligram(s) per kilogram.
QL = Quantitation limit

Table 2.5-4
Historical Analytical Results of Inorganic Chemicals above BVs, CU 19-001-99

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration[a] (mg/kg)	LANL BV[b] (mg/kg)
Antimony	0–0.5	Soil	19-01251	0119-97-0051	[10] (UJ)	0.83
	0–0.5	Soil	19-01255	0119-97-0056	[10] (UJ)	0.83
	0–0.5	Soil	19-01252	0119-97-0052	[11] (UJ)	0.83
	0–0.5	Soil	19-01253	0119-97-0053	[11] (UJ)	0.83
	0–0.5	Soil	19-01254	0119-97-0054	[11] (UJ)	0.83
	0–0.5	Soil	19-01256	0119-97-0055	[11] (UJ)	0.83
	0–0.25	Soil	19-01266	0119-97-0066	[4.53] (U)	0.83
	0–0.25	Soil	19-01267	0119-97-0067	[4.59] (U)	0.83
	0–0.25	Soil	19-01268	0119-97-0068	[4.9] (U)	0.83
	0–0.25	Soil	19-01269	0119-97-0069	[4.9] (U)	0.83
	10–10.5	Tuff	19-01271	0119-97-0071	[0.7] (U)	0.50
	10–10.5	Tuff	19-01272	0119-97-0072	[0.7] (U)	0.50
	4–4.3	Tuff	19-01263	0119-97-0073	[0.71] (U)	0.50
	3–3.3	Tuff	19-01263	0119-97-0063	[4.19] (U)	0.50
	4.5–4.8	Tuff	19-01262	0119-97-0062	[4.21] (U)	0.50
	5–5.3	Tuff	19-01260	0119-97-0060	[4.69] (U)	0.50
	4.5–4.8	Tuff	19-01261	0119-97-0061	[4.72] (U)	0.50
	3–3.3	Tuff	19-01264	0119-97-0064	[4.86] (U)	0.50
	5–5.3	Tuff	19-01259	0119-97-0059	[4.89] (U)	0.50
	3–3.3	Tuff	19-01265	0119-97-0065	[4.92] (U)	0.50
	5–5.3	Tuff	19-01258	0119-97-0058	[4.99] (U)	0.50
Arsenic	4–4.3	Tuff	19-01263	0119-97-0073	3.1	2.79
	3–3.3	Tuff	19-01265	0119-97-0065	3.26 (J-)	2.79
Barium	10–10.5	Tuff	19-01272	0119-97-0072	46.5	46.0
	3–3.3	Tuff	19-01263	0119-97-0063	48.5	46.0
	3–3.3	Tuff	19-01264	0119-97-0064	55	46.0
	5–5.3	Tuff	19-01260	0119-97-0060	59.7	46.0
	3–3.3	Tuff	19-01265	0119-97-0065	70.8	46.0
	4–4.3	Tuff	19-01263	0119-97-0073	82	46.0

Table 2.5-4 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration[a] (mg/kg)	LANL BV[b] (mg/kg)
Cadmium	0–0.25	Soil	19-01267	0119-97-0067	1.36	0.40
	0–0.25	Soil	19-01266	0119-97-0066	10.3	0.40
	0–0.25	Soil	19-01268	0119-97-0068	[0.49] (U)	0.40
	0–0.25	Soil	19-01269	0119-97-0069	[0.49] (U)	0.40
	0–0.5	Soil	19-01251	0119-97-0051	[0.52] (U)	0.40
	0–0.5	Soil	19-01255	0119-97-0056	[0.52] (U)	0.40
	0–0.5	Soil	19-01252	0119-97-0052	[0.53] (U)	0.40
	0–0.5	Soil	19-01253	0119-97-0053	[0.53] (U)	0.40
	0–0.5	Soil	19-01254	0119-97-0054	[0.54] (U)	0.40
	0–0.5	Soil	19-01256	0119-97-0055	[0.56] (U)	0.40
Copper	0–0.25	Soil	19-01268	0119-97-0068	17.8	14.7
	0–0.25	Soil	19-01267	0119-97-0067	20.5	14.7
	0–0.25	Soil	19-01266	0119-97-0066	128	14.7
Lead	0–0.5	Soil	19-01256	0119-97-0055	27	22.3
	0–0.25	Soil	19-01267	0119-97-0067	68.6	22.3
	0–0.25	Soil	19-01266	0119-97-0066	173 (J+)	22.3
	0–0.25	Soil	19-01268	0119-97-0068	32.9 (J+)	22.3
Manganese	0–0.25	Soil	19-01267	0119-97-0067	1,790 (J-)	671
	0–0.25	Soil	19-01266	0119-97-0066	6,210 (J-)	671
Mercury	0–0.25	Soil	19-01267	0119-97-0067	0.464	0.10
	0–0.25	Soil	19-01266	0119-97-0066	3.31	0.10
	0–0.5	Soil	19-01252	0119-97-0052	[0.11] (U)	0.10
	0–0.5	Soil	19-01253	0119-97-0053	[0.11] (U)	0.10
	0–0.5	Soil	19-01254	0119-97-0054	[0.11] (U)	0.10
	0–0.5	Soil	19-01256	0119-97-0055	[0.11] (U)	0.10
Selenium	3–3.3	Tuff	19-01265	0119-97-0065	0.387 (J)	0.30
	10–10.5	Tuff	19-01271	0119-97-0071	[0.56] (U)	0.30
	10–10.5	Tuff	19-01272	0119-97-0072	[0.56] (U)	0.30
	4–4.3	Tuff	19-01263	0119-97-0073	[0.57] (U)	0.30
Silver	0–0.5	Soil	19-01251	0119-97-0051	[2.1] (U)	1.00
	0–0.5	Soil	19-01252	0119-97-0052	[2.1] (U)	1.00
	0–0.5	Soil	19-01253	0119-97-0053	[2.1] (U)	1.00
	0–0.5	Soil	19-01255	0119-97-0056	[2.1] (U)	1.00
	0–0.5	Soil	19-01254	0119-97-0054	[2.2] (U)	1.00
	0–0.5	Soil	19-01256	0119-97-0055	[2.2] (U)	1.00

Table 2.5-4 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration[a] (mg/kg)	LANL BV[b] (mg/kg)
Thallium	0–0.5	Soil	19-01251	0119-97-0051	[1] (UJ)	0.73
	0–0.5	Soil	19-01255	0119-97-0056	[1] (UJ)	0.73
	0–0.5	Soil	19-01252	0119-97-0052	[1.1] (UJ)	0.73
	0–0.5	Soil	19-01253	0119-97-0053	[1.1] (UJ)	0.73
	0–0.5	Soil	19-01254	0119-97-0054	[1.1] (UJ)	0.73
	0–0.5	Soil	19-01256	0119-97-0055	[1.1] (UJ)	0.73
Zinc	0–0.5	Soil	19-01256	0119-97-0055	51	48.8
	0–0.25	Soil	19-01267	0119-97-0067	2,540	48.8
	0–0.25	Soil	19-01266	0119-97-0066	6,380	48.8
	10–10.5	Tuff	19-01271	0119-97-0071	102	63.5

[a] [#] denotes value is a nondetection; sample QL is shown.
[b] LANL (1998, 59730).

bgs = Below ground surface
BV = Background value
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
J = The analytical result was estimated.
J+ = The chemical was positively identified and the result is likely biased high
J- = The chemical was positively identified and the result is likely biased low
LANL = Los Alamos National Laboratory
mg/kg = Milligram(s) per kilogram
QL = Quantitation limit
U = Analytical result was not detected
UJ = Analytical result was not detected and the value shown is estimated

Table 2.5-5
Historical Radionuclide Chemical Data Summary, CU 19-001-99

Radionuclide	Medium	Number of Analyses	Number of Detections	Activity Range[a] (pCi/g)	LANL BV or FV[b] (pCi/g)	Frequency of Detection (%)
Americium-241	Soil	12	0	[0.02] to [0.14]	0.013	0
	Tuff	11	0	[–0.22] to [0.20]	NA	0
Cesium-134	Soil	4	0	[–0.01] to [0.04]	NA	0
	Tuff	11	0	[–0.03] to [0.04]	NA	0
Cesium-137	Soil	12	12	0.21 to 5.85	1.65	100
	Tuff	11	1	[–0.03] to 0.14	NA	9.1
Cobalt-60	Soil	12	0	[–0.09] to [0.05]	NA	0
	Tuff	11	0	[–0.05] to [0.04]	NA	0
Europium-152	Soil	12	1	[–0.24] to [0.35]	NA	8.3
	Tuff	11	0	[–0.11] to [0.70]	NA	0
Ruthenium-106	Soil	12	0	[–0.71] to [0.16]	NA	0
	Tuff	11	0	[–0.31] to [0.25]	NA	0
Sodium-22	Soil	12	0	[–0.06] to [0.03]	NA	0
	Tuff	11	0	[–0.03] to [0.03]	NA	0
Uranium-235	Soil	4	0	[–0.08] to [0.31]	0.20	0
	Tuff	11	0	[0.01] to [0.88]	0.09	0

[a] [#] denotes value is a nondetection; MDA is shown.
[b] LANL (1998, 59730).
BV = Background value
CU = Consolidated unit
FV = Fallout value
LANL = Los Alamos National Laboratory
MDA = Minimum detectable activity
pCi/g = Picocuries(s) per gram
NA = Not applicable

Table 2.5-6
Historical Analytical Results of Radionuclides above BVs/FVs, CU 19-001-99

Radionuclide	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Activity (pCi/g)	LANL BV or FV[a] (pCi/g)
Cesium-137	0–0.25	Soil	19-01267	0119-97-0067	2.08	1.65
Cesium-137	0–0.25	Soil	19-01266	0119-97-0066	2.49	1.65
Cesium-137	0–0.25	Soil	19-01268	0119-97-0068	5.85	1.65
Cesium-137	3–3.3	Tuff	19-01264	0119-97-0064	0.14	NA
Europium-152	0–0.5	Soil	19-01001	0119-95-0002	0.201	NA

[a] LANL (1998, 59730).

bgs = Below ground surface
BV = Background value
CU = Consolidated unit
ft = Foot (feet)
FV = Fallout value
ID = Identification
LANL = Los Alamos National Laboratory
NA = Not applicable
pCi/g = Picocuries per gram

Table 2.5-7
Historical Organic Chemical Data Summary, CU 19-001-99

Chemical	Medium	Number of Analyses	Number of Detections	Concentration Range[a] (mg/kg)	EQL (mg/kg)	Frequency of Detection (%)
Acenaphthene	Soil	12	1	0.14 to [3.40]	3.40	8.3
	Tuff	11	3	[0.33] to 6.60	0.34	27.3
Acenaphthylene	Soil	12	1	0.07 to [3.40]	3.40	8.3
Acetone	Soil	15	1	[0.01] to 0.20	0.04	6.7
	Tuff	11	3	[0.002] to 0.04	0.02	27.3
Anthracene	Tuff	11	4	0.04 to 8.80	0.34	36.4
Benzo(a)anthracene	Soil	12	1	0.19 to [3.40]	3.40	8.3
	Tuff	11	6	0.07 to 15.0	0.34	54.5
Benzo(a)pyrene	Tuff	11	5	0.07 to 13.0	0.34	45.5
Benzo(b)fluoranthene	Soil	12	3	[0.09] to [3.40]	3.40	25
	Tuff	11	5	0.09 to 16.0	0.34	45.5
Benzo(g,h,i)perylene	Tuff	11	3	[0.33] to 4.10	0.34	27.3
Benzo(k)fluoranthene	Tuff	11	3	0.18 to 5.70	0.34	27.3
Bis(2-ethylhexyl)phthalate	Soil	12	1	[0.07] to [3.40]	3.40	8.3
	Tuff	11	3	0.14 to 0.36	0.34	27.3
Butanone[2-]	Soil	15	2	0.002 to [0.02]	0.02	13.3
Carbazole	Soil	5	2	0.05 to [0.68]	0.68	40
	Tuff	8	3	[0.33] to 3.80	0.34	37.5
Chrysene	Soil	12	3	[0.12] to [3.40]	3.40	25
	Tuff	11	6	0.08 to 14.0	0.34	54.5
Dibenz(a,h)anthracene	Tuff	11	2	[0.33] to 1.40	0.34	18.2
Dibenzofuran	Soil	12	3	0.04 to [3.40]	3.40	25
	Tuff	11	3	0.16 to 2.40	0.34	27.3
Dichloroethene[1,1-]	Soil	15	1	0.003 to [0.006]	0.006	6.7
Fluoranthene	Soil	11	4	0.13 to 2.60	0.36	36.4
	Tuff	11	9	0.05 to 27.0	0.34	81.8
Fluorene	Soil	12	1	0.19 to [3.40]	3.40	8.3
	Tuff	11	3	[0.33] to 3.50	0.34	27.3
Indeno(1,2,3-cd)pyrene	Tuff	11	3	[0.33] to 4.90	0.34	27.3
Methylene Chloride	Soil	15	4	[0.003] to 0.012	0.006	26.7
	Tuff	11	9	0.003 to 0.009	0.005	81.8
Methylnaphthalene[2-]	Soil	12	2	0.33 to [3.40]	3.40	16.7
	Tuff	11	3	0.04 to 1.10	0.34	27.3
Naphthalene	Soil	14	2	[0.005] to [3.40]	3.40	14.3
	Tuff	11	3	0.06 to 2.00	0.34	27.3

Table 2.5-7 (continued)

Chemical	Medium	Number of Analyses	Number of Detections	Concentration Range[a] (mg/kg)	EQL (mg/kg)	Frequency of Detection (%)
Phenanthrene	Soil	11	3	[0.19] to 3.20	0.68	27.3
	Tuff	11	9	0.04 to 26.0	0.34	81.8
Pyrene	Soil	12	4	0.13 to [3.40]	3.40	33.3
	Tuff	11	10	0.04 to 25.0	0.34	90.9
Toluene	Soil	15	7	0.004 to 0.21	0.006	46.7
Trichloro-1,2,2-trifluoroethane[1,1,2-]	Soil	12	1	[0.003] to [0.006]	0.006	8.3

[a] [#] denotes value is a nondetection; sample QL is shown.

CU = Consolidated unit
EQL = Estimated quantitation limit
mg/kg = Milligram(s) per kilogram
QL = Quantitation limit

Table 2.5-8
Historical Analytical Results of Detected Organic Chemicals, CU 19-001-99

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Acenaphthene	0–0.25	Soil	19-01268	0119-97-0068	0.14 (J)
Acenaphthene	4.5–4.8	Tuff	19-01261	0119-97-0061	0.34
Acenaphthene	5–5.3	Tuff	19-01258	0119-97-0058	5.7
Acenaphthene	3–3.3	Tuff	19-01264	0119-97-0064	6.6
Acenaphthylene	0–0.25	Soil	19-01268	0119-97-0068	0.072 (J)
Acetone	0–0.5	Soil	19-01255	0119-97-0056	0.2 (J+)
Acetone	10–10.5	Tuff	19-01271	0119-97-0071	0.034
Acetone	10–10.5	Tuff	19-01272	0119-97-0072	0.041
Acetone	4–4.3	Tuff	19-01263	0119-97-0073	0.044
Anthracene	4.5–4.8	Tuff	19-01261	0119-97-0061	1
Anthracene	5–5.3	Tuff	19-01258	0119-97-0058	7.6
Anthracene	3–3.3	Tuff	19-01264	0119-97-0064	8.8
Anthracene	5–5.3	Tuff	19-01259	0119-97-0059	0.038 (J)
Benzo(a)anthracene	0–0.25	Soil	19-01268	0119-97-0068	0.19 (J)
Benzo(a)anthracene	4–4.3	Tuff	19-01263	0119-97-0073	0.2
Benzo(a)anthracene	10–10.5	Tuff	19-01272	0119-97-0072	0.25
Benzo(a)anthracene	4.5–4.8	Tuff	19-01261	0119-97-0061	1.8
Benzo(a)anthracene	5–5.3	Tuff	19-01258	0119-97-0058	13
Benzo(a)anthracene	5–5.3	Tuff	19-01259	0119-97-0059	0.074 (J)
Benzo(a)anthracene	3–3.3	Tuff	19-01264	0119-97-0064	15 (J)
Benzo(a)pyrene	10–10.5	Tuff	19-01272	0119-97-0072	0.19
Benzo(a)pyrene	4.5–4.8	Tuff	19-01261	0119-97-0061	1.5
Benzo(a)pyrene	5–5.3	Tuff	19-01258	0119-97-0058	13
Benzo(a)pyrene	3–3.3	Tuff	19-01264	0119-97-0064	13
Benzo(a)pyrene	5–5.3	Tuff	19-01259	0119-97-0059	0.07 (J)
Benzo(b)fluoranthene	0–0.25	Soil	19-01267	0119-97-0067	0.14 (J)
Benzo(b)fluoranthene	0–0.25	Soil	19-01269	0119-97-0069	0.17 (J)
Benzo(b)fluoranthene	0–0.25	Soil	19-01268	0119-97-0068	0.77 (J)
Benzo(b)fluoranthene	10–10.5	Tuff	19-01272	0119-97-0072	0.19
Benzo(b)fluoranthene	4.5–4.8	Tuff	19-01261	0119-97-0061	2.4
Benzo(b)fluoranthene	3–3.3	Tuff	19-01264	0119-97-0064	14
Benzo(b)fluoranthene	5–5.3	Tuff	19-01258	0119-97-0058	16
Benzo(b)fluoranthene	5–5.3	Tuff	19-01259	0119-97-0059	0.089 (J)
Benzo(g,h,i)perylene	4.5–4.8	Tuff	19-01261	0119-97-0061	0.65
Benzo(g,h,i)perylene	3–3.3	Tuff	19-01264	0119-97-0064	4
Benzo(g,h,i)perylene	5–5.3	Tuff	19-01258	0119-97-0058	4.1

Table 2.5-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Benzo(k)fluoranthene	10–10.5	Tuff	19-01272	0119-97-0072	0.18
Benzo(k)fluoranthene	5–5.3	Tuff	19-01258	0119-97-0058	5.1
Benzo(k)fluoranthene	3–3.3	Tuff	19-01264	0119-97-0064	5.7
Bis(2-ethylhexyl)phthalate	0–0.25	Soil	19-01268	0119-97-0068	0.14 (J)
Bis(2-ethylhexyl)phthalate	3–3.3	Tuff	19-01264	0119-97-0064	0.14 (J)
Bis(2-ethylhexyl)phthalate	4.5–4.8	Tuff	19-01261	0119-97-0061	0.16 (J)
Bis(2-ethylhexyl)phthalate	5–5.3	Tuff	19-01258	0119-97-0058	0.36 (J)
Butanone[2-]	0–0.25	Soil	19-01267	0119-97-0067	0.002 (J)
Butanone[2-]	0–0.25	Soil	19-01266	0119-97-0066	0.003 (J)
Carbazole	0–0.25	Soil	19-01269	0119-97-0069	0.051 (J)
Carbazole	0–0.25	Soil	19-01268	0119-97-0068	0.21 (J)
Carbazole	4.5–4.8	Tuff	19-01261	0119-97-0061	0.79
Carbazole	5–5.3	Tuff	19-01258	0119-97-0058	3.2
Carbazole	3–3.3	Tuff	19-01264	0119-97-0064	3.8
Chrysene	0–0.5	Soil	19-01252	0119-97-0052	0.56
Chrysene	0–0.25	Soil	19-01268	0119-97-0068	0.7600001
Chrysene	0–0.25	Soil	19-01269	0119-97-0069	0.2 (J)
Chrysene	4–4.3	Tuff	19-01263	0119-97-0073	0.21
Chrysene	10–10.5	Tuff	19-01272	0119-97-0072	0.26
Chrysene	4.5–4.8	Tuff	19-01261	0119-97-0061	1.9
Chrysene	5–5.3	Tuff	19-01258	0119-97-0058	13
Chrysene	5–5.3	Tuff	19-01259	0119-97-0059	0.08 (J)
Chrysene	3–3.3	Tuff	19-01264	0119-97-0064	14 (J)
Dibenz(a,h)anthracene	5–5.3	Tuff	19-01258	0119-97-0058	1.4
Dibenz(a,h)anthracene	3–3.3	Tuff	19-01264	0119-97-0064	1.4
Dibenzofuran	0–0.25	Soil	19-01252	0119-97-0052	0.47
Dibenzofuran	0–0.25	Soil	19-01269	0119-97-0069	0.037 (J)
Dibenzofuran	0–0.25	Soil	19-01268	0119-97-0068	0.33 (J)
Dibenzofuran	5–5.3	Tuff	19-01258	0119-97-0058	2
Dibenzofuran	3–3.3	Tuff	19-01264	0119-97-0064	2.4
Dibenzofuran	4.5–4.8	Tuff	19-01261	0119-97-0061	0.16 (J)
Dichloroethene[1,1-]	0–0.5	Soil	19-01024	0119-95-0026	0.003 (J)
Fluoranthene	0–0.25	Soil	19-01269	0119-97-0069	0.6300001
Fluoranthene	0–0.5	Soil	19-01252	0119-97-0052	2
Fluoranthene	0–0.25	Soil	19-01268	0119-97-0068	2.6
Fluoranthene	0–0.25	Soil	19-01267	0119-97-0067	0.13 (J)
Fluoranthene	4–4.3	Tuff	19-01263	0119-97-0073	0.43

Table 2.5-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Fluoranthene	10–10.5	Tuff	19-01272	0119-97-0072	0.53
Fluoranthene	4.5–4.8	Tuff	19-01261	0119-97-0061	4
Fluoranthene	5–5.3	Tuff	19-01258	0119-97-0058	23
Fluoranthene	3–3.3	Tuff	19-01264	0119-97-0064	27
Fluoranthene	3–3.3	Tuff	19-01263	0119-97-0063	0.048 (J)
Fluoranthene	5–5.3	Tuff	19-01260	0119-97-0060	0.06 (J)
Fluoranthene	4.5–4.8	Tuff	19-01262	0119-97-0062	0.065 (J)
Fluoranthene	5–5.3	Tuff	19-01259	0119-97-0059	0.13 (J)
Fluorene	0–0.25	Soil	19-01268	0119-97-0068	0.19 (J)
Fluorene	4.5–4.8	Tuff	19-01261	0119-97-0061	0.35
Fluorene	5–5.3	Tuff	19-01258	0119-97-0058	3.2
Fluorene	3–3.3	Tuff	19-01264	0119-97-0064	3.5
Indeno(1,2,3-cd)pyrene	4.5–4.8	Tuff	19-01261	0119-97-0061	0.6300001
Indeno(1,2,3-cd)pyrene	3–3.3	Tuff	19-01264	0119-97-0064	4.8
Methylene Chloride	4.5–4.8	Tuff	19-01262	0119-97-0062	0.009
Methylene Chloride	5–5.3	Tuff	19-01259	0119-97-0059	0.003 (J)
Methylene Chloride	4.5–4.8	Tuff	19-01261	0119-97-0061	0.003 (J)
Methylene Chloride	5–5.3	Tuff	19-01258	0119-97-0058	0.003 (J)
Methylene Chloride	3–3.3	Tuff	19-01265	0119-97-0065	0.004 (J)
Methylene Chloride	5–5.3	Tuff	19-01260	0119-97-0060	0.004 (J)
Methylnaphthalene[2-]	0–0.25	Soil	19-01252	0119-97-0052	0.37
Methylnaphthalene[2-]	0–0.25	Soil	19-01268	0119-97-0068	0.33 (J)
Methylnaphthalene[2-]	5–5.3	Tuff	19-01258	0119-97-0058	1
Methylnaphthalene[2-]	3–3.3	Tuff	19-01264	0119-97-0064	1.1
Methylnaphthalene[2-]	4.5–4.8	Tuff	19-01261	0119-97-0061	0.041 (J)
Naphthalene	0–0.25	Soil	19-01268	0119-97-0068	1.4
Naphthalene	0–0.5	Soil	19-01252	0119-97-0052	1.7
Naphthalene	3–3.3	Tuff	19-01264	0119-97-0064	1.8
Naphthalene	5–5.3	Tuff	19-01258	0119-97-0058	2
Naphthalene	4.5–4.8	Tuff	19-01261	0119-97-0061	0.063 (J)
Phenanthrene	0–0.25	Soil	19-01269	0119-97-0069	0.58
Phenanthrene	0–0.5	Soil	19-01252	0119-97-0052	3.1
Phenanthrene	0–0.25	Soil	19-01268	0119-97-0068	3.2
Phenanthrene	4–4.3	Tuff	19-01263	0119-97-0073	0.32
Phenanthrene	10–10.5	Tuff	19-01272	0119-97-0072	0.39
Phenanthrene	4.5–4.8	Tuff	19-01261	0119-97-0061	3.4
Phenanthrene	5–5.3	Tuff	19-01258	0119-97-0058	23

Table 2.5-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Phenanthrene	3–3.3	Tuff	19-01264	0119-97-0064	26
Phenanthrene	3–3.3	Tuff	19-01263	0119-97-0063	0.038 (J)
Phenanthrene	5–5.3	Tuff	19-01260	0119-97-0060	0.047 (J)
Phenanthrene	4.5–4.8	Tuff	19-01262	0119-97-0062	0.056 (J)
Phenanthrene	5–5.3	Tuff	19-01259	0119-97-0059	0.12 (J)
Pyrene	0–0.25	Soil	19-01269	0119-97-0069	0.5
Pyrene	0–0.5	Soil	19-01252	0119-97-0052	1.8
Pyrene	0–0.25	Soil	19-01268	0119-97-0068	3
Pyrene	0–0.25	Soil	19-01267	0119-97-0067	0.13 (J)
Pyrene	4–4.3	Tuff	19-01263	0119-97-0073	0.31
Pyrene	10–10.5	Tuff	19-01272	0119-97-0072	0.39
Pyrene	4.5–4.8	Tuff	19-01261	0119-97-0061	3.1
Pyrene	5–5.3	Tuff	19-01258	0119-97-0058	24
Pyrene	3–3.3	Tuff	19-01263	0119-97-0063	0.042 (J)
Pyrene	4.5–4.8	Tuff	19-01262	0119-97-0062	0.058 (J)
Pyrene	3–3.3	Tuff	19-01265	0119-97-0065	0.06 (J)
Pyrene	5–5.3	Tuff	19-01260	0119-97-0060	0.061 (J)
Pyrene	5–5.3	Tuff	19-01259	0119-97-0059	0.13 (J)
Pyrene	3–3.3	Tuff	19-01264	0119-97-0064	25 (J)
Toluene	0–0.25	Soil	19-01268	0119-97-0068	0.004 (J)
Toluene	0–0.25	Soil	19-01266	0119-97-0066	0.004 (J)
Toluene	0–0.25	Soil	19-01269	0119-97-0069	0.005 (J)
Toluene	0–0.5	Soil	19-01255	0119-97-0056	0.01 (J+)
Toluene	0–0.25	Soil	19-01267	0119-97-0067	0.011 (J)
Toluene	0–0.5	Soil	19-01001	0119-95-0002	0.028 (J)
Toluene	0–0.5	Soil	19-01002	0119-95-0003	0.21 (J)
Trichloro-1,2,2-trifluoroethane[1,1,2-]	0–0.5	Soil	19-01002	0119-95-0003	0.005 (J)

bgs = Below ground surface
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
J = The analytical result is estimated
J+ = The chemical was positively identified and the result is likely biased high
mg/kg = Milligram(s) per kilogram

Table 3.0-1
Standard Operating Procedures and Quality Procedures for CU 19-001-99 Remedy[a]

Document Number	Title
SOP-01.01, R1, ICN2	General Instruction for Field Investigations
SOP-01.02, R1, ICN1	Sample Container and Preservation
SOP-01.03, R3, ICN1	Handling, Packaging, and Shipping of Samples
SOP-01.04, R5, ICN1	Sample Control and Field Documentation
SOP-01.05, R1, ICN1	Field Quality Control Samples
SOP-01.06, R2	Management of ER Project Wastes
SOP-01.08, R1	Field Decontamination of Drilling and Sampling Equipment
SOP-01.10, R1	Waste Characterization
SOP-01.12, R0, ICN1	Field Site Closeout Checklist
SOP-03.11, R2	Geodetic Surveys
SOP-06.09, R2	Spade and Scoop Method for Collection of Soil Samples
SOP-06.10, R3	Hand Auger and Thin-Wall Tube Sampler
SOP-10.01, R1	Screening for Polychlorinated Biphenyls in Soil
SOP-10.08, R2	Operation of the Spectrace 9000 Field-Portable X-Ray Fluorescence Instrument
SOP-12.01, R4	Field Logging, Handling, and Documentation of Borehole Materials
QP-2.2, R2, ICN2	Personnel Training Management
QP-3.4, R3	Corrective Action Process
QP-4.4, R2, ICN1	Record Transmittal to the Records Processing Facility
QP-4.12, R0	Documenting Oral Communications
QP-5.2, R0	Control of Measuring and Test Equipment
QP-5.3, R3, ICN2	Readiness Planning and Reviews
QP-5.7, R2, ICN1	Notebook Documentation for Environmental Restoration Technical Activities
QP-7.2, R0	Supplier Evaluation
QP-10.3, R0	Stop Work and Restart

[a] Available online at http://erproject.lanl.gov/documents/procedures

CU = Consolidated unit
ER = Environmental Restoration
QP = Quality procedure
SOP = Standard operating procedure

Table 3.2-1
Proposed and Actual Sampling Depths and Descriptions, CU 19-001-99

Proposed Depth[a] (ft bgs)	Location Description	Proposed Field Screening Analysis	Proposed Fixed Laboratory Analysis	Proposed/Actual Number of Samples		Deviations from Proposed Sampling
				Field Screening Analysis	Fixed Laboratory Analysis	
Surface (0–0.5) and Subsurface (3.5–4.0)	Surface and subsurface soil/tuff samples collected at 31 locations inside AOC C-19-001	PAHs, PCBs, XRF lead	VOCs, SVOCs, PCBs, pesticides, herbicides, dioxins/furans[b], radionuclides, TAL metals	62 / 62	13 / 13	• Original location 19-22599 is 0.5 ft south of gas line and was moved first 1.5 ft south of original location and second to 2.5 ft north of original location due to auger refusal. • Original location 19-22598 is 1 ft south of gas line and was moved 1 ft south of original location. • Original location 19-22618 was moved 2 ft to southeast due to auger refusal. • Location 19-22625 was collected 8 in. northwest of original location. • No samples from AOC C-19-001 were submitted for fixed laboratory analysis of dioxins/furans because PCBs were not detected during field screening.
Surface (0–0.5) and Subsurface (3.5–4.0)	Surface and subsurface soil/tuff samples collected from 5 locations on the northern slope of the mesa			10 / 10	10 / 10	• No samples from the north mesa slope characterization samples were submitted for fixed laboratory analysis of dioxins/furans because PCBs were not detected during field screening; two confirmation samples from the soil removal locations were submitted for fixed laboratory analysis of dioxins/furans[b].

Table 3.2-1 (continued)

Proposed Depth[a] (ft bgs)	Location Description	Proposed Field Screening Analysis	Proposed Fixed Laboratory Analysis	Proposed/Actual Number of Samples		Deviations from Proposed Sampling
				Field Screening Analysis	Fixed Laboratory Analysis	
Surface (0–0.5) and Subsurface (3.5–4.0)	Surface and subsurface soil/tuff samples collected from 3 locations on the southern slope of the mesa			6 / 6	6 / 6	• No samples from the south mesa slope were submitted for fixed laboratory analysis of dioxins/furans because PCBs were not detected during field screening.
Surface (0-0.5)	Surface soil/tuff samples collected after soil removal			4 / 4	4 / 4	• None
Surface (0–0.5) and Subsurface (3.5–4.0)	Field duplicate samples			8 / 8	3 / 4	• One additional field duplicate sample was collected based on LANL-ER-SOP-01.05, R.1 which states that field duplicate samples should be collected once per day per matrix type or 1 per 20 samples, whichever is more frequent.
Surface (0–0.5)	Surface soil/tuff samples collected from 20 historical VCA locations on the northern slope of the mesa[c]			20 / 20	4 / 5	• Historical sample location 19-01015 could not be located. New sample location 19-23269 was collected in place of historical location 19-01015. • One additional sample (location 19-01028) was submitted for fixed laboratory analysis due to potentially high field screening results for both lead and PAHs.

Table 3.2-1 (continued)

Proposed Depth[a] (ft bgs)	Location Description	Proposed Field Screening Analysis	Proposed Fixed Laboratory Analysis	Proposed / Actual Number of Samples		Deviations from Proposed Sampling
				Field Screening Analysis	Fixed Laboratory Analysis	
Surface (0–0.5)	Surface soil/tuff samples collected from 20 historical RFI locations on the mesa top[d]	PCBs	PCBs	20 / 14[c]	**4 / 4**	• Field screening for PCBs was not performed at the four upper north mesa slope historical RFI locations (locations 19-01266, -01267, -01268, and -01269) because it was determined that samples collected from the four historical VCA locations and the two soil removal locations provided adequate coverage of this area. • For health and safety reasons, field screening was not performed at two upper south mesa slope historical RFI locations (locations 19-01254 and -01255). • Location 19-01253 was on cliff edge of steep upper slope and the location was moved 29 ft to the northeast to current drainage area. • Location 19-01252 was on cliff edge of steep upper slope and the location was moved 26 ft to the northwest to current drainage area. • The locations of fixed laboratory analysis samples (based on upper 20% of screening results) were determined from the remaining 14 historical RFI sample locations on the mesa top and south mesa slope.

Table 3.2-1 (continued)

Proposed Depth[a] (ft bgs)	Location Description	Proposed Field Screening Analysis	Proposed Fixed Laboratory Analysis	Proposed / Actual Number of Samples		Deviations from Proposed Sampling
				Field Screening Analysis	Fixed Laboratory Analysis	
2 ft and 4 ft below soil/tuff interface	Additional subsurface samples collected 2 ft and 4 ft below the soil/tuff interface from 13 locations	None	SVOCs, PCBs, pesticides, herbicides, dioxins/furans[b], TAL metals	0 / 0	26 / 26	• The fixed analytical laboratory analyses requested depended on the results of previous analyses and the location of the samples in relation to both previous results and other sample locations. • The 13 locations sampled included 3 historical VCA locations (locations 19-01002, 19-01016, and 19-01028), 1 historical RFI location (location 19-01266), and 9 locations inside AOC C-19-001 (locations 19-22599, 19-22630, 19-22631, 19-22608, 19-22606, 19-22615, 19-22628, 19-22627, and 19-23266).
2 ft or 4 ft below soil/tuff interface	Field duplicate samples for additional subsurface sampling	None	SVOCs, PCBs, pesticides, herbicides, dioxins/furans[b], TAL metals	0 / 0	3 / 3	Three field duplicate samples were collected in order to collect 1 field duplicate per 10 samples.

[a] Depth of subsurface samples were proposed as 3.5–4.0 ft bgs or soil/tuff interface, whichever came first; depth of subsurface samples were typically shallower than 4.0 ft due to soil/tuff interface or auger refusal.

[b] NMED-approved work plan states that in the event that no PCBs are detected during field screening, samples from two of the confirmation locations associated with the outfall/mesa slope soil removals will be sent to a fixed laboratory for analysis of dioxins/furans. Two confirmation samples from the soil removal were sent to a fixed laboratory for dioxin/furan analysis.

[c] Proposed locations: 13 on mesa top, 4 on upper north mesa slope, and 3 on upper south mesa slope; actual locations: 13 on mesa top and 1 on upper south mesa slope.

[d] Field screening conducted to define the lateral extent of residual contamination detected during previous investigations.

Table 3.2-1 (continued)

AOC	= Area of concern
bgs	= Below ground surface
CU	= Consolidated unit
ft	= Foot (feet)
in.	= Inch(es)
NMED	= New Mexico Environment Department
PAH	= Polyaromatic hydrocarbon
PCB	= Polychlorinated biphenyl
RCRA	= Resource Conservation and Recovery Act
RFI	= RCRA facility investigation
SVOC	= Semivolatile organic chemical
TAL	= Target analyte list
VCA	= Voluntary corrective action
VOC	= Volatile organic chemical
XRF	= X-ray fluorescence

Table 3.2-2
Coordinates for Soil Sampling Locations, CU 19-001-99

Location ID	Depth (ft bgs)	Location	Location Type	Easting[a]	Northing[a]
19-22598	0–0.5	Mesa Top (AOC)	new	1641679.969	1774119.364
19-22599	0–0.5	Mesa Top (AOC)	new	1641712.085	1774119.364
19-22599	1.0–1.5	Mesa Top (AOC)	new	1641712.171	1774121.945
19-22600	0–0.5	Mesa Top (AOC)	new	1641663.911	1774091.55
19-22601	0–0.5	Mesa Top (AOC)	new	1641696.027	1774091.55
19-22602	0–0.5	Mesa Top (AOC)	new	1641728.142	1774091.55
19-22603	0–0.5	Mesa Top (AOC)	new	1641760.258	1774091.55
19-22604	0–0.5	Mesa Top (AOC)	new	1641792.374	1774091.55
19-22604	1.5–2.0	Mesa Top (AOC)	new	1641792.374	1774091.55
19-22605	0–0.5	Mesa Top (AOC)	new	1641824.49	1774091.55
19-22606	0–0.5	Mesa Top (AOC)	new	1641856.606	1774091.55
19-22607	0–0.5	Mesa Top (AOC)	new	1641647.853	1774063.737
19-22608	0–0.5	Mesa Top (AOC)	new	1641679.969	1774063.737
19-22609	0–0.5	Mesa Top (AOC)	new	1641712.085	1774063.737
19-22609	1.0–1.5	Mesa Top (AOC)	new	1641712.085	1774063.737
19-22610	0–0.5	Mesa Top (AOC)	new	1641744.2	1774063.737
19-22611	0–0.5	Mesa Top (AOC)	new	1641776.316	1774063.737
19-22612	0–0.5	Mesa Top (AOC)	new	1641808.432	1774063.737
19-22613	0–0.5	Mesa Top (AOC)	new	1641840.548	1774063.737
19-22614	0–0.5	Mesa Top (AOC)	new	1641872.664	1774063.737
19-22615	0–0.5	Mesa Top (AOC)	new	1641904.779	1774063.737
19-22616	0–0.5	Mesa Top (AOC)	new	1641663.911	1774035.924
19-22617	0–0.5	Mesa Top (AOC)	new	1641696.027	1774035.924
19-22618	0–0.5	Mesa Top (AOC)	new	1641728.142	1774035.924
19-22618	0.5–1.0	Mesa Top (AOC)	new	1641729.359	1774033.688
19-22619	0–0.5	Mesa Top (AOC)	new	1641760.258	1774035.924
19-22620	0–0.5	Mesa Top (AOC)	new	1641792.374	1774035.924
19-22621	0–0.5	Mesa Top (AOC)	new	1641824.49	1774035.924
19-22622	0–0.5	Mesa Top (AOC)	new	1641856.606	1774035.924
19-22623	0–0.5	Mesa Top (AOC)	new	1641888.722	1774035.924
19-22624	0–0.5	Mesa Top (AOC)	new	1641744.2	1774008.111
19-22625	0–0.5	Mesa Top (AOC)	new	1641808.432	1774008.111
19-22626	0.5–1.0	Mesa Top (AOC)	new	1641838.848	1774009.358
19-22626	0–0.5	Mesa Top (AOC)	new	1641840.548	1774008.111
19-22627	0–0.5	Mesa Top (AOC)	new	1641872.664	1774008.111
19-22627	2.0–2.5	Mesa Top (AOC)	new	1641872.664	1774008.111

Table 3.2-2 (continued)

Location ID	Depth (ft bgs)	Location	Location Type	Easting[a]	Northing[a]
19-22628	0–0.5	Mesa Top (AOC)	new	1641904.779	1774008.111
19-22628	0.5–1.0	Mesa Top (AOC)	new	1641904.779	1774008.111
19-22629	0–0.5	South Slope Drainage	new	1641736.552	1773729.667
19-22630	0–0.5	South Slope Drainage	new	1641902.955	1773776.179
19-22631	0–0.5	South Slope Drainage	new	1642027.563	1773844.17
19-23264	0–0.5	North Slope Drainage	new	1641925.56	1774452.707
19-23264	3.5–4.0	North Slope Drainage	new	1641925.56	1774452.707
19-23265	0–0.5	North Slope Drainage	new	1642085.713	1774527.922
19-23266	0–0.5	North Slope Drainage	new	1642253.66	1774480.769
19-23267	0–0.5	North Slope Drainage	new	1641901.394	1774698.965
19-23267	3.5–4.0	North Slope Drainage	new	1641901.394	1774698.965
19-23268	0–0.5	North Slope Drainage	new	1641837.54	1774888.761
19-01251	0–0.5	Mesa Top	RFI	1641821.778	1773938.036
19-01252	0–0.5	Mesa Top	RFI	1641846.053	1773955.566
19-01253	0–0.5	Mesa Top	RFI	1641905.974	1773999.492
19-01256	0–0.5	Mesa Top	RFI	1641841.778	1773903.395
19-01258	0–0.5	Mesa Top	RFI	1641683.558	1774209.074
19-01259	0–0.5	Mesa Top	RFI	1641678.732	1774187.744
19-01260	0–0.5	Mesa Top	RFI	1641674.365	1774165.256
19-01261	0–0.5	Mesa Top	RFI	1641672.762	1774150.77
19-01262	0–0.5	Mesa Top	RFI	1641670.962	1774124.704
19-01263	0–0.5	Mesa Top	RFI	1641873.631	1774170.755
19-01264	0–0.5	Mesa Top	RFI	1641866.25	1774143.513
19-01265	0–0.5	Mesa Top	RFI	1641863.12	1774086.104
19-01271	0–0.5	Mesa Top	RFI	1641673.818	1774160.312
19-01272	0–0.5	Mesa Top	RFI	1641673.29	1774155.541
19-23318	0–0.5	RFI location 19-01268	Soil removal	1641704.216	1774250.543
19-23319	0–0.5	RFI location 19-01268	Soil removal	1641706.108	1774251.983
19-23320	0–0.5	RFI location 19-01266	Soil removal	1641873.643	1774218.127
19-23321	0–0.5	RFI location 19-01266	Soil removal	1641870.697	1774219.471
19-01001	0–0.5	North Slope	VCA	1641883.01	1774229.219
19-01002	0–0.5	North Slope	VCA	1641871.179	1774268.695
19-01006	0–0.5	North Slope	VCA	1641893.631	1774247.313
19-01007	0–0.5	North Slope	VCA	1641829.069	1774270.833
19-01008	0–0.5	North Slope	VCA	1641819.495	1774246.116
19-01009	0–0.5	North Slope	VCA	1641878.234	1774241.721
19-01010	0–0.5	North Slope	VCA	1641893.703	1774230.137

Table 3.2-2 (continued)

Location ID	Depth (ft bgs)	Location	Location Type	Easting[a]	Northing[a]
19-01011	0–0.5	North Slope	VCA	1641881.11	1774233.09
19-01013	0–0.5	North Slope	VCA	1641877.59	1774219.308
19-01014	0–0.5	North Slope	VCA	1641874.156	1774307.871
19-01016	0–0.5	North Slope	VCA	1641809.636	1774232.561
19-01017	0–0.5	North Slope	VCA	1641783.272	1774270.452
19-01020	0–0.5	North Slope	VCA	1641910.224	1774220.247
19-01021	0–0.5	North Slope	VCA	1641871.503	1774249.788
19-01022	0–0.5	North Slope	VCA	1641874.885	1774244.423
19-01024	0–0.5	North Slope	VCA	1641819.172	1774247.411
19-01028	0–0.5	North Slope	VCA	1641604.474	1774276.043
19-01029	0–0.5	North Slope	VCA	1641605.054	1774282.58
19-01030	0–0.5	North Slope	VCA	1641595.813	1774290.249
19-23269	0–0.5	North Slope	VCA	1641848.635	1774252.609

[a] NMSP coordinates

AOC = Area of Concern
bgs = Below ground surface
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
NMSP = New Mexico State Plane
RCRA = Resource Conservation and Recovery Act
RFI = RCRA Facility Investigation
VCA = Voluntary corrective action

Table 3.2-3
Coordinates for Tuff Sampling Locations, CU 19-001-99

Location ID	Depth (ft bgs)	Location	Location Type	Easting[a]	Northing[a]
19-22598	1.5–2.0	Mesa Top (AOC)	new	1641679.94	1774119.025
19-22600	1.0–1.4	Mesa Top (AOC)	new	1641663.911	1774091.55
19-22601	1.5–2.0	Mesa Top (AOC)	new	1641696.027	1774091.55
19-22602	1.0–1.5	Mesa Top (AOC)	new	1641728.142	1774091.55
19-22603	1.5–2.0	Mesa Top (AOC)	new	1641760.258	1774091.55
19-22605	1.5–2.0	Mesa Top (AOC)	new	1641824.49	1774091.55
19-22606	0.5–1.0	Mesa Top (AOC)	new	1641856.606	1774091.55
19-22607	0.5–1.0	Mesa Top (AOC)	new	1641647.853	1774063.737
19-22608	3.0–3.5	Mesa Top (AOC)	new	1641679.969	1774063.737
19-22610	1.0–1.5	Mesa Top (AOC)	new	1641744.2	1774063.737
19-22611	1.5–2.0	Mesa Top (AOC)	new	1641776.316	1774063.737
19-22612	1.0–1.5	Mesa Top (AOC)	new	1641808.432	1774063.737
19-22613	0.5–1.0	Mesa Top (AOC)	new	1641840.548	1774063.737
19-22614	0.5–1.0	Mesa Top (AOC)	new	1641872.664	1774063.737
19-22615	0.5–1.0	Mesa Top (AOC)	new	1641904.779	1774063.737
19-22616	0.5–1.0	Mesa Top (AOC)	new	1641663.911	1774035.924
19-22617	1.5–2.0	Mesa Top (AOC)	new	1641696.027	1774035.924
19-22619	0.5–1.0	Mesa Top (AOC)	new	1641760.258	1774035.924
19-22620	1.0–1.5	Mesa Top (AOC)	new	1641792.374	1774035.924
19-22621	1.0–1.5	Mesa Top (AOC)	new	1641824.49	1774035.924
19-22622	1.25–1.75	Mesa Top (AOC)	new	1641856.606	1774035.924
19-22623	0.5–1.0	Mesa Top (AOC)	new	1641888.722	1774035.924
19-22624	0.5–1.0	Mesa Top (AOC)	new	1641744.2	1774008.111
19-22625	0.5–1.0	Mesa Top (AOC)	new	1641806.413	1774008.26
19-22629	1.5–2.0	South Slope Drainage	new	1641736.552	1773729.667
19-22630	1.25–1.75	South Slope Drainage	new	1641902.955	1773776.179
19-22631	1.5–2.0	South Slope Drainage	new	1642027.563	1773844.17
19-23265	3.5–4.0	North Slope Drainage	new	1642085.713	1774527.922
19-23266	3.5–4.0	North Slope Drainage	new	1642253.66	1774480.769
19-23268	2.5–3.0	North Slope Drainage	new	1641837.54	1774888.761
19-23266	6.0–6.5	Additional Subsurface	new	1642253.66	1774480.769
19-01002	2.5–3.0	Additional Subsurface	VCA	1641871.179	1774268.695
19-01002	4.5–5.0	Additional Subsurface	VCA	1641871.179	1774268.695
19-01016	2.1–2.6	Additional Subsurface	VCA	1641809.636	1774232.561
19-01016	4.1–4.6	Additional Subsurface	VCA	1641809.636	1774232.561

Table 3.2-3 (continued)

Location ID	Depth (ft bgs)	Location	Location Type	Easting[a]	Northing[a]
19-23321	4.5–5.0	Additional Subsurface	(RFI) 19-01266	1774219.471	1641870.697
19-23321	6.5–7.0	Additional Subsurface	(RFI) 19-01266	1774219.471	1641870.697
19-22599	4.0–4.5	Additional Subsurface	new	1774121.945	1641712.171
19-22599	6.0–6.5	Additional Subsurface	new	1774121.945	1641712.171
19-01028	2.1–2.6	Additional Subsurface	VCA	1641604.474	1774276.043
19-01028	4.1–4.6	Additional Subsurface	VCA	1641604.474	1774276.043
19-22630	3.3–3.8	Additional Subsurface	new	1641902.955	1773776.179
19-22630	5.3–5.8	Additional Subsurface	new	1641902.955	1773776.179
19-22631	3.5–4.0	Additional Subsurface	new	1642027.563	1773844.17
19-22631	5.5–6.0	Additional Subsurface	new	1642027.563	1773844.17
19-22608	4.0–4.5	Additional Subsurface	new	1641679.969	1774063.737
19-22608	6.0–6.5	Additional Subsurface	new	1641679.969	1774063.737
19-22606	3.3–3.8	Additional Subsurface	new	1641856.606	1774091.55
19-22606	5.3–5.8	Additional Subsurface	new	1641856.606	1774091.55
19-22615	3.0–3.5	Additional Subsurface	new	1641904.779	1774063.737
19-22615	5.0–5.5	Additional Subsurface	new	1641904.779	1774063.737
19-22628	3.3–3.8	Additional Subsurface	new	1641904.779	1774008.111
19-22628	5.3–5.8	Additional Subsurface	new	1641904.779	1774008.111
19-22627	3.0–3.5	Additional Subsurface	new	1641872.664	1774008.111
19-22627	5.0–5.5	Additional Subsurface	new	1641872.664	1774008.111
19-23266	8.0–8.5	Additional Subsurface	new	1642253.66	1774480.769

[a] NMSP coordinates.

AOC = Area of concern
bgs = Below ground surface
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
NMSP = New Mexico State Plane
RCRA = Resource Conservation and Recovery Act
RFI = RCRA Facility Investigation
VCA = Voluntary corrective action

Table 4.2-1
Field Screening Sampling Locations (Event #1), CU 19-001-99

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)	Medium	Location Type
Mesa Top (AOC)					
8/18/2004	52989	19-22598	0–0.5	Soil	new
8/18/2004	52991	19-22599	0–0.5	Soil	new
8/18/2004	52993	19-22600	0–0.5	Soil	new
8/18/2004	52995	19-22601	0–0.5	Soil	new
8/18/2004	52997	19-22602	0–0.5	Soil	new
8/18/2004	52999	19-22603	0–0.5	Soil	new
8/18/2004	53001	19-22604	0–0.5	Soil	new
8/18/2004	53003	19-22605	0–0.5	Soil	new
8/18/2004	53005	19-22606	0–0.5	Soil	new
8/18/2004	53007	19-22607	0–0.5	Soil	new
8/18/2004	53009	19-22608	0–0.5	Soil	new
8/18/2004	53011	19-22609	0–0.5	Soil	new
8/18/2004	53013	19-22610	0–0.5	Soil	new
8/18/2004	53015	19-22611	0–0.5	Soil	new
8/18/2004	53017	19-22612	0–0.5	Soil	new
8/18/2004	53019	19-22613	0–0.5	Soil	new
8/18/2004	53021	19-22614	0–0.5	Soil	new
8/18/2004	53023	19-22615	0–0.5	Soil	new
8/18/2004	53025	19-22616	0–0.5	Soil	new
8/18/2004	53027	19-22617	0–0.5	Soil	new
8/18/2004	53029	19-22618	0–0.5	Soil	new
8/18/2004	53031	19-22619	0–0.5	Soil	new
8/18/2004	53033	19-22620	0–0.5	Soil	new
8/18/2004	53035	19-22621	0–0.5	Soil	new
8/18/2004	53037	19-22622	0–0.5	Soil	new
8/18/2004	53039	19-22623	0–0.5	Soil	new
8/18/2004	53041	19-22624	0–0.5	Soil	new
8/18/2004	53043	19-22625	0–0.5	Soil	new
8/18/2004	53045	19-22626	0–0.5	Soil	new
8/18/2004	53047	19-22627	0–0.5	Soil	new
8/18/2004	53049	19-22628	0–0.5	Soil	new
9/7/2004	52990	19-22598	1.5–2.0	Tuff	new
9/7/2004	52992	19-22599	1.0–1.5	Soil	new
9/7/2004	52994	19-22600	1.0–1.4	Tuff	new

Table 4.2-1 (continued)

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)	Medium	Location Type
9/7/2004	52996	19-22601	1.5–2.0	Tuff	new
9/7/2004	52998	19-22602	1.0–1.5	Tuff	new
9/7/2004	53000	19-22603	1.5–2.0	Tuff	new
9/7/2004	53002	19-22604	1.5–2.0	Soil	new
9/7/2004	53004	19-22605	1.5–2.0	Tuff	new
9/7/2004	53006	19-22606	0.5–1.0	Tuff	new
9/7/2004	53008	19-22607	0.5–1.0	Tuff	new
9/7/2004	53010	19-22608	3.0–3.5	Tuff	new
9/7/2004	53012	19-22609	1.0–1.5	Soil	new
9/7/2004	53014	19-22610	1.0–1.5	Tuff	new
9/7/2004	53016	19-22611	1.5–2.0	Tuff	new
9/7/2004	53018	19-22612	1.0–1.5	Tuff	new
9/7/2004	53020	19-22613	0.5–1.0	Tuff	new
9/7/2004	53022	19-22614	0.5–1.0	Tuff	new
9/7/2004	53024	19-22615	0.5–1.0	Tuff	new
9/7/2004	53026	19-22616	0.5–1.0	Tuff	new
9/7/2004	53028	19-22617	1.5–2.0	Tuff	new
9/7/2004	53030	19-22618	0.5–1.0	Soil	new
9/7/2004	53032	19-22619	0.5–1.0	Tuff	new
9/7/2004	53034	19-22620	1.0–1.5	Tuff	new
9/7/2004	53036	19-22621	1.0–1.5	Tuff	new
9/7/2004	53038	19-22622	1.25–1.75	Tuff	new
9/7/2004	53040	19-22623	0.5–1.0	Tuff	new
9/7/2004	53042	19-22624	0.5–1.0	Tuff	new
9/7/2004	53044	19-22625	0.5–1.0	Tuff	new
9/7/2004	53046	19-22626	0.5–1.0	Soil	new
9/7/2004	53048	19-22627	2.0–2.5	Soil	new
9/7/2004	53050	19-22628	0.5–1.0	Soil	new
8/20/2004	54823	19-23264	0–0.5	Soil	new
8/20/2004	54825	19-23265	0–0.5	Soil	new
8/20/2004	54827	19-23266	0–0.5	Soil	new
8/20/2004	54829	19-23267	0–0.5	Soil	new
8/20/2004	54831	19-23268	0–0.5	Soil	new
9/8/2004	54824	19-23264	3.5–4.0	Soil	new
9/8/2004	54826	19-23265	3.5–4.0	Tuff	new
9/8/2004	54928	19-23266	3.5–4.0	Tuff	new
9/13/2004	54830	19-23267	3.5–4.0	Soil	new

Table 4.2-1 (continued)

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)	Medium	Location Type
9/13/2004	54832	19-23268	2.5–3.0	Tuff	new
8/19/2004	53051	19-22629	0–0.5	Soil	new
8/19/2004	53053	19-22630	0–0.5	Soil	new
8/19/2004	53055	19-22631	0–0.5	Soil	new
9/8/2004	53052	19-22629	1.5–2.0	Tuff	new
9/8/2004	53054	19-22630	1.25–1.75	Tuff	new
9/8/2004	53056	19-22631	1.5–2.0	Tuff	new
9/9/2004	53639	19-01001	0–0.5	Soil	VCA
9/9/2004	53641	19-01002	0–0.5	Soil	VCA
9/9/2004	53643	19-01006	0–0.5	Soil	VCA
9/9/2004	53645	19-01007	0–0.5	Soil	VCA
9/9/2004	53647	19-01008	0–0.5	Soil	VCA
9/9/2004	53649	19-01009	0–0.5	Soil	VCA
9/9/2004	53651	19-01010	0–0.5	Soil	VCA
9/9/2004	53653	19-01011	0–0.5	Soil	VCA
9/9/2004	53655	19-01013	0–0.5	Soil	VCA
9/9/2004	53657	19-01014	0–0.5	Soil	VCA
9/9/2004	53661	19-01016	0–0.5	Soil	VCA
9/9/2004	53663	19-01017	0–0.5	Soil	VCA
9/9/2004	53665	19-01020	0–0.5	Soil	VCA
9/9/2004	53667	19-01021	0–0.5	Soil	VCA
9/9/2004	53669	19-01022	0–0.5	Soil	VCA
9/9/2004	53671	19-01024	0–0.5	Soil	VCA
9/9/2004	54833	19-23269	0–0.5	Soil	VCA
9/10/2004	53673	19-01028	0–0.5	Soil	VCA
9/10/2004	53675	19-01029	0–0.5	Soil	VCA
9/10/2004	53677	19-01030	0–0.5	Soil	VCA
Mesa Top					
8/19/2004	53689	19-01256	0–0.5	Soil	RFI
8/23/2004	53679	19-01251	0–0.5	Soil	RFI
8/23/2004	53681	19-01252	0–0.5	Soil	RFI
8/23/2004	53683	19-01253	0–0.5	Soil	RFI
8/23/2004	53691	19-01258	0–0.5	Soil	RFI
8/23/2004	53693	19-01259	0–0.5	Soil	RFI
8/23/2004	53695	19-01260	0–0.5	Soil	RFI
8/23/2004	53697	19-01261	0–0.5	Soil	RFI
8/23/2004	53699	19-01262	0–0.5	Soil	RFI

Table 4.2-1 (continued)

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)	Medium	Location Type
8/23/2004	53701	19-01263	0–0.5	Soil	RFI
8/23/2004	53703	19-01264	0–0.5	Soil	RFI
8/23/2004	53705	19-01265	0–0.5	Soil	RFI
8/23/2004	53715	19-01271	0–0.5	Soil	RFI
8/23/2004	53717	19-01272	0–0.5	Soil	RFI

AOC = Area of concern
bgs = Below ground surface
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
RCRA = Resource Conservation and Recovery Act
RFI = RCRA facility investigation
VCA = Voluntary corrective action

Table 4.2-2
Field Screening Results (Event #1), CU 19-001-99

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)[a]	Location Type	PAH Concentration (ppb)[b]	PCB Concentration (ppm)[c]	Lead Concentration (ppm)[d]	Submitted to Fixed Lab?[e]
Mesa Top AOC								
8/18/2004	52993	19-22600	0–0.5	new	110	ND	ND	No
8/18/2004	52989	19-22598	0–0.5	new	846[f]	ND[f]	ND	Yes
8/18/2004	52991	19-22599	0–0.5	new	267	ND	ND	Yes
8/18/2004	52995	19-22601	0–0.5	new	29	ND	ND	No
8/18/2004	52997	19-22602	0–0.5	new	76	ND	ND	No
8/18/2004	52999	19-22603	0–0.5	new	80	ND	ND	No
8/18/2004	53001	19-22604	0–0.5	new	150	ND	ND	Yes
8/18/2004	53003	19-22605	0–0.5	new	77	ND	ND	No
8/18/2004	53005	19-22606	0–0.5	new	136	ND	73 (J)	Yes
8/18/2004	53007	19-22607	0–0.5	new	343	ND	ND	Yes
8/18/2004	53009	19-22608	0–0.5	new	225	ND	ND	Yes
8/18/2004	53011	19-22609	0–0.5	new	79	ND	ND	No
8/18/2004	53013	19-22610	0–0.5	new	15	ND	ND	No
8/18/2004	53015	19-22611	0–0.5	new	63	ND	ND	No
8/18/2004	53017	19-22612	0–0.5	new	57	ND	ND	No
8/18/2004	53019	19-22613	0–0.5	new	51	ND	ND	No
8/18/2004	53021	19-22614	0–0.5	new	83	ND	ND	No
8/18/2004	53023	19-22615	0–0.5	new	138	ND	ND	Yes
8/18/2004	53025	19-22616	0–0.5	new	113	ND	ND	No
8/18/2004	53027	19-22617	0–0.5	new	75	ND	ND	No
8/18/2004	53029	19-22618	0–0.5	new	86	ND	ND	No
8/18/2004	53031	19-22619	0–0.5	new	78	ND	ND	No
8/18/2004	53033	19-22620	0–0.5	new	453	ND	ND	Yes

Table 4.2-2 (continued)

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)[a]	Location Type	PAH Concentration (ppb)[b]	PCB Concentration (ppm)[c]	Lead Concentration (ppm)[d]	Submitted to Fixed Lab?[e]
8/18/2004	53035	19-22621	0–0.5	new	115	ND	ND	Yes
8/18/2004	53037	19-22622	0–0.5	new	16	ND	ND	No
8/18/2004	53039	19-22623	0–0.5	new	11	ND	ND	No
8/18/2004	53049	19-22628	0–0.5	new	149	ND	ND	Yes
8/18/2004	53047	19-22627	0–0.5	new	155	ND	ND	Yes
8/18/2004	53045	19-22626	0–0.5	new	17	ND	ND	No
8/18/2004	53043	19-22625	0–0.5	new	37	ND	ND	No
8/18/2004	53041	19-22624	0–0.5	new	109	ND	ND	No
9/7/2004	53038	19-22622	1.25–1.75	new	ND	ND	ND	No
9/7/2004	52990	19-22598	1.5–2.0	new	66	ND	ND	No
9/7/2004	52996	19-22601	1.5–2.0	new	12	ND	ND	No
9/7/2004	53000	19-22603	1.5–2.0	new	ND	ND	ND	No
9/7/2004	53002	19-22604	1.5–2.0	new	12	ND	ND	No
9/7/2004	53004	19-22605	1.5–2.0 [f]	new	13	ND	ND	No
9/7/2004	53016	19-22611	1.5–2.0	new	ND	ND	ND	No
9/7/2004	53028	19-22617	1.5–2.0	new	22	ND	ND	No
9/7/2004	53006	19-22606	0.5–1.0	new	16	ND	ND	No
9/7/2004	53008	19-22607	0.5–1.0	new	14	ND	ND	No
9/7/2004	53020	19-22613	0.5–1.0	new	11	ND	ND	No
9/7/2004	53022	19-22614	0.5–1.0	new	36	ND	ND	No
9/7/2004	53024	19-22615	0.5–1.0	new	26	ND	ND	No
9/7/2004	53026	19-22616	0.5–1.0	new	20	ND	ND	No
9/7/2004	53030	19-22618	0.5–1.0	new	27	ND	ND	No
9/7/2004	53032	19-22619	0.5–1.0	new	12	ND	ND	No
9/7/2004	53040	19-22623	0.5–1.0	new	20	ND	ND	No

Table 4.2-2 (continued)

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)[a]	Location Type	PAH Concentration (ppb)[b]	PCB Concentration (ppm)[c]	Lead Concentration (ppm)[d]	Submitted to Fixed Lab?[e]
9/7/2004	53042	19-22624	0.5–1.0	new	21	ND	ND	No
9/7/2004	53044	19-22625	0.5–1.0	new	26	ND	ND	No
9/7/2004	53046	19-22626	0.5–1.0	new	ND	ND	ND	No
9/7/2004	53050	19-22628	0.5–1.0	new	66	ND	ND	No
9/7/2004	52992	19-22599	1.0–1.5	new	34[f]	ND[f]	ND	No
9/7/2004	52994	19-22600	1.0–1.4	new	26[f]	ND[f]	ND	No
9/7/2004	52998	19-22602	1.0–1.5	new	94	ND	ND	No
9/7/2004	53012	19-22609	1.0–1.5	new	21	ND	ND	No
9/7/2004	53014	19-22610	1.0–1.5	new	14	ND	ND	No
9/7/2004	53018	19-22612	1.0–1.5	new	18	ND	ND	No
9/7/2004	53034	19-22620	1.0–1.5	new	21	ND	ND	No
9/7/2004	53036	19-22621	1.0–1.5	new	20	ND	ND	No
9/7/2004	53048	19-22627	2.0–2.5	new	130	ND	ND	Yes
9/7/2004	53010	19-22608	3.0–3.5	new	745	ND	ND	Yes
Mesa Top RFI								
8/19/2004	53689	19-01256	0–0.5	RFI	—	ND	—	No
8/23/2004	53679	19-01251	0–0.5	RFI	—	ND	—	Yes[g]
8/23/2004	53681	19-01252	0–0.5	RFI	—	ND	—	No
8/23/2004	53683	19-01253	0–0.5	RFI	—	ND	—	No
8/23/2004	53705	19-01265	0–0.5	RFI	—	ND	—	Yes[g]
8/23/2004	53703	19-01264	0–0.5	RFI	—	ND	—	No
8/23/2004	53701	19-01263	0–0.5	RFI	—	ND	—	No
8/23/2004	53699	19-01262	0–0.5	RFI	—	ND	—	No
8/23/2004	53697	19-01261	0–0.5	RFI	—	ND	—	No
8/23/2004	53717	19-01272	0–0.5	RFI	—	ND	—	No

Table 4.2-2 (continued)

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)[a]	Location Type	PAH Concentration (ppb)[b]	PCB Concentration (ppm)[c]	Lead Concentration (ppm)[d]	Submitted to Fixed Lab?[e]
8/23/2004	53715	19-01271	0–0.5	RFI	—	ND	—	Yes[g]
8/23/2004	53695	19-01260	0–0.5	RFI	—	ND	—	No
8/23/2004	53693	19-01259	0–0.5	RFI	—	ND	—	No
8/23/2004	53691	19-01258	0–0.5	RFI	—	ND	—	Yes[g]
North Slope Drainage AOC								
8/20/2004	54823	19-23264	0–0.5	new	ND	ND	ND	Yes
8/20/2004	54825	19-23265	0–0.5	new	13	ND	ND	Yes
8/20/2004	54827	19-23266	0–0.5	new	ND	ND	ND	Yes
8/20/2004	54829	19-23267	0–0.5	new	11	ND	ND	Yes
8/20/2004	54831	19-23268	0–0.5	new	75	ND	ND	Yes
9/13/2004	54832	19-23268	2.5–3.0	new	15	ND	ND	Yes
9/8/2004	54824	19-23264	3.5–4.0	new	ND	ND	ND	Yes
9/8/2004	54826	19-23265	3.5–4.0	new	16	ND	ND	Yes
9/8/2004	54928	19-23266	3.5–4.0	new	ND	ND	ND	Yes
9/13/2004	54830	19-23267	3.5–4.0	new	ND	ND	ND	Yes
North Slope Drainage VCA								
9/9/2004	53645	19-01007	0–0.5	VCA	137	ND	ND	Yes
9/9/2004	53641	19-01002	0–0.5	VCA	68	ND	ND	Yes
9/9/2004	53671	19-01024	0–0.5	VCA	31	ND	ND	No
9/9/2004	53647	19-01008	0–0.5	VCA	28	ND	ND	No
9/9/2004	53661	19-01016	0–0.5	VCA	248	ND	ND	Yes
9/9/2004	53655	19-01013	0–0.5	VCA	798	ND	211[f]	Yes
9/9/2004	53667	19-01021	0–0.5	VCA	36	ND	ND	No
9/9/2004	53669	19-01022	0–0.5	VCA	21	ND	ND	No

Table 4.2-2 (continued)

Sample Date	Event #1 Sample ID (RE19-04-)	Location ID	Depth (ft bgs)[a]	Location Type	PAH Concentration (ppb)[b]	PCB Concentration (ppm)[c]	Lead Concentration (ppm)[d]	Submitted to Fixed Lab?[e]
9/9/2004	53653	19-01011	0–0.5	VCA	50	ND	ND	No
9/9/2004	53649	19-01009	0–0.5	VCA	30	ND	ND	No
9/9/2004	53639	19-01001	0–0.5	VCA	20	ND	ND	No
9/9/2004	53643	19-01006	0–0.5	VCA	20	ND	ND	No
9/9/2004	53651	19-01010	0–0.5	VCA	21	ND	ND	No
9/9/2004	53665	19-01020	0–0.5	VCA	38	ND	ND	No
9/9/2004	53663	19-01017	0–0.5	VCA	61	ND	ND	No
9/9/2004	53657	19-01014	0–0.5	VCA	40	ND	ND	No
9/9/2004	54833	19-23269	0–0.5	VCA	21	ND	ND	No
9/10/2004	53673	19-01028	0–0.5	VCA	64	ND	76[f]	Yes
9/10/2004	53675	19-01029	0–0.5	VCA	11	ND	ND	No
9/10/2004	53677	19-01030	0–0.5	VCA	37	ND	ND	No
South Slope Drainage AOC								
8/19/2004	53051	19-22629	0–0.5	new	17	ND	ND	Yes
8/19/2004	53053	19-22630	0–0.5	new	17	ND	ND	Yes
8/19/2004	53055	19-22631	0–0.5	new	71	ND	ND	Yes
9/8/2004	53054	19-22630	1.25–1.0[c,f]	new	16	ND	ND	Yes
9/8/2004	53056	19-22631	1.5–2.0	new	11	ND	ND	Yes
9/8/2004	53052	19-22629	1.5–2.0	new	ND	ND	ND	Yes
North Slope Removal								
9/10/2004	—	19-23318	0–0.5	(RFI) 19-01268	—	—	—	Yes
9/10/2004	—	19-23319	0–0.5	(RFI) 19-01268	—	—	—	Yes
9/10/2004	—	19-23321	0–0.5	(RFI) 19-01266	—	—	—	Yes[h]
9/10/2004	—	19-23320	0–0.5	(RFI) 19-01266	—	—	—	Yes[h]

Table 4.2-2 (continued)

[a] 0.0–0.5 ft identifies surface soil.

[b] ND indicates PAHs (as benzo[a]pyrene) not detected above the MDL of 8.0 ppb.

[c] ND indicates PCBs (as Aroclor-1254) not detected above the MDL of 0.2 ppm.

[d] Semi-quantitative results for lead detections are determined sample by sample and are a function of the standard deviation for each sample; if result is less than three times the standard deviation, result is considered ND.

[e] Sample submitted to fixed laboratory for analysis of TAL metals, VOCs, SVOCs, PCBs, and pesticides/herbicides, unless otherwise noted. Analyses for dioxins/furans were submitted only for sample locations 19-23319 and 19-23321.

[f] A field replicate was taken for this screening event.

[g] Sample submitted for PCB analyses only.

[h] Submitted for waste characterization only.

— denotes screening not performed.

AOC = Area of concern
bgs = Below ground surface
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
J = The analytical result was estimated
MDL = Method detection limit
ND = Result is nondetect
PAH = Polyaromatic hydrocarbon
PCB = Polychlorinated biphenyl
ppb = Parts per billion
ppm = Parts per million
RCRA = Resource Conservation and Recovery Act
RFI = RCRA facility investigation
SVOC = Semivolatile organic chemical
TAL = Target analyte list
VCA = Voluntary corrective action
VOC = Volatile organic chemical

Table 4.2-3
Fixed Laboratory Analyses for CU 19-001-99 Characterization and Soil Removal Confirmation

Sample Date	Remedy Location ID	Total Depth (ft bgs)[a]	Location Description	Location Type	Fixed Laboratory Analysis Type						
					TAL Metals (EPA Method 6010B)	VOCs (EPA Method 8260B)	SVOCs (EPA Method 8270C)	PCBs (EPA Method 8082)	Pesticides/ Herbicides (EPA Method 8081A/8151A)	Dioxins/ Furans (EPA Method 8290A)	Gamma Spectroscopy (EPA Method 901.1)
8/23/2004	19-01251	0–0.5	Mesa Top	RFI				•			
8/23/2004	19-01258[b]	0–0.5	Mesa Top	RFI				•			
8/23/2004	19-01265	0–0.5	Mesa Top	RFI				•			
8/23/2004	19-01271	0–0.5	Mesa Top	RFI				•			
8/18/2004	19-22598	0–0.5	Mesa Top (AOC)	new	•	•	•	•			•
8/18/2004	19-22599	0–0.5	Mesa Top (AOC)	new	•	•	•	•			•
3/30/2005	19-22599	4.0–4.5[c]	Mesa Top (AOC)	new			•	•	•		
3/30/2005	19-22599	6.0–6.5[d]	Mesa Top (AOC)	new			•	•	•		
8/18/2004	19-22604	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•
8/18/2004	19-22606	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•
3/31/2005	19-22606	3.3–3.8[c]	Mesa Top (AOC)	new				•	•		
3/31/2005	19-22606	5.3–5.8[d]	Mesa Top (AOC)	new				•	•		
8/18/2004	19-22607[b]	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•
8/18/2004	19-22608	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•
9/7/2004	19-22608[b]	3.0–3.5	Mesa Top (AOC)	new	•	•	•	•	•		•
3/31/2005	19-22608	4.0–4.5[c]	Mesa Top (AOC)	new	•		•				
3/31/2005	19-22608[b]	6.0–6.5[d]	Mesa Top (AOC)	new	•		•				
8/18/2004	19-22615	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•
3/31/2005	19-22615	3.0–3.5[c]	Mesa Top (AOC)	new	•						
3/31/2005	19-22615	5.0–5.5[d]	Mesa Top (AOC)	new	•						
8/18/2004	19-22620	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•

Table 4.2-3 (continued)

Sample Date	Remedy Location ID	Total Depth (ft bgs)[a]	Location Description	Location Type	Fixed Laboratory Analysis Type						
					TAL Metals (EPA Method 6010B)	VOCs (EPA Method 8260B)	SVOCs (EPA Method 8270C)	PCBs (EPA Method 8082)	Pesticides/ Herbicides (EPA Method 8081A/8151A)	Dioxins/ Furans (EPA Method 8290A)	Gamma Spectroscopy (EPA Method 901.1)
8/18/2004	19-22621	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•
8/18/2004	19-22627	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		•
9/7/2004	19-22627	2.0–2.5	Mesa Top (AOC)	new	•	•	•	•	•		•
4/1/2005	19-22627	3.0–3.5[c]	Mesa Top (AOC)	new	•						
4/1/2005	19-22627	5.0–5.5[d]	Mesa Top (AOC)	new	•						
8/18/2004	19-22628	0–0.5	Mesa Top (AOC)	new	•	•	•	•	•		□
3/31/2005	19-22628	3.3–3.8[c]	Mesa Top (AOC)	new			•				
3/31/2005	19-22628	5.3–5.8[d]	Mesa Top (AOC)	new			•				
9/10/2004	19-23320	0–0.5	North Slope	(RFI) 19-01266	•	•	•	•	•		•
9/10/2004	19-23321	0–0.5	North Slope	(RFI) 19-01266	•	•	•	•	•	•	•
3/30/2005	19-23321	4.5–5.0[c]	North Slope	(RFI) 19-01266	•			•		•	
3/30/2005	19-23321	6.5–7.0[d]	North Slope	(RFI) 19-01266	•			•		•	
9/10/2004	19-23318	0–0.5	North Slope	(RFI) 19-01268	•	•	•	•	•		•
9/10/2004	19-23319	0–0.5	North Slope	(RFI) 19-01268	•	•	•	•	•	•	•
9/10/2004	19-01266	0–0.5	North Slope	TCLP[e]	•	•	•				
9/10/2004	19-01268	0–0.5	North Slope	TCLP[e]	•	•	•				
9/9/2004	19-01002	0–0.5	North Slope	VCA	•	•	•	•	•		•
3/30/2005	19-01002	2.5–3.0[c]	North Slope	VCA	•						
3/30/2005	19-01002	4.5–5.0[d]	North Slope	VCA	•						
9/9/2004	19-01007	0–0.5	North Slope	VCA	•	•	•	•	•		•
9/9/2004	19-01013	0–0.5	North Slope	VCA	•	•	•	•	•		•
9/9/2004	19-01016	0–0.5	North Slope	VCA	•	•	•	•	•		•

Table 4.2-3 (continued)

Sample Date	Remedy Location ID	Total Depth (ft bgs)[a]	Location Description	Location Type	Fixed Laboratory Analysis Type						
					TAL Metals (EPA Method 6010B)	VOCs (EPA Method 8260B)	SVOCs (EPA Method 8270C)	PCBs (EPA Method 8082)	Pesticides/ Herbicides (EPA Method 8081A/8151A)	Dioxins/ Furans (EPA Method 8290A)	Gamma Spectroscopy (EPA Method 901.1)
3/30/2005	19-01016[b]	2.1–2.6[c]	North Slope	VCA	•		•				
3/30/2005	19-01016	4.1–4.6[d]	North Slope	VCA	•		•				
9/10/2004	19-01028	0–0.5	North Slope	VCA	•	•	•	•	•		•
3/30/2005	19-01028	2.1–2.6[c]	North Slope	VCA	•						
3/30/2005	19-01028	4.1–4.6[d]	North Slope	VCA	•						
8/20/2004	19-23264	0–0.5	North Slope Drainage	new	•	•	•	•	•		•
9/8/2004	19-23264	3.5–4.0	North Slope Drainage	new	•	•	•	•	•		•
8/20/2004	19-23265	0–0.5	North Slope Drainage	new	•	•	•	•	•		•
9/8/2004	19-23265	3.5–4.0	North Slope Drainage	new	•	•	•	•	•		•
8/20/2004	19-23266	0–0.5	North Slope Drainage	new	•	•	•	•	•		•
9/8/2004	19-23266	3.5–4.0	North Slope Drainage	new	•	•	•	•	•		•
3/29/2005	19-23266	6.0–6.5[c]	North Slope Drainage	new	•						
4/1/2005	19-23266	8.0–8.5[d]	North Slope Drainage	new	•						
8/20/2004	19-23267[b]	0–0.5	North Slope Drainage	new	•	•	•	•	•		•
9/13/2004	19-23267	3.5–4.0	North Slope Drainage	new	•	•	•	•	•		•

Table 4.2-3 (continued)

Sample Date	Remedy Location ID	Total Depth (ft bgs)[a]	Location Description	Location Type	Fixed Laboratory Analysis Type						
					TAL Metals (EPA Method 6010B)	VOCs (EPA Method 8260B)	SVOCs (EPA Method 8270C)	PCBs (EPA Method 8082)	Pesticides/ Herbicides (EPA Method 8081A/8151A)	Dioxins/ Furans (EPA Method 8290A)	Gamma Spectroscopy (EPA Method 901.1)
9/13/2004	19-23268	2.5–3.0	North Slope Drainage	new	•	•	•	•	•		•
8/19/2004	19-22629	0–0.5	South Slope Drainage	new	•	•	•	•	•		•
9/8/2004	19-22629	1.5–2.0	South Slope Drainage	new	•	•	•	•	•	•	•
8/19/2004	19-22630	0–0.5	South Slope Drainage	new	•	•	•	•	•	•	•
9/8/2004	19-22630	1.25–1.75	South Slope Drainage	new	•	•	•	•	•	•	•
3/31/2005	19-22630	3.3–3.8[c]	South Slope Drainage	new	•						
3/31/2005	19-22630[b]	5.3–5.8[d]	South Slope Drainage	new	•						
8/19/2004	19-22631	0–0.5	South Slope Drainage	new	•	•	•	•	•	•	•
9/8/2004	19-22631	1.5–2.0	South Slope Drainage	new	•	•	•	•	•	•	•
3/31/2005	19-22631	3.5–4.0[c]	South Slope Drainage	new	•						
3/31/2005	19-22631	5.5–6.0[d]	South Slope Drainage	new	•						

Table 4.2-3 (continued)

[a] 0–0.5 ft indicates surface sampling.

[b] A field duplicate sample was collected at this location.

[c] Target depth of 2 ft below soil/tuff interface.

[d] Target depth of 4 ft below soil/tuff interface.

[e] TCLP analyses included metals per EPA Method 6020, except for mercury per EPA Method 7470A; VOCs per EPA Method 8260B; SVOCs per EPA Method 8270C.

AOC = Area of concern
bgs = Below ground surface
CU = Consolidated unit
EPA = U.S. Environmental Protection Agency
ft = Foot (feet)
ID = Identification
PCB = Polychlorinated biphenyl
RCRA = Resource Conservation and Recovery Act
RFI = RCRA Facility Investigation
SVOC = Semivolatile organic chemical
TAL = Target analyte list
TCLP = Toxicity characteristic leaching procedure
VCA = Voluntary corrective action
VOC = Volatile organic chemical
• = Submitted to fixed laboratory for analysis

Table 4.2-4
Inorganic Chemicals and Radionuclides with Concentrations above Background, CU 19-001-99

Chemical	Medium	Number of Analyses	Number of Detections	Concentration Range[a] (mg/kg)	LANL BV[b] (mg/kg)	Frequency of Detection (%)	COPC?
Aluminum	Soil	30	30	2360 to 15100	29,200	100	Yes
Aluminum	Tuff	28	28	310 to 8080	7,340	100	
Antimony	Soil	25	7	0.0574 to [0.452]	0.83	28	No
Antimony	Tuff	28	4	0.055 to [0.458]	0.5	14.3	
Arsenic	Soil	30	30	1.02 to 5.36	8.17	100	Yes
Arsenic	Tuff	28	25	0.415 to 5.83	2.79	89.3	
Barium	Soil	30	30	13.8 to 116	295	100	Yes
Barium	Tuff	28	28	2.28 to 121	46	100	
Beryllium	Soil	30	30	0.192 to 0.922	1.83	100	Yes
Beryllium	Tuff	28	28	0.11 to 2.37	1.21	100	
Cadmium	Soil	30	7	0.0542 to 5.57	0.4	23.3	Yes
Cadmium	Tuff	28	8	0.0867 to [0.571]	1.63	28.6	
Calcium	Soil	30	30	610 to 5600	6,120	100	No
Calcium	Tuff	28	28	217 to 28100	2,200	100	
Chromium	Soil	30	30	2.07 to 11.7	19.3	100	Yes
Chromium	Tuff	28	28	1.02 to 40	7.14	100	
Cobalt	Soil	30	30	0.309 to 6.55	8.64	100	Yes
Cobalt	Tuff	28	25	0.0865 to 203	3.14	89.3	
Copper	Soil	30	30	2.07 to 49.5	14.7	100	Yes
Copper	Tuff	28	28	0.83 to 10.4	4.66	100	
Iron	Soil	30	30	3400 to 15400	21,500	100	No
Iron	Tuff	28	28	1440 to 7350	14,500	100	
Lead	Soil	30	30	6.18 to 77.6	22.3	100	Yes
Lead	Tuff	28	27	0.254 to 23.7	11.2	96.4	
Magnesium	Soil	30	30	365 to 2270	4,610	100	No
Magnesium	Tuff	28	28	58.4 to 1690	1,690	100	

Table 4.2-4 (continued)

Chemical	Medium	Number of Analyses	Number of Detections	Concentration Range[a] (mg/kg)	LANL BV[b] (mg/kg)	Frequency of Detection (%)	COPC?
Manganese	Soil	30	30	88.1 to 1450	671	100	Yes
Manganese	Tuff	28	28	61.5 to 366	482	100	
Mercury	Soil	25	25	0.006 to 0.0968	0.1	100	No
Mercury	Tuff	28	19	0.0011 to 0.0362	0.1	67.9	
Nickel	Soil	30	30	1.15 to 7.21	15.4	100	No
Nickel	Tuff	28	28	0.354 to 5.15	6.58	100	
Potassium	Soil	30	30	405 to 2330	3,460	100	No
Potassium	Tuff	28	28	134 to 2500	3,500	100	
Selenium	Soil	30	16	0.204 to [2.77]	1.52	53.3	Yes
Selenium	Tuff	28	2	0.277 to [1.71]	0.3	7.1	
Silver	Soil	30	27	0.0332 to 0.856	1	90	Yes
Silver	Tuff	28	22	0.0161 to 5.96	1	78.6	
Sodium	Soil	30	30	35.6 to 727	915	100	No
Sodium	Tuff	28	28	75.5 to 1950	2,770	100	
Thallium	Soil	30	29	0.0318 to 0.179	0.73	96.7	No
Thallium	Tuff	28	9	0.0207 to 0.303	1.10	32.1	
Vanadium	Soil	30	30	3.01 to 32.5	39.6	100	No
Vanadium	Tuff	28	27	[0.731] to 8.18	17	96.4	
Zinc	Soil	30	30	15.4 to 1200	48.8	100	Yes
Zinc	Tuff	28	28	7.37 to 106	63.5	100	
Radionuclides (pCi/g)							
Cesium-137	Soil	29	25	[0.045] to 1.23	1.65[c]	86.2	No
Cesium-137	Tuff	8	0	[0.47] to [0.055]	0.1	0	
Uranium-235	Soil	30	0	[0.21] to [0.21]	0.20	0	Yes
Uranium-235	Tuff	8	1	[0.23] to 0.327	0.09	12.5	

Table 4.2-4 (continued)

[a] [#] denotes value is a nondetection; sample QL is shown for inorganic chemicals and MDA is shown for radionuclides.

[b] LANL (1998, 59730).

[c] Fallout value.

BV = Background value
COPC = Chemical of potential concern
CU = Consolidated unit
LANL = Los Alamos National Laboratory
MDA = Minimum detectable activity
mg/kg = Milligram(s) per kilogram
pCi/g = Picocurie(s) per gram
QL = Quantitation limit

Table 4.2-5
Inorganic COPCs: Samples with Concentrations above Background, CU 19-001-99

Chemical	Sample Depth (ft)	Medium	Location ID	Sample ID	Sample Concentration[a] (mg/kg)	LANL BV[b] (mg/kg)
Aluminum	1.25–1.75	Tuff	19-22630	RE19-04-55000	8,080	7,340
Arsenic	3.3–3.8	Tuff	19-22630	RE19-05-58702	2.86	2.79
Arsenic	1.5–2	Tuff	19-22631	RE19-04-55002	3.83	2.79
Arsenic	1.25–1.75	Tuff	19-22630	RE19-04-55000	5.83	2.79
Barium	6–6.5	Tuff	19-23266	RE19-05-58706	46.2	46
Barium	3–3.5	Tuff	19-22627	RE19-05-58698	59.9	46
Barium	1.25–1.75	Tuff	19-22627	RE19-04-54956	75.6	46
Barium	1.5–2	Tuff	19-22630	RE19-04-55000	81.9	46
Barium	3.5–4	Tuff	19-23266	RE19-04-54994	121	46
Beryllium	3.5–4	Tuff	19-22631	RE19-05-58704	1.35	1.21
Beryllium	1.5–2	Tuff	19-22631	RE19-04-55002	2.37	1.21
Cadmium	0–0.5	Soil	19-01028	RE19-04-54963	0.45 (J)	0.4
Cadmium	0–0.5	Soil	19-22606	RE19-04-54955	[0.50] (U)	0.4
Cadmium	3.5–4	Soil	19-23264	RE19-04-54992	[0.50] (U)	0.4
Cadmium	0–0.5	Soil	19-22599	RE19-04-54949	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22628	RE19-04-54953	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-23318	RE19-04-55003	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22631	RE19-04-55001	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22607	RE19-04-54948	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22621	RE19-04-54957	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22620	RE19-04-54947	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22627	RE19-04-54951	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22615	RE19-04-54954	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-23319	RE19-04-55004	[0.51] (U)	0.4
Cadmium	0–0.5	Soil	19-22629	RE19-04-54997	[0.52] (U)	0.4
Cadmium	0–0.5	Soil	19-23266	RE19-04-54978	[0.52] (U)	0.4
Cadmium	0–0.5	Soil	19-23265	RE19-04-54977	[0.52] (U)	0.4
Cadmium	0–0.5	Soil	19-22604	RE19-04-54952	[0.52] (U)	0.4
Cadmium	0–0.5	Soil	19-22630	RE19-04-54999	[0.52] (U)	0.4
Cadmium	3.5–4	Soil	19-23267	RE19-04-54995	[0.52] (U)	0.4
Cadmium	0–0.5	Soil	19-23268	RE19-04-54980	[0.53] (U)	0.4
Cadmium	0–0.5	Soil	19-23267	RE19-04-54979	[0.54] (U)	0.4
Cadmium	0–0.5	Soil	19-23264	RE19-04-54976	[0.54] (U)	0.4
Cadmium	0–0.5	Soil	19-23320	RE19-04-55005	0.62	0.4
Cadmium	0–0.5	Soil	19-01002	RE19-04-54958	1.18	0.4
Cadmium	0–0.5	Soil	19-01013	RE19-04-54961	5.57	0.4

Table 4.2-5 (continued)

Chemical	Sample Depth (ft)	Medium	Location ID	Sample ID	Sample Concentration[a] (mg/kg)	LANL BV[b] (mg/kg)
Chromium	2–2.5	Tuff	19-22627	RE19-04-54956	9.47	7.14
Chromium	4–4.5	Tuff	19-22608	RE19-05-58694	9.65	7.14
Chromium	3.5–4	Tuff	19-22631	RE19-05-58704	10.9	7.14
Chromium	1.25–1.75	Tuff	19-22630	RE19-04-55000	13.0	7.14
Chromium	5.5–6	Tuff	19-22631	RE19-05-58705	14.9	7.14
Chromium	5–5.5	Tuff	19-22615	RE19-05-58697	19.9	7.14
Chromium	5–5.5	Tuff	19-22627	RE19-05-58699	20.8	7.14
Chromium	3.3–3.8	Tuff	19-22630	RE19-05-58702	32.4	7.14
Chromium	6–6.5	Tuff	19-22608	RE19-05-58695	37	7.14
Chromium	5.3–5.8	Tuff	19-22630	RE19-05-58703	40	7.14
Cobalt	3.3–3.8	Tuff	19-22630	RE19-05-58702	4.78	3.14
Cobalt	3–3.5	Tuff	19-22615	RE19-05-58696	6.14	3.14
Cobalt	3–3.5	Tuff	19-22627	RE19-05-58698	14.7	3.14
Cobalt	5.3–5.8	Tuff	19-22630	RE19-05-58703	23.6	3.14
Cobalt	5–5.5	Tuff	19-22615	RE19-05-58697	35.7	3.14
Cobalt	4–4.5	Tuff	19-22608	RE19-05-58694	58.1	3.14
Cobalt	6–6.5	Tuff	19-22608	RE19-05-58695	62.3	3.14
Cobalt	3.5–4	Tuff	19-22631	RE19-05-58704	145	3.14
Cobalt	5.5–6	Tuff	19-22631	RE19-05-58705	189	3.14
Cobalt	5–5.5	Tuff	19-22627	RE19-05-58699	203	3.14
Copper	0–0.5	Soil	19-23320	RE19-04-55005	16.7	14.7
Copper	0–0.5	Soil	19-01013	RE19-04-54961	30.5	14.7
Copper	0–0.5	Soil	19-22615	RE19-04-54954	40.2	14.7
Copper	0–0.5	Soil	19-01028	RE19-04-54963	49.5	14.7
Copper	5.5–6	Tuff	19-22631	RE19-05-58705	4.75	4.66
Copper	3.5–4	Tuff	19-22631	RE19-05-58704	10.4	4.66
Lead	0–0.5	Soil	19-23321	RE19-04-55006	23.4	22.3
Lead	0–0.5	Soil	19-22598	RE19-04-54945	25.7	22.3
Lead	0–0.5	Soil	19-22607	RE19-04-54948	26.8	22.3
Lead	0–0.5	Soil	19-22621	RE19-04-54957	28.2	22.3
Lead	0–0.5	Soil	19-01016	RE19-04-54960	29.1	22.3
Lead	0–0.5	Soil	19-22628	RE19-04-54953	29.6	22.3
Lead	0–0.5	Soil	19-22606	RE19-04-54955	33.7	22.3
Lead	0–0.5	Soil	19-22615	RE19-04-54954	40.9	22.3
Lead	0–0.5	Soil	19-01013	RE19-04-54961	44.1	22.3
Lead	0–0.5	Soil	19-23320	RE19-04-55005	47.6	22.3
Lead	0–0.5	Soil	19-01028	RE19-04-54963	77.6	22.3

Table 4.2-5 (continued)

Chemical	Sample Depth (ft)	Medium	Location ID	Sample ID	Sample Concentration[a] (mg/kg)	LANL BV[b] (mg/kg)
Lead	3.3–3.8	Tuff	19-22630	RE19-05-58702	12.6	11.2
Lead	1.5–2	Tuff	19-22631	RE19-04-55002	17.4	11.2
Lead	1.5–2	Tuff	19-22629	RE19-04-54998	19.6	11.2
Lead	1.25–1.75	Tuff	19-22630	RE19-04-55000	23.7	11.2
Manganese	0–0.5	Soil	19-01002	RE19-04-54958	701	671
Manganese	0–0.5	Soil	19-01028	RE19-04-54963	761	671
Manganese	0–0.5	Soil	19-23320	RE19-04-55005	1450	671
Selenium	0–0.5	Soil	19-23320	RE19-04-55005	[2.77] (U)	1.52
Selenium	3–3.5	Tuff	19-22608	RE19-04-54946	[0.50] (U)	0.3
Selenium	1.5–2	Tuff	19-22631	RE19-04-55002	[0.51] (UJ)	0.3
Selenium	1.25–1.75	Tuff	19-22630	RE19-04-55000	0.51 (J)	0.3
Selenium	2–2.5	Tuff	19-22627	RE19-04-54956	[0.51] (U)	0.3
Selenium	1.5–2	Tuff	19-22629	RE19-04-54998	[0.52] (UJ)	0.3
Selenium	3.5–4	Tuff	19-23265	RE19-04-54993	[0.53] (UJ)	0.3
Selenium	2.5–3	Tuff	19-23268	RE19-04-54996	[0.55] (U)	0.3
Selenium	2.5–3	Tuff	19-01002	RE19-05-58684	[1.48] (U)	0.3
Selenium	4.5–5	Tuff	19-01002	RE19-05-58685	[1.48] (U)	0.3
Selenium	5–5.5	Tuff	19-22627	RE19-05-58699	[1.49] (U)	0.3
Selenium	3–3.5	Tuff	19-22615	RE19-05-58696	[1.5] (U)	0.3
Selenium	5–5.5	Tuff	19-22615	RE19-05-58697	[1.51] (U)	0.3
Selenium	5.5–6	Tuff	19-22631	RE19-05-58705	[1.51] (U)	0.3
Selenium	4.1–4.6	Tuff	19-01016	RE19-05-58687	[1.52] (U)	0.3
Selenium	4–4.5	Tuff	19-22608	RE19-05-58694	[1.53] (U)	0.3
Selenium	6–6.5	Tuff	19-22608	RE19-05-58695	[1.53] (U)	0.3
Selenium	3–3.5	Tuff	19-22627	RE19-05-58698	[1.53] (U)	0.3
Selenium	5.3–5.8	Tuff	19-22630	RE19-05-58703	[1.53] (U)	0.3
Selenium	4.5–5	Tuff	19-23321	RE19-05-58682	[1.55] (U)	0.3
Selenium	4.1–4.6	Tuff	19-01028	RE19-05-58689	[1.56 (U)	0.3
Selenium	2.1–2.6	Tuff	19-01016	RE19-05-58686	[1.58] (U)	0.3
Selenium	3.5–4	Tuff	19-22631	RE19-05-58704	[1.58] (U)	0.3
Selenium	6.5–7	Tuff	19-23321	RE19-05-58683	[1.58] (U)	0.3
Selenium	3.3–3.8	Tuff	19-22630	RE19-05-58702	[1.59] (U)	0.3
Selenium	8–8.5	Tuff	19-23266	RE19-05-58707	[1.65] (U)	0.3
Selenium	6–6.5	Tuff	19-23266	RE19-05-58706	[1.7] (U)	0.3
Selenium	2.1–2.6	Tuff	19-01028	RE19-05-58688	[1.71] (U)	0.3
Silver	5.3–5.8	Tuff	19-22630	RE19-05-58703	1.75 (J)	1
Silver	5–5.5	Tuff	19-22627	RE19-05-58699	2.85 (J)	1

Table 4.2-5 (continued)

Chemical	Sample Depth (ft)	Medium	Location ID	Sample ID	Sample Concentration[a] (mg/kg)	LANL BV[b] (mg/kg)
Silver	5.5–6	Tuff	19-22631	RE19-05-58705	3.7 (J)	1
Silver	3.5–4	Tuff	19-22631	RE19-05-58704	5.96 (J)	1
Zinc	0–0.5	Soil	19-01007	RE19-04-54959	57.1	48.8
Zinc	0–0.5	Soil	19-22615	RE19-04-54954	58.9	48.8
Zinc	0–0.5	Soil	19-22628	RE19-04-54953	60.4	48.8
Zinc	0–0.5	Soil	19-22607	RE19-04-54948	69.6	48.8
Zinc	0–0.5	Soil	19-01002	RE19-04-54958	511	48.8
Zinc	0–0.5	Soil	19-01013	RE19-04-54961	714	48.8
Zinc	0–0.5	Soil	19-23321	RE19-04-55006	778	48.8
Zinc	0–0.5	Soil	19-01016	RE19-04-54960	804	48.8
Zinc	0–0.5	Soil	19-01028	RE19-04-54963	970	48.8
Zinc	0–0.5	Soil	19-23320	RE19-04-55005	1,200	48.8
Zinc	4.5–5	Tuff	19-23321	RE19-05-58682	91.3	635
Zinc	3–3.5	Tuff	19-22608	RE19-04-54946	106	635

[a] [#] denotes value is a nondetection; sample QL is shown.

[b] LANL (1998, 59730).

BV = Background value
COPC = Chemical of potential concern
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
J = Analytical result was estimated
LANL = Los Alamos National Laboratory
mg/kg = Milligram(s) per kilogram
QL = Quantitation limit
U = Analytical result was not detected
UJ = Analytical result was not detected and the value shown is estimated

Table 4.2-6
Radionuclide COPCs: Samples with Concentrations above Background, CU 19-001-99

Radionuclide	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Activity (pCi/g)	LANL BV[a] (pCi/g)
Uranium-235	2.5–3	Tuff	19-23268	RE19-04-54996	0.33	0.09

[a] LANL (1998, 59730).

bgs = Below ground surface
BV = Background value
COPC = Chemical of potential concern
CU = Consolidated unit
ft = Foot (feet)
ID = Identification
LANL = Los Alamos National Laboratory
pCi/g = Picocurie(s) per gram

Table 4.2-7
Organic COPCs: Frequency of Detection, CU 19-001-99

Chemical	Number of Analyses	Number of Detections	Frequency of Detection (%)
Semivolatile Organic Compounds			
Benzo(a)pyrene	46	5	10.9
Benzo(b)fluoranthene	46	11	23.9
Benzo(g,h,i)perylene	46	3	6.5
Benzoic Acid	46	2	4.3
Bis(2-ethylhexyl)phthalate	46	6	13
Chrysene	46	11	23.9
Di-n-butylphthalate	46	1	2.2
Fluoranthene	46	12	26.1
Indeno(1,2,3-cd)pyrene	46	4	8.7
Isophorone	46	1	2.2
Phenanthrene	46	10	21.7
Pyrene	46	13	28.3
Volatile Organic Compounds			
Acetone	38	1	2.6
Toluene	38	13	34.2
Pesticides			
DDD[4,4'-]	40	1	2.5
DDE[4,4'-]	40	5	12.5
DDT[4,4'-]	40	5	12.5
Dieldrin	40	1	2.5
Herbicides			
Dinoseb	40	2	5
MCPA	40	1	2.5
MCPP	40	1	2.5
T[2,4,5-]	40	1	2.5
Dioxins/Furans			
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	4	3	75
Heptachlorodibenzodioxins (Total)	4	3	75
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	4	2	50
Heptachlorodibenzofurans (Total)	4	2	50
Hexachlorodibenzodioxins (Total)	4	1	25
Hexachlorodibenzofurans (Total)	4	1	25
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	4	2	50
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	4	1	25
Pentachlorodibenzofurans (Total)	4	1	25
Tetrachlorodibenzofurans (Total)	4	1	25

Table 4.2-7 (continued)

Chemical	Number of Analyses	Number of Detections	Frequency of Detection (%)
Polychlorinated Biphenyls			
Aroclor-1242	48	3	6.3
Aroclor-1254	48	14	29.2
Aroclor-1260	48	19	39.6

CU = Consolidated unit
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
MCPA = Methyl chlorophenoxy acetic acid
MCPP = 2-(2-Methyl-4-chlorophenoxy)propionic acid
T = Trichlorophenoxyacetic acid

Table 4.2-8
Organic COPCs: Samples with Detected Organic Chemicals, CU 19-001-99

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Semivolatile Organic Compounds					
Benzo(a)pyrene	0–0.5	Soil	19-22620	RE19-04-54947	0.020 (J)
Benzo(a)pyrene	0–0.5	Soil	19-22598	RE19-04-54945	0.022 (J)
Benzo(a)pyrene	0–0.5	Soil	19-22607	RE19-04-54948	0.032 (J)
Benzo(a)pyrene	0–0.5	Soil	19-22615	RE19-04-54954	0.073
Benzo(a)pyrene	3–3.5	Tuff	19-22608	RE19-04-54946	0.076
Benzo(b)fluoranthene	0–0.5	Soil	19-01007	RE19-04-54959	0.019 (J)
Benzo(b)fluoranthene	0–0.5	Soil	19-22599	RE19-04-54949	0.023 (J)
Benzo(b)fluoranthene	0–0.5	Soil	19-22608	RE19-04-54950	0.024 (J)
Benzo(b)fluoranthene	0–0.5	Soil	19-22627	RE19-04-54951	0.025 (J)
Benzo(b)fluoranthene	0–0.5	Soil	19-22621	RE19-04-54957	0.035
Benzo(b)fluoranthene	0–0.5	Soil	19-22620	RE19-04-54947	0.053
Benzo(b)fluoranthene	0–0.5	Soil	19-22628	RE19-04-54953	0.059
Benzo(b)fluoranthene	0–0.5	Soil	19-22598	RE19-04-54945	0.066
Benzo(b)fluoranthene	0–0.5	Soil	19-22607	RE19-04-54948	0.14
Benzo(b)fluoranthene	0–0.5	Soil	19-22615	RE19-04-54954	0.26
Benzo(b)fluoranthene	3–3.5	Tuff	19-22608	RE19-04-54946	0.12
Benzo(g,h,i)perylene	0–0.5	Soil	19-22598	RE19-04-54945	0.028 (J)
Benzo(g,h,i)perylene	0–0.5	Soil	19-22615	RE19-04-54954	0.040
Benzo(g,h,i)perylene	3–3.5	Tuff	19-22608	RE19-04-54946	0.054
Benzoic Acid	0–0.5	Soil	19-23319	RE19-04-55004	0.28 (J)
Benzoic Acid	0–0.5	Soil	19-23318	RE19-04-55003	0.28 (J)
Bis(2-ethylhexyl)phthalate	3.5–4	Soil	19-23267	RE19-04-54995	0.040 (J)
Bis(2-ethylhexyl)phthalate	0–0.5	Soil	19-22615	RE19-04-54954	0.046 (J)
Bis(2-ethylhexyl)phthalate	0–0.5	Soil	19-01028	RE19-04-54963	0.053 (J)
Bis(2-ethylhexyl)phthalate	0–0.5	Soil	19-22606	RE19-04-54955	0.12 (J)

Table 4.2-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Bis(2-ethylhexyl)phthalate	0–0.5	Soil	19-22628	RE19-04-54953	7.3
Bis(2-ethylhexyl)phthalate	5.3–5.8	Tuff	19-22628	RE19-05-58701	0.12 (J)
Chrysene	0–0.5	Soil	19-22599	RE19-04-54949	0.024 (J)
Chrysene	0–0.5	Soil	19-01007	RE19-04-54959	0.025 (J)
Chrysene	0–0.5	Soil	19-01016	RE19-04-54960	0.028 (J)
Chrysene	0–0.5	Soil	19-22627	RE19-04-54951	0.029 (J)
Chrysene	0–0.5	Soil	19-22621	RE19-04-54957	0.042
Chrysene	0–0.5	Soil	19-22598	RE19-04-54945	0.046
Chrysene	0–0.5	Soil	19-22620	RE19-04-54947	0.056
Chrysene	0–0.5	Soil	19-22628	RE19-04-54953	0.067
Chrysene	0–0.5	Soil	19-22607	RE19-04-54948	0.15
Chrysene	0–0.5	Soil	19-22615	RE19-04-54954	0.30
Chrysene	3–3.5	Tuff	19-22608	RE19-04-54946	0.081
Di-n-butylphthalate	5.3–5.8	Tuff	19-22628	RE19-05-58701	0.036 (J)
Fluoranthene	0–0.5	Soil	19-22604	RE19-04-54952	0.018 (J)
Fluoranthene	0–0.5	Soil	19-22627	RE19-04-54951	0.053
Fluoranthene	0–0.5	Soil	19-01016	RE19-04-54960	0.055
Fluoranthene	0–0.5	Soil	19-01007	RE19-04-54959	0.063
Fluoranthene	0–0.5	Soil	19-22599	RE19-04-54949	0.070
Fluoranthene	0–0.5	Soil	19-22598	RE19-04-54945	0.076
Fluoranthene	0–0.5	Soil	19-22621	RE19-04-54957	0.082
Fluoranthene	0–0.5	Soil	19-22628	RE19-04-54953	0.14
Fluoranthene	0–0.5	Soil	19-22620	RE19-04-54947	0.15
Fluoranthene	0–0.5	Soil	19-22607	RE19-04-54948	0.31
Fluoranthene	0–0.5	Soil	19-22615	RE19-04-54954	0.46
Fluoranthene	3–3.5	Tuff	19-22608	RE19-04-54946	0.083

Table 4.2-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Indeno(1,2,3-cd)pyrene	0–0.5	Soil	19-22598	RE19-04-54945	0.024 (J)
Indeno(1,2,3-cd)pyrene	0–0.5	Soil	19-22607	RE19-04-54948	0.025 (J)
Indeno(1,2,3-cd)pyrene	0–0.5	Soil	19-22615	RE19-04-54954	0.041
Indeno(1,2,3-cd)pyrene	3–3.5	Tuff	19-22608	RE19-04-54946	0.046
Isophorone	4–4.5	Tuff	19-22608	RE19-05-58694	0.16 (J)
Phenanthrene	0–0.5	Soil	19-22627	RE19-04-54951	0.023 (J)
Phenanthrene	0–0.5	Soil	19-22598	RE19-04-54945	0.028 (J)
Phenanthrene	0–0.5	Soil	19-22599	RE19-04-54949	0.040
Phenanthrene	0–0.5	Soil	19-01016	RE19-04-54960	0.046
Phenanthrene	0–0.5	Soil	19-22621	RE19-04-54957	0.049
Phenanthrene	0–0.5	Soil	19-01007	RE19-04-54959	0.062
Phenanthrene	0–0.5	Soil	19-22620	RE19-04-54947	0.072
Phenanthrene	0–0.5	Soil	19-22628	RE19-04-54953	0.082
Phenanthrene	0–0.5	Soil	19-22615	RE19-04-54954	0.13
Phenanthrene	0–0.5	Soil	19-22607	RE19-04-54948	0.14
Pyrene	0–0.5	Soil	19-22608	RE19-04-54950	0.017 (J)
Pyrene	0–0.5	Soil	19-22599	RE19-04-54949	0.051
Pyrene	0–0.5	Soil	19-22627	RE19-04-54951	0.053
Pyrene	0–0.5	Soil	19-01007	RE19-04-54959	0.055
Pyrene	0–0.5	Soil	19-01016	RE19-04-54960	0.058
Pyrene	0–0.5	Soil	19-22598	RE19-04-54945	0.064
Pyrene	0–0.5	Soil	19-22621	RE19-04-54957	0.068
Pyrene	0–0.5	Soil	19-22620	RE19-04-54947	0.13
Pyrene	0–0.5	Soil	19-22628	RE19-04-54953	0.15
Pyrene	0–0.5	Soil	19-22607	RE19-04-54948	0.30
Pyrene	0–0.5	Soil	19-22615	RE19-04-54954	0.57

Table 4.2-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Pyrene	4–4.5	Tuff	19-22608	RE19-05-58694	0.013 (J)
Pyrene	3–3.5	Tuff	19-22608	RE19-04-54946	0.065
Volatile Organic Compounds					
Acetone	0–0.5	Soil	19-01007	RE19-04-54959	0.010
Toluene	0–0.5	Soil	19-22627	RE19-04-54951	0.00045 (J)
Toluene	0–0.5	Soil	19-22608	RE19-04-54950	0.00058 (J)
Toluene	0–0.5	Soil	19-23321	RE19-04-55006	0.00062 (J)
Toluene	0–0.5	Soil	19-22620	RE19-04-54947	0.00063 (J)
Toluene	0–0.5	Soil	19-22606	RE19-04-54955	0.00065 (J)
Toluene	0–0.5	Soil	19-22599	RE19-04-54949	0.00067 (J)
Toluene	0–0.5	Soil	19-01028	RE19-04-54963	0.00094 (J)
Toluene	0–0.5	Soil	19-22628	RE19-04-54953	0.00098 (J)
Toluene	0–0.5	Soil	19-22621	RE19-04-54957	0.00099 (J)
Toluene	0–0.5	Soil	19-22607	RE19-04-54948	0.0014
Toluene	0–0.5	Soil	19-23318	RE19-04-55003	0.0018
Toluene	0–0.5	Soil	19-22615	RE19-04-54954	0.0019
Toluene	3–3.5	Tuff	19-22608	RE19-04-54946	0.00053 (J)
Pesticides					
DDD[4,4'-]	0–0.5	Soil	19-22606	RE19-04-54955	0.00044 (J)
DDE[4,4'-]	0–0.5	Soil	19-22615	RE19-04-54954	0.00034 (J)
DDE[4,4'-]	0–0.5	Soil	19-22631	RE19-04-55001	0.00035 (J)
DDE[4,4'-]	0–0.5	Soil	19-22607	RE19-04-54948	0.00047 (J)
DDE[4,4'-]	0–0.5	Soil	19-22621	RE19-04-54957	0.00051 (J)
DDE[4,4'-]	0–0.5	Soil	19-22606	RE19-04-54955	0.0016
DDT[4,4'-]	0–0.5	Soil	19-22607	RE19-04-54948	0.00055 (J)
DDT[4,4'-]	0–0.5	Soil	19-23266	RE19-04-54978	0.00063 (J)

Table 4.2-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
DDT[4,4'-]	0–0.5	Soil	19-22630	RE19-04-54999	0.00068 (J)
DDT[4,4'-]	0–0.5	Soil	19-22628	RE19-04-54953	0.00089 (J)
DDT[4,4'-]	0–0.5	Soil	19-22606	RE19-04-54955	0.0014
Dieldrin	0–0.5	Soil	19-01007	RE19-04-54959	0.0011 (J)
Herbicides					
Dinoseb	0–0.5	Soil	19-22607	RE19-04-54948	0.0022 (J)
Dinoseb	0–0.5	Soil	19-22628	RE19-04-54953	0.0038 (J)
MCPA	0–0.5	Soil	19-22599	RE19-04-54949	0.52 (J)
MCPP	0–0.5	Soil	19-22599	RE19-04-54949	1.2
T[2,4,5-]	0–0.5	Soil	19-22599	RE19-04-54949	0.0054
Dioxins/Furans					
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	0–0.5	Soil	19-23321	RE19-04-55006	4.7E-06
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	6.5–7	Tuff	19-23321	RE19-05-58683	1.2E-07 (J)
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	4.5–5	Tuff	19-23321	RE19-05-58682	1.5E-07 (J)
Heptachlorodibenzodioxins (Total)	0–0.5	Soil	19-23321	RE19-04-55006	9.8E-06
Heptachlorodibenzodioxins (Total)	6.5–7	Tuff	19-23321	RE19-05-58683	1.2E-07
Heptachlorodibenzodioxins (Total)	4.5–5	Tuff	19-23321	RE19-05-58682	2.9E-07
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	0–0.5	Soil	19-23319	RE19-04-55004	1.8E-07 (J)
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	0–0.5	Soil	19-23321	RE19-04-55006	5.7E-06
Hexachlorodibenzodioxins (Total)	0–0.5	Soil	19-23321	RE19-04-55006	2.0E-06
Hexachlorodibenzofurans (Total)	0–0.5	Soil	19-23321	RE19-04-55006	3.2E-06
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	0–0.5	Soil	19-23319	RE19-04-55004	3.0E-06 (J)
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	0–0.5	Soil	19-23321	RE19-04-55006	3.6E-05
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	0–0.5	Soil	19-23321	RE19-04-55006	3.1E-06 (J)
Pentachlorodibenzofurans (Total)	0–0.5	Soil	19-23321	RE19-04-55006	7.4E-07
Tetrachlorodibenzofurans (Total)	0–0.5	Soil	19-23321	RE19-04-55006	2.3E-07

Table 4.2-8 (continued)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Polychlorinated Biphenyls					
Aroclor-1242	0–0.5	Soil	19-01265	RE19-04-54974	0.0052
Aroclor-1242	0–0.5	Soil	19-01016	RE19-04-54960	0.0076
Aroclor-1242	0–0.5	Soil	19-01002	RE19-04-54958	0.011
Aroclor-1254	0–0.5	Soil	19-23320	RE19-04-55005	0.0043
Aroclor-1254	0–0.5	Soil	19-01002	RE19-04-54958	0.0058
Aroclor-1254	0–0.5	Soil	19-01265	RE19-04-54974	0.0058
Aroclor-1254	0–0.5	Soil	19-22620	RE19-04-54947	0.0078
Aroclor-1254	0–0.5	Soil	19-01016	RE19-04-54960	0.010
Aroclor-1254	0–0.5	Soil	19-22599	RE19-04-54949	0.011
Aroclor-1254	0–0.5	Soil	19-22606	RE19-04-54955	0.012
Aroclor-1254	0–0.5	Soil	19-22608	RE19-04-54950	0.014
Aroclor-1254	0–0.5	Soil	19-22598	RE19-04-54945	0.23
Aroclor-1254	3.3–3.8	Tuff	19-22606	RE19-05-58692	0.00074 (J)
Aroclor-1254	6–6.5	Tuff	19-22599	RE19-05-58691	0.00099 (J)
Aroclor-1254	4–4.5	Tuff	19-22599	RE19-05-58690	0.0012 (J)
Aroclor-1254	5.3–5.8	Tuff	19-22606	RE19-05-58693	0.0017 (J)
Aroclor-1254	3–3.5	Tuff	19-22608	RE19-04-54946	0.028
Aroclor-1260	0–0.5	Soil	19-22604	RE19-04-54952	0.0018
Aroclor-1260	0–0.5	Soil	19-01271	RE19-04-54975	0.0019 (J)
Aroclor-1260	0–0.5	Soil	19-22627	RE19-04-54951	0.0021 (J)
Aroclor-1260	0–0.5	Soil	19-22621	RE19-04-54957	0.0024 (J)
Aroclor-1260	0–0.5	Soil	19-22628	RE19-04-54953	0.0025
Aroclor-1260	0–0.5	Soil	19-22615	RE19-04-54954	0.0027 (J)
Aroclor-1260	0–0.5	Soil	19-01016	RE19-04-54960	0.0031 (J)
Aroclor-1260	0–0.5	Soil	19-01002	RE19-04-54958	0.0039

Table 4.2-8 (concluded)

Chemical	Sample Depth (ft bgs)	Medium	Location ID	Sample ID	Sample Concentration (mg/kg)
Aroclor-1260	0–0.5	Soil	19-22599	RE19-04-54949	0.0048
Aroclor-1260	0–0.5	Soil	19-22607	RE19-04-54948	0.0048
Aroclor-1260	0–0.5	Soil	19-01013	RE19-04-54961	0.0050
Aroclor-1260	0–0.5	Soil	19-01265	RE19-04-54974	0.0053
Aroclor-1260	0–0.5	Soil	19-22606	RE19-04-54955	0.0077
Aroclor-1260	0–0.5	Soil	19-22620	RE19-04-54947	0.0081
Aroclor-1260	0–0.5	Soil	19-01028	RE19-04-54963	0.016
Aroclor-1260	0–0.5	Soil	19-22608	RE19-04-54950	0.018
Aroclor-1260	0–0.5	Soil	19-01007	RE19-04-54959	0.032
Aroclor-1260	0–0.5	Soil	19-22598	RE19-04-54945	0.075
Aroclor-1260	3–3.5	Tuff	19-22608	RE19-04-54946	0.011

bgs = Below ground surface
COPC = Chemical of potential concern
CU = Consolidated unit
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
ft = Foot (feet)
ID = Identification
J = Analytical result is estimated
MCPA = Methyl chlorophenoxy acetic acid
MCPP = 2-(2-Methyl-4-chlorophenoxy)propionic acid
mg/kg = Milligram(s) per kilogram
T = Trichlorophenoxyacetic acid

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Appendix A

Acronyms and Abbreviations

AOC	area of concern
bgs	below ground surface
BMP	best management practices
BV	background value
CD	compact disc
cm	centimeter(s)
COPC	chemical of potential concern
COPEC	chemical of potential ecological concern
CSM	conceptual site model
CU	consolidated unit
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DOE	U.S. Department of Energy
ENV	Environmental Stewardship (a Los Alamos National Laboratory division)
EQL	estimated quantitation limit
EPA	U.S. Environmental Protection Agency
ERS	Environmental Remediation and Surveillance (a Los Alamos National Laboratory program)
ESL	ecological screening level
ft	foot (feet)
FV	fallout value
HI	hazard index
HPCDD	heptachlorodibenzodioxin
HPCDF	heptachlorodibenzofuran
HQ	hazard quotient
HSR-1	Health, Safety, and Radiation (a Los Alamos National Laboratory group)
in.	inch(es)
ID	identification
IWD	Integrated work document
km	kilometer(s)
km^2	square kilometer(s)
LANL	Los Alamos National Laboratory
LASO	Los Alamos Site Office
LIA	Laboratory Information Architecture
m	meter(s)
m^3	cubic meter(s)
MCPA	methyl chlorophenoxy acetic acid

MCPP	2-(2-methyl-4-chlorophenoxy)propionic acid
MDL	method detection limit
mg/kg	milligram(s) per kilogram
mi	mile(s)
mi^2	square mile(s)
ND	nondetection
NMED	New Mexico Environment Department
NOAEL	no-observed-adverse-effect level
OSHA	Occupational Safety and Health Act
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
ppb	part(s) per billion
ppm	part(s) per million
QL	quantitation limit
QP	quality procedure
RCRA	Resource Conservation and Recovery Act
RfD	reference dose
RFI	RCRA facility investigation
SAL	screening action level
SCL	sample collection log
SF	slope factor
SMO	Sample Management Office
SOP	standard operating procedure
SSHASP	site-specific health and safety plan
SSL	soil screening level
SVOC	semivolatile organic compound
SWMU	solid waste management unit
T&E	threatened and endangered
TA	technical area
TAL	target analyte list
TCDD	tetrachlorodibenzodioxin [2,3,7,8-]
TEF	toxicity equivalency factor
UCL	upper confidence limit
VCA	voluntary corrective action
VOC	volatile organic compound
XRF	x-ray fluorescence
yd^3	cubic yard(s)

Appendix B

Field Methods

INTRODUCTION

This appendix provides documentation of field activities performed in support of the remedy at Consolidated Unit (CU) 19-001-99, the former Technical Area (TA) 19 (the former East Gate Laboratory) at Los Alamos National Laboratory (LANL or the Laboratory).

The three attachments in this appendix provide documentation of the field screening activities, waste generation and disposal activities, and sample collection technical changes in accordance with the Compliance Order on Consent (hereafter, the Consent Order) signed by the New Mexico Environment Department (NMED), the U.S. Department of Energy, and the Regents of the University of California on March 1, 2005. The Consent Order was issued pursuant to the New Mexico Hazardous Waste Act (HWA), NMSA 1978, § 74-4-10, and the New Mexico Solid Waste Act (SWA), NMSA 1978, § 74-9-36(D).

In Attachment B1.1, please note that the page numbers on the sample collection logs are an artifact of the paperwork generation. Any pages that do not appear in the attachment were marked “Not Collected” and returned to the sample management office in compliance with established procedures to account for all sample collection logs generated. Gaps in the page number sequence do not imply missing logs.

List of Attachments

Attachment B1 Field Screening Program (Event #1)

- Attachment B1.1 Field Screening (Event #1) Sample Collection Logs
- Attachment B1.2 XRF Analysis Data Sheets
- Attachment B1.3 PAH Assay Data Sheets
- Attachment B1.4 PCB Assay Data Sheets
- Attachment B1.5 Equipment Calibration Logs

Attachment B2 Investigative Derived Waste Documentation

- Attachment B2.1 Waste Characterization Strategy Forms
- Attachment B2.2 Waste Profile Forms
- Attachment B2.3 Chemical Waste Disposal Requests
- Attachment B2.4 Waste Manifest Forms

Attachment B3 Documentation of Technical Changes

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Attachment B1

Field Screening Program (Event #1)

Attachment B1.1

Field Screening (Event #1) Sample Collection Logs

os Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-52889

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		11:17	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22598	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Pin flag is labeled AOC-1. Moist soil; dark brown

SAMPLE LOCATION DESC: 19-22598

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardner (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopkins (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-52891

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		11:21	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22599	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		No

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-2. moist soil; organic matter; Fine grain

SAMPLE LOCATION DESC: 19-22599

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Garder (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-52093

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		11:05	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22600	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-3 moist soil, light brown, some organic matter.

SAMPLE LOCATION DESC: 19-22600

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardea (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas L. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-52995

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLE
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		11:28	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22601	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (ft / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (ft / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-4. Dry light brown clay, some organic matter.

SAMPLE LOCATION DESC: 19-22601

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardon (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-52997

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		11:40	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22602	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-5. Dry, light brown; some organic matter

SAMPLE LOCATION DESC: 19-22602

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardea (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-32893

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		11:42	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22603	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-6. Moist, dark brown, some organic matter.

SAMPLE LOCATION DESC: 19-22603

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gaudi (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53001

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		11:45	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22604	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-7. Moist, dark brown, organic matter, fine to medium grain.

SAMPLE LOCATION DESC: 19-22604

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gonzales (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53003

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04
TIME COLLECTED (HH:MM):		11:48
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22605	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLE
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	OK
FIELD QC TYPE:	NA	OK
COMPOSITE TYPE:	NA	OK
FIELD PREP:	NA	OK
SAMPLE USAGE:	SCR	OK

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-8. moist, dark brown, minimal organic matter, Fine grain.

SAMPLE LOCATION DESC: 19-22605

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Garcia (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53005

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	~~NA~~ OK
TIME COLLECTED (HH:MM):		11:51	SAMPLE TECH CODE:	SS	~~NA~~ OK
PRS ID:	PRS: 19-001-99	~~NA~~ OK	FIELD QC TYPE:	NA	NA
LOCATION ID:	19-22606	~~NA~~ OK	COMPOSITE TYPE:	NA	NA
LOCATION TYPE:	GENERIC	~~NA~~ OK	FIELD PREP:	NA	NA
TOP DEPTH ():	0.00	~~NA~~ OK (FT / cm / NA)	SAMPLE USAGE:	SCR	~~NA~~ OK
BOTTOM DEPTH ():	0.50	~~NA~~ OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	~~NA~~ OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

KH 9/7/04

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pinflag is labeled AOC-9. moist, light brown, some organic matter.

SAMPLE LOCATION DESC: 19-22606

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gaudio (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19-04-53007

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		11:55	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22607	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 rev. 2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-10. moist, dark brown, some organic matter, Fine grain

SAMPLE LOCATION DESC: 19-22607

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gallegos (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53009

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1416	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22608	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-11. moist; brown, some organic matter, fine grained.

SAMPLE LOCATION DESC: 19-22608

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardum (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinka (SIGNATURE) [signature] (DATE) 8/18/04

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Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53011

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1419	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22609	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-12. Moist, brown, fine grained sand

SAMPLE LOCATION DESC: 19-22609

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardun (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53013

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1421	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22610	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-13. moist, brown, fine grained sand, organic matter

SAMPLE LOCATION DESC: 19-22610

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacob Gonzales (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hoffmeister (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53015

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1424	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22611	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Pin flag is labeled AOC-14. moist, dark brown, some cobbles

SAMPLE LOCATION DESC: 19-22611

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jeremy Gardner (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hoginkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53017

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1428	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22612	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):	NA	

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-15. light brown, moist, organic matter, fine grained

SAMPLE LOCATION DESC: 19-22612

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardon (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519/04-53019

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1430	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22613	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-16. moist, organic matter, light brown, fine grained sand.

SAMPLE LOCATION DESC: 19-22613

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardens (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53021

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1435	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22614	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-17. moist, dark brown, some organic matter.

SAMPLE LOCATION DESC: 19-22614

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinta Gardner (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53023

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04
TIME COLLECTED (HH:MM):		1437
PRS ID:	PRS: 19-001-99	ok
LOCATION ID:	19-22615	ok
LOCATION TYPE:	GENERIC	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)
FIELD MATRIX:	S	ok

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	ok
SAMPLE TECH CODE:	SS	ok
FIELD QC TYPE:	NA	ok
COMPOSITE TYPE:	NA	ok
FIELD PREP:	NA	ok
SAMPLE USAGE:	SCR	ok

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-18. moist, brown, organic matter.

SAMPLE LOCATION DESC: 19-22615

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Garcia (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53025

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1443	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22616	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-19. Fine to medium grain, some organic matter, moist.

SAMPLE LOCATION DESC: 19-22616

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinta Gardner (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas L. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53027

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1445	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22617	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-20. moist, brown, minimal organic matter, Fine grained.

SAMPLE LOCATION DESC: 19-22617

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardner (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS18/04-53029

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1448	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22618	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-21. Moist, brown, fine grained.

SAMPLE LOCATION DESC: 19-22618

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gurdian (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hazinski (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS18/04-53081

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1452	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22619	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Pin flag is labeled AOC-22. Moist, dark brown, organic matter fine grained.

SAMPLE LOCATION DESC: 19-22619

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinth Gardner (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53083

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1455	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22620	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-23. moist, dark brown, organic matter.

SAMPLE LOCATION DESC: 19-22620

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardea (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53085

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1458	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22621	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-24. Moist, brown, some organic matter, some cobbles.

SAMPLE LOCATION DESC: 19-22621

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardner (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C Hamilton (SIGNATURE) [signature] (DATE) 8/18/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53087

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1500	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22622	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):	NA	

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled ADC-25. Dark brown, fine grain, organic matter, moist.

SAMPLE LOCATION DESC: 19-22622

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardea (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53089

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1530	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22623	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-26. moist, some organic matter, dark brown.

SAMPLE LOCATION DESC: 19-22623

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardea (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hoginski (SIGNATURE) [signature] (DATE) 8/18/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53049

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1533	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22628	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Pin flag is labeled AOC-31. moist, some organic matter fine grain.

SAMPLE LOCATION DESC: 19-22628

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) [illegible] (SIGNATURE) [signature] (DATE) 8.18.04

REVIEWED BY: (PRINTED NAME) [illegible] (SIGNATURE) [signature] (DATE) 8/18/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519-04-53047

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1537	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22627	ok	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	ok
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-30. moist, organic matter, fine grain.

SAMPLE LOCATION DESC: 19-22627

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Garcia (SIGNATURE) [signature] (DATE) 8.18.04

REVIEWED BY: (PRINTED NAME) Douglas C. Hoffmeister (SIGNATURE) [signature] (DATE) 8/18/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53045

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1540	SAMPLE TECH CODE:	SS	ok
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	ok
LOCATION ID:	19-22626	OK	COMPOSITE TYPE:	NA	ok
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	ok
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-29 Some organic matter, moist dark brown.

SAMPLE LOCATION DESC: 19-22626

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Garcia (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/18/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53043

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLE
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1542	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22625	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 8-18-04 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-28. Collected 8" NW of location. moist brown, organic matter.

SAMPLE LOCATION DESC: 19-22625

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gonzales (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Higginbotham (SIGNATURE) [signature] (DATE) 8/18/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53041

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		8-18-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		~~1533~~ 8-18-04 1546	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22624	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	

ER SOP Followed: 6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag is labeled AOC-27. Moist, some organic matter fine grain, da

SAMPLE LOCATION DESC: 19-22624

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gurgles (SIGNATURE) [signature] (DATE) 8-18-04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopkins (SIGNATURE) [signature] (DATE) 8/18/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519/04-53689

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		08/19/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		0947	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01256		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA✓
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.0.9 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, dark brown, some tuff material, fine grained soil, organic matter.

SAMPLE LOCATION DESC: 19-01256

Location Description: South mesa slope

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gonzales (SIGNATURE) [signature] (DATE) 8/19/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/19/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53051

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/19/2004	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		~~0947~~ 0958 8/19/04	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	
LOCATION ID:	19-22629		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA✓
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, dark brown in color, ~~some tuff material~~ DK 8/19/04, fine grained sand/soil, organic matter.

SAMPLE LOCATION DESC: 19-22629

Location Description: Pin flag is labeled "#1". South mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gallardo (SIGNATURE) [signature] (DATE) 8/19/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/19/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53053

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		08/19/2004	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		ok ~~0958~~ 1004 8/19/04	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	
LOCATION ID:	19-22630		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 rev. 2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, dark brown in color, fine to medium grain texture, minimal organic matter.

SAMPLE LOCATION DESC: 19-22630

Location Description: Pin flag is labeled "#2". South mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Juanita Gallegos (SIGNATURE) [signature] (DATE) 8/19/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hoppinstah (SIGNATURE) [signature] (DATE) 8/19/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53065

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/19/2004	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1009	SAMPLE TECH CODE:	SS	↓
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	↓
LOCATION ID:	19-22631	↓	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH ():	0.00	ok (ft / cm / NA)	SAMPLE USAGE:	SCR	↓
BOTTOM DEPTH ():	0.50	ok (ft / cm / NA)	WATER FLOWING :		YES___ NO___ NA✓
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, brown in color, minimal organic matter, fine grained soil.

SAMPLE LOCATION DESC: 19-22631

Location Description: pin flag is labeled "#3". South mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardunno (SIGNATURE) [signature] (DATE) 8/19/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hoffmeister (SIGNATURE) [signature] (DATE) 8/19/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-54823

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/20/2004	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		0941	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:		
LOCATION ID:	19-23264		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA ✓
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev.2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Saturated, dark brown, fine grained soil, homogeneous, some organic matter

SAMPLE LOCATION DESC: 19-23264

Location Description: Pin flag labeled. North mesa slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gerduno (SIGNATURE) [signature] (DATE) 8/20/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/20/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-54825

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/20/2004	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		0955	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:		
LOCATION ID:	19-23265		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA✓
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, dark brown, fine grain soil, organic matter, some small rock/pebbles.

SAMPLE LOCATION DESC: 19-23265

Location Description: North meso slope drainage

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jaime Gardyno (SIGNATURE) [signature] (DATE) 8/20/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/20/04

Los Alamos National Laboratory
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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R5[illegible]/04-5482X

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/20/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1008	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		
LOCATION ID:	19-23266		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (F / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (F / cm / NA)	WATER FLOWING :		YES___ NO___ NA✓
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		609 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, dark brown, fine to medium grain soil, some organic matter

SAMPLE LOCATION DESC: 19-23266

Location Description: North mesa slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardunio (SIGNATURE) [signature] (DATE) 8/20/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/20/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-54829

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/20/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1015	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		
LOCATION ID:	19-23267		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (F / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (F / cm / NA)	WATER FLOWING :		YES___ NO___ NA✓
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, dark brown, medium grain soil/sand size particles.

SAMPLE LOCATION DESC: 19-23267

Location Description: North mesa slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jacinto Gardano (SIGNATURE) [signature] (DATE) 8/20/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/20/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-54881

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/20/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1021	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		
LOCATION ID:	19-23268		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA ✓
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 rev. 2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, dark brown, fine to medium grain soil/sand.

SAMPLE LOCATION DESC: 19-23268

Location Description: North mesa slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Jeanie Gardner (SIGNATURE) [signature] (DATE) 8/20/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/20/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53679

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY): KH 8-18-04		~~093~~ 08/23/2004
TIME COLLECTED (HH:MM):		0937
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01251	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	(FT / cm / NA)
BOTTOM DEPTH ():	0.50	(FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, dark brown, organic matter, fine-grained sand homogeneous.

SAMPLE LOCATION DESC: 19-01251

Location Description: Historical RFI location on South Mesa top.

FIELD SCREENING/MEASUREMENT RESULTS: RAD Survey: alpha < background
beta = 300 dpm

COLLECTED BY: (PRINTED NAME) Jacinto Gardner (SIGNATURE) [signature] (DATE) 8/28/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53681

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004
TIME COLLECTED (HH:MM):		0942
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01252	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	(FT / cm / NA)
BOTTOM DEPTH ():	0.50	(FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, fine to medium grained, some clay content. roots + organic matter

SAMPLE LOCATION DESC: 19-01252

Location Description: Historical location of cliff edge. No soil to sample. Sample moved 26 feet NW to current drainage area.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: alpha < background
beta = 200 cpm

COLLECTED BY: (PRINTED NAME) Jacinto Gurulen (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519/04-53683

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		0947	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01253		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S		SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Sand, moist, fine to medium grained, homogenous brown.

SAMPLE LOCATION DESC: 19-01253

Location Description: Historic location on cliff edge. no soil to collect. Historic sample location moved 29 feet NE to sample in current drainage

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: alpha < background
beta = 100 cpm

COLLECTED BY: (PRINTED NAME) Jacinto Gurule (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

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Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: ~~RE19-04-53705~~

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/~~19~~ 23/2004 KH 8-23-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		~~1444~~ 0954 KH 8-23-04	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01265		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	

ER SOP Followed: 6.09 R2, 1.08 R1

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Slightly moist, fine grained w/ small pebbles

~~RAD survey results: alpha < BV, beta = 400 cpm~~ KH 8-23-04

SAMPLE LOCATION DESC: 19-01265

Location Description: Historical Mesa top RFI location

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: alpha < background
beta ≈ 400 cpm

COLLECTED BY: (PRINTED NAME) Jacinto Gardunio (SIGNATURE) [signature] (DATE) 8/19/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/19/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53703

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		~~08/18~~ 23/2004 KH 8-23-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		~~1448~~ 0958 KH 8-23-04	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01264		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	

ER SOP Followed: 6.09 R2, 1.08 R1

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, light brown w/ little organic matter, fine-grained homogenous grainsize

SAMPLE LOCATION DESC: 19-01264

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS: RAD Survey results: alpha ~~<background~~ =200dpm; beta ~~=300 cpm~~ <background KH 8-23-04

COLLECTED BY: (PRINTED NAME) Jacinto Gardunio (SIGNATURE) [signature] (DATE) 8/19/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/19/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53701

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/~~19~~ 23/2004 KH 8-23-04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		~~1452~~ 1003 KH 8-23-04	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01263		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2, 1.08 R1	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, light to medium brown w/ roots. fine to medium grains w/ sparse cobbles.

SAMPLE LOCATION DESC: 19-01263

Location Description: Surface covered w/ a matrix of large boulders. Boulders removed to reach surface of soil

FIELD SCREENING/MEASUREMENT RESULTS: RAD survey: alpha < background; beta < ~~[illegible]~~ KH 8-23-04 = 100 dpm

COLLECTED BY: (PRINTED NAME) Jacinto Gardunio (SIGNATURE) [signature] (DATE) 8/19/04

REVIEWED BY: (PRINTED NAME) Douglas Lippinkah (SIGNATURE) [signature] (DATE) 8/19/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53699

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1008	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01262		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S		SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, lots of roots, some cobbles, brown, fine to medium grained, organic matter

SAMPLE LOCATION DESC: 19-01262

Location Description: Historic RFI Meta top location. Septic tank location.

FIELD SCREENING/MEASUREMENT RESULTS: RAD survey: alpha: < background
beta: ≈ 100 dpm.

COLLECTED BY: (PRINTED NAME) Jacinta Gardner (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hull (SIGNATURE) [signature] (DATE) 8/23/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53697

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004
TIME COLLECTED (HH:MM):		1021
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01261	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	(FT / cm / NA)
BOTTOM DEPTH ():	0.50	(FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown to grey w/ tuff cobbles. Some organic matter, fine to medium grained.

SAMPLE LOCATION DESC: 19-01261

Location Description: Historic RFI location of mesa top. W drainline location

FIELD SCREENING/MEASUREMENT RESULTS: RAD survey: alpha < background
beta = 600 dpm

COLLECTED BY: (PRINTED NAME) Jolinda Gardner (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53711

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1025	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01272		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S		SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown to grey, medium to fine-grained w/ tuff cobbles, slightly moist, minimal roots + organic matter.

SAMPLE LOCATION DESC: 19-01272

Location Description: Historic RFI location on mesa top. Western drainline location.

FIELD SCREENING/MEASUREMENT RESULTS: RAD survey results: alpha 2 background beta = 600 dpm.

COLLECTED BY: (PRINTED NAME) Jacinto Gurulé (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53715

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004
TIME COLLECTED (HH:MM):		1028
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01271	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	(F / cm / NA)
BOTTOM DEPTH ():	0.50	(F / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: brown, fine to medium grained w/ tuff cobbles. Moist w/ some organic matter + roots.

SAMPLE LOCATION DESC: 19-01271

Location Description: Historic RFI location on mesa top. Western drainline location

FIELD SCREENING/MEASUREMENT RESULTS: RAD survey results: alpha < background
beta = 700 dpm

COLLECTED BY: (PRINTED NAME) Lucinda Gurule (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas L. Hopkins (SIGNATURE) [signature] (DATE) 8/23/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53695

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1031	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01260		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S		SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6-09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, organic matter, fine to medium grained w/ tuff cobbles. brown

SAMPLE LOCATION DESC: 19-01260

Location Description: Historic RFI location on mesa top. Western drainline location

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: alpha < background
beta = 700 dpm

COLLECTED BY: (PRINTED NAME) Jacinto Gurule (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53693

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004
TIME COLLECTED (HH:MM):		1034
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01259	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	(FT / cm / NA)
BOTTOM DEPTH ():	0.50	(FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLEC
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, some organic matter, fine to medium grained w/ tuff cobbles (20% ~~matrix~~ cobbles to matrix) KH 8-23-04

SAMPLE LOCATION DESC: 19-01259

Location Description: Historic RFI location on mesa top. Western drainline

FIELD SCREENING/MEASUREMENT RESULTS: RAD Survey results: alpha < background. beta = 150 dpm

COLLECTED BY: (PRINTED NAME) Jacinto Reynoso (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53691

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		08/23/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1038	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01258		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S		SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, brown, soil w/ rocks + pebbles (20%). Some roots.

SAMPLE LOCATION DESC: 19-01258

Location Description: Historic RFI location on mesa top. Western drainline forthest North location.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: alpha: < background
beta: = 200 dpm

COLLECTED BY: (PRINTED NAME) Jacinto Gonzales (SIGNATURE) [signature] (DATE) 8/23/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 8/23/04

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Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-52898

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		0853	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22598	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 RZ

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4095~~	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag labeled AOC-1. light grey, dry, fine grained, no organic material. tuff @ soil/tuff interface

SAMPLE LOCATION DESC: 19-22598 – AOC-1 located 1 ft S. of located gas-line

Location Description: moved sample location 1 ft further South.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-52992

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM): KH 09-07-04		~~0903~~ 0917	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22599	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.0 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.5 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	NOT COLLECTED
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	" "
3	125 ML GLASS	NONE	Immunoassay	

Soil Sample collected @ 1.0 to 1.5 ft due to auger refusal.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag labeled AOC-2. Fine-grained, light brown, dry Small pebble-sized rock Shards

SAMPLE LOCATION DESC: 19-22599

Location Description: AOC-2 located 0.5 ft S of located gas line. Sample location moved 1.5 ft South of original location. Hit refusal collected sample 2.5 ft N of original locatation. Also hit refusal.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-52894

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		0925	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22600	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.0 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.4 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag labeled AOC-3 Fine-grained light grey/white tuff, dry, some soil present

SAMPLE LOCATION DESC: 19-22600 Sample collected @ soil/tuff interface.

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-52998

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		0936	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22601	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Sample collected @ soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag labeled AOC-4. white/light-grey very fine-grained w/ course grained pumice fragments. ~~so~~ dry.

KH
09-07-04

SAMPLE LOCATION DESC: 19-22601

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-52998

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004
TIME COLLECTED (HH:MM):		0945
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22602	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.50	1.0 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	1.5 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QB3
SAMPLE TECH CODE:	HA	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

Tuff collected @ soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag labeled ACC-5. light/grey to white nonwelded tuff, dry, fine-grained, glass shards. Pumice fragments ~0.5 inches in diameter in ash matrix

SAMPLE LOCATION DESC: 19-22602

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19-04-53008

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		0950	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22603	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

tuff at the soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag labeled AOC-6. light-grey to white non-welded tuff. Grey pumice fragments ~ 0.5 inches suspended in a glassy/ash matrix. dry.

SAMPLE LOCATION DESC: 19-22603

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53002

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1001	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22604	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Soil collected @ the soil/tuff interface

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pin flag labeled AOC-7. light brown w/ numerous tuff fragments (pebble + cobble sized) dry, fine grained, no organics.

SAMPLE LOCATION DESC: 19-22604

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53004

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1010	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22605	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

tuff collected @ soil/tuff interface

Soil-brown, slightly moist, fine-grained w/ cobbles (rounded).

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink to light grey non-welded tuff. 0.5 to 1.0 cm rounded pumice fragments surrounded by a white/pink glass ash matrix. dry.

SAMPLE LOCATION DESC: 19-22605

Location Description: pin flag labeled AOC-8.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53006

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004
TIME COLLECTED (HH:MM):		1020
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22606	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLEC
EVAL CLASS:	ALLH	QST3
SAMPLE TECH CODE:	HA	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	NONE	~~4020~~	
2	~~125 ML GLASS~~	NONE	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

tuff collected @ soil/tuff interface. Interface was measured @ 6.5 inches

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light grey to white non-welded tuff w/ 0.5 inches in diameter grey coarse grained rounded pumice shards.

SAMPLE LOCATION DESC: 19-22606

Location Description: pin flag labeled AOC-9.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53008

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004
TIME COLLECTED (HH:MM):		1028
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22607	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.50	0.5 (F / cm / NA)
BOTTOM DEPTH ():	4.00	1.0 (F / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QBT3
SAMPLE TECH CODE:	HA	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

tuff collected @ soil/tuff interface @ 0.5 to 1.0 ft.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to light grey tuff w/ pumice fragments

SAMPLE LOCATION DESC: 19-22607

Location Description: pin flag labeled AOC-10.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53010

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1040	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22608	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	2.0 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

tuff at soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink to light grey fine grained tuff. Tuff is non-welded w/ small rock + glass fragments.

SAMPLE LOCATION DESC: 19-22608

Location Description: pinflag labeled AOC-11

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Bervell (SIGNATURE) Kate Bervell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53012

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1053	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22609	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.0 (ft / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.5 (ft / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Soil (weathered tuff) collected at the soil/tuff interface. tuff in dark brown w/ clay clasts. Altered, slightly moist. Some organic roots/matter in clay clasts.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown fine grained w/ pebbles + tuff fragments. Some roots, dry.

SAMPLE LOCATION DESC: 19-22609

Location Description: pin-flag is labeled AOC-12.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53014

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004
TIME COLLECTED (HH:MM):		1102
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22610	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.50	1.0 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	1.5 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QBT3
SAMPLE TECH CODE:	HA	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~<125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff collected at the soil/tuff interface. Contact depicted by a sharp contact w/ unweathered/unaltered tuff.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink to light grey-white non welded tuff. ~1-inch grey rounded pumice fragments surround by a white glass + crystalline matrix

SAMPLE LOCATION DESC: 19-22610

Location Description: pin flag labeled AOC-13.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53018

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1115	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22611	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4036~~	
3	125 ML GLASS	NONE	Immunoassay	

tuff at the soil/tuff interface. Contact is gradational sample collect beneath the altered tuff w/ clay clasts

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown to pink fine-grained, non welded, some soil + roots present.

SAMPLE LOCATION DESC: 19-22611

Location Description: pin flag is labeled AOC-14.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19-04-53018

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1120	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22612	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.0 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

tuff at the soil/tuff interface. Sharp contact.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: White to light-grey, unwelded, fine-grained tuff. pumice fragments surround by a smaller matrix (glassy, ash). pumice clasts show slightly ribbons of alteration along matrix-clast interface.

SAMPLE LOCATION DESC: 19-22612

Location Description: pin flag is labeled AOC-15.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09/10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53020

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1130	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22613	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	NONE	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

tuff at soil/tuff contact. Contact sharp. Top of tuff layer has white, cemented, slightly altered ash layer. Very fine-grained some lithic clasts. Grainsize overall homogenous.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light grey non-welded tuff w/ slightly altered white ash-dominant layer on top.

SAMPLE LOCATION DESC: 19-22613

Location Description: pin flag is labeled AOC-16.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53022

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004
TIME COLLECTED (HH:MM):		1136
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22614	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLE
EVAL CLASS:	ALLH	QBT3
SAMPLE TECH CODE:	HA	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	NONE	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff interface. Sharp contact.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to light-grey non welded, fine to medium-sized grained tuff. Round grey pumice clasts, ~0.5 inches, surrounded by light grey crystalline, glassy matrix. Some vesicles present (round)

SAMPLE LOCATION DESC: 19-22614

Location Description: pin flag is labeled AOC-17.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53024

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1144	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22615	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff interface. Sharp Contact.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: White to light-grey, non-welded, fine to medium grained tuff. Round grey + glassy pumice fragments, ~ 0.5 inches, surround by a white glass/crystalline matrix. Dry.

SAMPLE LOCATION DESC: 19-22615

Location Description: pin flag is labeled AOC-18.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53026

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1403	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22616	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff Collected at soil/tuff interface. Sharp contact.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light gray to pink/white fine grained tuff. Tuff is non welded w/ 0.5 cm pumice fragments (rounded) surround in a crystaline vesicular matrix

SAMPLE LOCATION DESC: 19-22616

Location Description: pin flag is labeled AOC-19.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53028

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004
TIME COLLECTED (HH:MM):		1410
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22617	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QBT3
SAMPLE TECH CODE:	HA	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff collected at soil/tuff contact. Gradational contact

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown to pink-grey weathered/altered tuff. Gradational contact. Altered pumice fragments.

SAMPLE LOCATION DESC: 19-22617

Location Description: pin flag is labeled AOC-20.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53088

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1430	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22618	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

Weathered tuff (soil) at soil/tuff contact. Contact gradational

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown to pink soil w/ tuff fragments. Dry, fine grained, no organic material.

SAMPLE LOCATION DESC: 19-22618

Location Description: pin flag is labeled AOC-21. Sample location moved 2 feet to the SE due to refusal.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53082

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1436	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22619	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at the soil/tuff contact. Sharp contact.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light-grey, fine-grained, non-welded tuff w/ some vesicles + pumice clasts.

SAMPLE LOCATION DESC: 19-22619

Location Description: pin flag labeled AOC-22.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53084

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLE
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QB73
TIME COLLECTED (HH:MM):		1440	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22620	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.0 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	NONE	4020	
~~2~~	~~125 ML GLASS~~	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff interface. Sharp contact.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: medium grained light grey to pink non-welded tuff. Matrix composed of glass shards + crystalline clasts. Some pumice fragments (~0.5 inches) rounded also present.

SAMPLE LOCATION DESC: 19-22620

Location Description: pin flag is labeled AOC-23.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53088

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/04	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1448	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22621	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.0 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

Tuff collected at soil/tuff interface. Contact is gradational.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to light-grey non-welded tuff. Pumice clasts present up to 1-inch long. Some small vesicles and glass shards also present.

SAMPLE LOCATION DESC: 19-22621

Location Description: pin flag is labeled AOC-24.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53088

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	GBT3
TIME COLLECTED (HH:MM):		1455	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22622	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.25 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.75 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff interface. Soil/Tuff Contact is

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to light-grey fine-grained tuff. Non welded, dry.

SAMPLE LOCATION DESC: 19-22622

Location Description: pin flag is labeled AOC-25.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Berrell (SIGNATURE) Kate Berrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53048

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1503	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22623	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff collected at the soil/tuff interface. Contact is gradational as roots + weathered zones are present at depth in the tuff.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to grey non-welded crystalline tuff w/ some vesicles.

SAMPLE LOCATION DESC: 19-22623

Location Description: pin flag is labeled AOC-26.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Kerrell (SIGNATURE) Kate Kerrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53042

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1525	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22624	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff contact. Tuff particles slightly weathered w/ stains along pumice fragments interfaces.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown to pink, non-welded, fine grained tuff w/ altered pumice clasts.

SAMPLE LOCATION DESC: 19-22624

Location Description: pin flag is labeled AOC-27

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53048

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1552	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22627	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	4020	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Soil at Soil/tuff interface. gradational contact

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown to pink fine grained w/ 50% fragments of non welded, slightly weathered crystalline tuff. Tuff still shows pumice fragments

SAMPLE LOCATION DESC: 19-22627

Location Description: pin flag is labeled AOC-30

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53044

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1533	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22625	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff contact. Soil/tuff contact gradational

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to light-grey non welded tuff. Tuff is crystallin fine grained w/ pumice + crystal fragments. few vesicles.

SAMPLE LOCATION DESC: 19-22625

Location Description: pin flag labeled AOC-28. Location anchored on tuff so location move 2 ft to the west.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53048

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1545	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22626	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Soil at soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, dry, fine grained soil, no organic matter, some tuff (non-welded) fragments/clasts.

SAMPLE LOCATION DESC: 19-22626

Location Description: pin flag labeled AOC-29.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53050

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/07/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1600	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22628	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	0.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Soil at the soil/tuff contact. Tuff at contact is highly crystalline w/ medium quartz grains + cemented. Auger refusal @ 1.0 ft at contact.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, fine-grained soil, w/ tuff fragments.

SAMPLE LOCATION DESC: 19-22628

Location Description: pin flag is labeled AOC-31.

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/07/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53058

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	Q653
TIME COLLECTED (HH:MM):		1003	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22631		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff interface.

KH 9-8-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: ~~medium to fine grained bio~~ light brown to pink non-welded tuff. 0.5 to 1.0mm quartz phenocrysts are surrounded by light brown ash/glass matrix. 1.0 to 2.0 cm pumice clasts are also present as well as lithic clasts (2 to 5%)

SAMPLE LOCATION DESC: 19-22631

Location Description: pin flag is labeled "#3".

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 384 DPM

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

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Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS18/04-53054

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLE
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1050	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22630	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.25 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	1.75 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink crystalline non welded tuff. Matrix is medium to fine grained w/ 1-2 mm quartz phenocrysts + partially devitrified, brown, pumice clasts - lithic fragments (~20%) are also present.

SAMPLE LOCATION DESC: 19-22630

Location Description: pin flag is labeled "#2"

FIELD SCREENING/MEASUREMENT RESULTS:

rad survey results: γ = NDA
β = 381 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19-04-53052

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1115	SAMPLE TECH CODE:	HA	OK
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	
LOCATION ID:	19-22629		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		N/A
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Tuff at soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: White to light grey fine-grained ash/glassy matrix surrounding (~1mm) quartz phenocrysts + 1 to 2 cm round, devitrified pumice clasts. Tuff matrix is friable.

SAMPLE LOCATION DESC: 19-22629

Location Description: pin flag is labeled "#1".

FIELD SCREENING/MEASUREMENT RESULTS:

rad survey results: γ = NDA
β = 531 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-54824

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLEC
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1435	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		NA
LOCATION ID:	19-23264		COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	3.50	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

Collected soil sample at target depth of 4.0 feet.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, fine to medium grained soil w/ some looser rock + cobbles. Dry

SAMPLE LOCATION DESC: 19-23264

Location Description:

N Mesa Slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS: RAD SURVEY RESULTS : γ = NDA
β = 456 dpm

COLLECTED BY: (PRINTED NAME) _____ (SIGNATURE) _____ (DATE) _____

REVIEWED BY: (PRINTED NAME) _____ (SIGNATURE) _____ (DATE) _____

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519/04-54826

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1507	SAMPLE TECH CODE:	SS	NA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		NA
LOCATION ID:	19-23265		COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	3.50	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	OK. (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

Tuff sample collected at targeted depth of 4.0 ft.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: yellow to pink non-welded tuff. Tuff is friable slightly moist + contains quartz phenocrysts + elongated pumice clasts. Matrix is porous + glassy

SAMPLE LOCATION DESC: 19-23265

Location Description: N mesa slope drainage

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 366 dpm

COLLECTED BY: (PRINTED NAME) _____ (SIGNATURE) _____ (DATE) _____

REVIEWED BY: (PRINTED NAME) _____ (SIGNATURE) _____ (DATE) _____

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R5[illegible]/04-54828

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLE
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1535	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		NA
LOCATION ID:	19-23266	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	(FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	(FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: tan to light pink non-welded tuff. Tuff is friable w/ lithic clasts (1-2 cm) and phenocrysts of quartz.

SAMPLE LOCATION DESC: 19-23266

Location Description: N Mesa slope drainage. Farthest east location

FIELD SCREENING/MEASUREMENT RESULTS: RAD SURVEY RESULTS: ALPHA = NDA
BETA = 546 dpm

COLLECTED BY: (PRINTED NAME) _____ (SIGNATURE) _____ (DATE) _____

REVIEWED BY: (PRINTED NAME) _____ (SIGNATURE) _____ (DATE) _____

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53645

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1733	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01007		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S		SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	

KH
09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, fine to medium grained sandy soil. Soil is dry w/ some roots.

SAMPLE LOCATION DESC: 19-01007

Location Description: Historic VCA location. Location on upper N mesa slope - east end.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 403 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53641

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

Photo

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/04
TIME COLLECTED (HH:MM):		1241
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01002	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	NOT COLLECTED
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

KA 09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: KA 09-13-04

SAMPLE LOCATION DESC: 19-01002

Location Description: Moist, sandy dirt, Roots minimal Brown in color fine with cobbles -

Historic VCA location. located on east end of upper N Mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS: 09-13-04

RAD survey: γ = NDA
β = 407 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53671

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1256	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01024	OK ~~1250~~ KH 09-10-04	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	0 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	0 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S		SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	609R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	NONE	4020	
~~2~~	~~125 ML GLASS~~	NONE	4035	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	

RAD Survey results: γ = NDA
β = 531 dpm

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: KH 09/13/04

SAMPLE LOCATION DESC: 19-01024

Location Description: Rock Shoveys - Roots minimal sandy light tan fine grain with rock frag mts

FIELD SCREENING/MEASUREMENT RESULTS:

Historical VCA location. Location on east end of the upper North mesa slope.

COLLECTED BY: (PRINTED NAME) Kate Harrell (SIGNATURE) Kate Harrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53617

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004
TIME COLLECTED (HH:MM):		1306
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01008	↓
LOCATION TYPE:	GENERIC	↓
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	↓ (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	↓
FIELD QC TYPE:	NA	↓
COMPOSITE TYPE:	NA	↓
FIELD PREP:	NA	↓
SAMPLE USAGE:	SCR	↓

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
2	125 ML GLASS	NONE	4035	NOT COLLECTED
~~3~~	~~125 ML GLASS~~	~~NONE~~	~~Immunoassay~~	

KH 09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

KH 09-13-04

SAMPLE DESC:

KH 09-13-04

SAMPLE LOCATION DESC: 19-01008

Location Description: Rock chips & sand - lt gray - coarse

Historic VCA location. location on east end of upper N Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 471 dpm

COLLECTED BY: (PRINTED NAME) Kate Harrell (SIGNATURE) Kate Harrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53661

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1316	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01016		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	NOT COLLECTED
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

KH
09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC:

SAMPLE LOCATION DESC: 19-01016

Location Description: Brown Dry alot of veggetation organic fine grain sand location is Historic VCA location located on N mesa slope on east end of site

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 520 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519/04-53655

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09-09-2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1332	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01013		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		G.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, grey-brown, medium-grained sand. Some roots + organic matter present. A few larger sized pebbles also present

SAMPLE LOCATION DESC: 19-01013

Location Description:

Historic VCA Location. Location on East end of upper N Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RADsurvey - γ = NDA
β = 475 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53667

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1400	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	
LOCATION ID:	19-01021		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	ok (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	ok (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	ok	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	NONE	~~4020~~	NOT COLLECTED
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

KH
09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: grey, medium-grained sandy soil. dry. Some organic matter.

SAMPLE LOCATION DESC: 19-01021

Location Description: Historic VCA location. Location of east end of the upper North Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: $\gamma = 1.995$ dpm
$\beta = 203$ dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519/04-53669

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004
TIME COLLECTED (HH:MM):		1407
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01022	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	NONE	4020	NOT COLLECTED KH 09/13/04
~~2~~	~~125 ML GLASS~~	~~NONE~~	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: grey fine to medium-grained sandy soil. Slightly moist.

SAMPLE LOCATION DESC: 19-01022

Location Description: Historic VCA location. location on East end of upper N mesa slope

FIELD SCREENING/MEASUREMENT RESULTS: γ = 30.0 dpm

RAD Survey: β = 196.4 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53653

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1409	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01011		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		Kh 09/09/04 YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		~~6.09~~ NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	

Kh
09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: grey fine to medium grained soil sandy soil. slightly moist -

SAMPLE LOCATION DESC: 19-01011

Location Description: Historical VCA location. Towards the East end of the upper N Mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results γ = NDA
β = 272 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: R519/04-53645

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004
TIME COLLECTED (HH:MM):		1418
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01009	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLE
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	

KH
09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: grey, fine to medium grained sandy soil. Slightly moist

SAMPLE LOCATION DESC: 19-01009

Location Description: Historical VCA location. Location on east end of upper N mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results: γ = NDA
β = 133.8 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53689

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1429	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01001		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	NONE	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	

KH
09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: grey fine to medium-grained sandy soil. Dry w/ little to no organic matter.

SAMPLE LOCATION DESC: 19-01001

Location Description: 1st out fall drainage on East End of N Mesa Upper slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: $\gamma = 1.995$ dpm
$\beta = 863$ dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53643

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004
TIME COLLECTED (HH:MM):		1435
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01006	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	(FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLEC
EVAL CLASS:	ALLH	01<
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	

KK
09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown fine-grained sand. Dry. Some roots

SAMPLE LOCATION DESC: 19-01006

Location Description: Historic VCA location. Location on east end of Upper North Mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: $\gamma = 7.61$ dpm
$\beta = 245$ dpm

COLLECTED BY: (PRINTED NAME) Kate Kurrell (SIGNATURE) Kate Kurrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53651

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	ok
TIME COLLECTED (HH:MM):		1445	SAMPLE TECH CODE:	SS	↓
PRS ID:	PRS: 19-001-99	ok	FIELD QC TYPE:	NA	↓
LOCATION ID:	19-01010	↓	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	✓	FIELD PREP:	NA	↓
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	✓
BOTTOM DEPTH ():	0.50	↓ (FT / cm / NA)			
FIELD MATRIX:	S	✓			

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT COLLECTED
3	125 ML GLASS	NONE	Immunoassay	KH 09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: grey fine to medium grained ash/sand soil. Dry. Soil very thin layer on top of tuff.

SAMPLE LOCATION DESC: 19-01010

Location Description: Historic VCA location. Location on east end of upper N mesa slope.

FIELD SCREENING/MEASUREMENT RESULTS: RAD survey: γ = 7.61 dpm, β = NDA

COLLECTED BY: (PRINTED NAME) ~~09/09~~ KH 09-09-04 Kate Idervell (SIGNATURE) Kate Idervell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53665

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004
TIME COLLECTED (HH:MM):		1450
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01020	↓
LOCATION TYPE:	GENERIC	↓
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	↓ (FT / cm / NA)
FIELD MATRIX:	S	↓

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	↓
FIELD QC TYPE:	NA	↓
COMPOSITE TYPE:	NA	↓
FIELD PREP:	NA	↓
SAMPLE USAGE:	SCR	↓

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	NOT collected
3	125 ML GLASS	NONE	Immunoassay	Z4 09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown fine-grained sandy soil. Dry w/ numerous roots.

SAMPLE LOCATION DESC: 19-01020

Location Description: Historic UCA location. Upper N mesa slope - east end of Exclusion zone.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = 13.23 dpm, β = 252 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53663

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1515	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01017		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	NONE	~~4020~~	NOT COLLECTED
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	KG 09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown, fine to medium grained sandy soil. Slightly moist w/ numerous roots + vegetative material.

SAMPLE LOCATION DESC: 19-01017

Location Description: Historic VCA location. Upper North mesa slope – east of EZ

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = 18.84 dpm
β = 573 dpm

COLLECTED BY: (PRINTED NAME) Kate Hercell (SIGNATURE) Kate Hercell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53657

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004
TIME COLLECTED (HH:MM):		1519
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01014	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	(FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	NOT COLLECTED
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

KH 09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown, fine-grained sandy soil. Moist w/ numerous roots.

SAMPLE LOCATION DESC: 19-01014

Location Description: Historic VCA location, Upper North Mesa Slope - east of EZ.

FIELD SCREENING/MEASUREMENT RESULTS: RAD Survey results: γ = NDA
β = 78.1 dpm

COLLECTED BY: (PRINTED NAME) Kate Idenell (SIGNATURE) Kate Idenell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-54883

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1530	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		NA
LOCATION ID:	19-23269		COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	OK
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	UNL	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	NONE	4020	KH 09-13-04
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC:

SAMPLE LOCATION DESC: 19-23269

Location Description: Historic VCA location subsituite. To replace. Historic VCA location 19-01015.

FIELD SCREENING/MEASUREMENT RESULTS: RAD survey results: γ = NDA
β = NDA.

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Heather Voss (SIGNATURE) Heather Voss (DATE) 09/13/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RS19/04-53673

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004
TIME COLLECTED (HH:MM):		08:50
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01028	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	SCR	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	NONE	~~4020~~	
2	~~125 ML GLASS~~	~~NONE~~	~~4035~~	K4
3	125 ML GLASS	NONE	Immunoassay	09/13/04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown, moist, fine to medium grain, sandy soil, contains numerous roots

SAMPLE LOCATION DESC: 19-01028

Location Description: Upper North mesa Slope. Historic VCA location of West end of site.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = 7.61 dpm
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 9/10/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 9/10/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53675

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		08:52	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01029		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	NONE	~~4020~~	
2	~~125 ML GLASS~~	NONE	~~4035~~	KH 09-13-04
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Fine to medium grain, sandy soil with tuff, slightly moist, some roots and vegetative matter,

SAMPLE LOCATION DESC: 19-01029

Location Description: Upper north mesa slope. Historic VCA location of west end of site.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 119.9 dpm

COLLECTED BY: (PRINTED NAME) Kate Gurrell (SIGNATURE) [signature] (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hoffmeister (SIGNATURE) [signature] (DATE) 9/10/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-53677

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		09:00	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01030		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	0.50	(FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	NONE	~~4020~~	
~~2~~	~~125 ML GLASS~~	~~NONE~~	~~4035~~	KH
3	125 ML GLASS	NONE	Immunoassay	09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown, moist, sandy soil, fine grain, some roots

SAMPLE LOCATION DESC: 19-01030

Location Description: upper north mesa slope. Historic VCA location at west end of mesa.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Douglas C. Hopkins (SIGNATURE) [signature] (DATE) 9/10/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RE19/04-54880

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		10:35	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:		NA
LOCATION ID:	19-23267		COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	3.50	3.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	
BOTTOM DEPTH ():	4.00	4.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~125 ML GLASS~~	~~NONE~~	4020	KH 09-13-04
2	125 ML GLASS	NONE	~~4035~~	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: SANDY SILT, light yellowish-brown, dry, loose, non-plastic (ML) some gravel (~10-15%), sub. angular/subangular, tuff fragments

SAMPLE LOCATION DESC: 19-23267

Location Description:

Lower North Mesa Slope - Drainage Channel

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 106.7 dpm

COLLECTED BY: (PRINTED NAME) Angela Dinelli (SIGNATURE) Angela Dinelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

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SAMPLE COLLECTION LOG

FOR QA ONLY

SAMPLE ID: RB19/04-54882

EVENT ID: 3072

EVENT NAME: TA-19/East Gate Laboratory Screening

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	QBT 4
TIME COLLECTED (HH:MM):		16:59	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	6K	FIELD QC TYPE:		NA
LOCATION ID:	19-23268	↓	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH ():	~~3.50~~	2.5 (FT / cm / NA)	SAMPLE USAGE:	SCR	↓
BOTTOM DEPTH ():	~~4.00~~	3.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~125 ML GLASS~~	~~NONE~~	~~4020~~	KH 09-13-04
2	125 ML GLASS	NONE	4035	
3	125 ML GLASS	NONE	Immunoassay	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Tuff (QBT 4): weathered, light gray, dry, moderately hard

SAMPLE LOCATION DESC: 19-23268

Location Description:

Lower North Mesa Slope - Drainage Channel

FIELD SCREENING/MEASUREMENT RESULTS:

Rad survey results: γ = NDA, β = NDA

COLLECTED BY: (PRINTED NAME) Angela Intelli (SIGNATURE) Angela Intelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

Attachment B1.2

XRF Analysis Data Sheets

Date: 08-31-04
Initials:

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:		
Mn:		
Co:		

ENERGY CALIBRATION CHECK
keV: 6.4010
counts: 4534

WAS ENERGY CALIBRATION NECESSARY?: Yes

RESOLUTION CHECK
1.) keV = 6.56 **counts =** 1756
2.) keV = 6.25 **counts =** 1976

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)
Pb Concentration (PPM): 24.0
Standard Deviation (PPM): 13.5

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)
Pb Concentration (PPM): 967000
Standard Deviation (PPM): 11300

Date: 09-01-04
Initials:

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.961967	0.00735028
Mn:	-0.000826045	0.00110735
Co:	-0.00125952	0.00215054

ENERGY CALIBRATION CHECK
keV: 6.4041
counts: 1117

WAS ENERGY CALIBRATION NECESSARY?: No

RESOLUTION CHECK
1.) keV = 6.5631 **counts =** 423
2.) keV = 6.2449 **counts =** 529

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)
Pb Concentration (PPM): 11
Standard Deviation (PPM): 12.7

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)
Pb Concentration (PPM): 975700
Standard Deviation (PPM): 8020

Date: 09-08-04
Initials: CAA

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.955125	0.00736401
Mn:	0.00553522	0.00132004
Co:	-0.000721761	0.00215919

ENERGY CALIBRATION CHECK
keV: 6.3966
counts: 1146

WAS ENERGY CALIBRATION NECESSARY?: ~~Yes~~ No
CAA 09-08-04

RESOLUTION CHECK
1.) keV = 6.2532 **counts =** 531
2.) keV = 6.5559 **counts =** 487

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)
Pb Concentration (PPM): 16
Standard Deviation (PPM): 13.1

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)
Pb Concentration (PPM): 1062100
Standard Deviation (PPM): 8800

Date: 09-09-04
Initials: CAA

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.951523	0.00735346
Mn:	0.00153009	0.00118007
Co:	-0.00321098	0.00213152

ENERGY CALIBRATION CHECK
keV: 6.4073
counts: 1114

WAS ENERGY CALIBRATION NECESSARY?: CAA 09-09-04 ~~Yes~~ No

RESOLUTION CHECK
1.) keV = 6.2478 **counts =** 467
2.) keV = 6.5510 **counts =** 580

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)
Pb Concentration (PPM): 6.0
Standard Deviation (PPM): 13.13

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)
Pb Concentration (PPM): 1028000
Standard Deviation (PPM): 8500

Date: 9-14-04
Initials: HV

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.957174	0.00740328
Mn:	0.00420388	0.00127072
Co:	0.000564505	0.00218363

ENERGY CALIBRATION CHECK
keV: 6.4061
counts: 1133

WAS ENERGY CALIBRATION NECESSARY?: ~~Yes~~ HV 9-14-04 NO

RESOLUTION CHECK
1.) keV = 6.2469 **counts =** 527
2.) keV = 6.5493 **counts =** 475

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)
Pb Concentration (PPM): 37
Standard Deviation (PPM): 14.2

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)
Pb Concentration (PPM): 1286000
Standard Deviation (PPM): 10700

Attachment B1.3

PAH Assay Data Sheets

Date/Time: 08-19-04 / 1609
Initials: CH

Data Reduction: linear regression
X Formation: Ln / Lg+B
Read Mode: Absorbance
Wavelength: 450 nm
Units: PPB
Range: 10.0 - 500.0 PPB

EQUATION OF LINE
Slope: -0.630
Intercept: 3.956
Correlation (r): 0.9950

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	9.11	125.49	437.45
Absorbance (nm)	0.866	0.804	0.617	0.459
%CV:	5.3	3.4	2.2	6.4

CONTROL DATA	#1
Absorbance (nm):	0.580
Concentration (PPB):	172.62

Date/Time: 1536 / 08-23-04
Initials: CAA

Data Reduction: linear regression
X Formation: Ln / LgtB
Read Mode: Absorbance
Wavelength: 450 nm
Units: PPB
Range: 10.0-500.0

EQUATION OF LINE
Slope: -0.727
Intercept: 4.332
Correlation (r): 1.0000

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	CAA 08-23-04 ~~0.941~~ NA	10.05	98.68	503.93
Absorbance (nm)	0.941	0.879	0.687	0.425
%CV:	2.0	0.1	1.9	0.8

CONTROL DATA	#1
Absorbance (nm):	0.588
Concentration (PPB):	191.56

Date/Time: 8-26-04 / 14:38
Initials: HV

Data Reduction: Lin. Regression
X Formation: Ln/LgtB
Read Mode: Absorbance
Wavelength: 450nm
Units: PPB
Range: 10.00 - 500.00

EQUATION OF LINE
Slope: -0.615
Intercept: 3.683
Correlation (r): 0.9968

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	N/A	10.78	83.37	556.47
Absorbance (nm)	0.902	0.814	0.653	0.405
%CV:	1.4	1.0	6.0	1.3

CONTROL DATA	#1
Absorbance (nm):	0.570
Concentration (PPB):	1166.43

Date/Time: 09-10-04 / 1616
Initials: CAA

Data Reduction: linear regression
X Formation: Ln / LgtB
Read Mode: Absorbance
Wavelength: 450 nm
Units: PPB
Range: 10.00 - 500.00

EQUATION OF LINE
Slope: -0.646
Intercept: 4.065
Correlation (r): 0.9995

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	10.30	93.15	521.33
Absorbance (nm)	1.043	0.968	0.790	0.528
%CV:	3.1	0.2	0.1	2.6

CONTROL DATA	#1
Absorbance (nm):	0.699
Concentration (PPB):	181.00

Date/Time: 09-13-04 / 1540
Initials: CAA

Data Reduction: linear regression
X Formation: Ln/LgtB
Read Mode: Absorbance
Wavelength: 450nm
Units: PPB
Range: 10.00-500.00

EQUATION OF LINE
Slope: -0.721
Intercept: 4.469
Correlation (r): 0.9980

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	10.61	86.59	544.21
Absorbance (nm)	0.903	0.850	0.702	0.435
%CV:	1.1	3.0	0.7	1.4

CONTROL DATA	#1
Absorbance (nm):	0.589
Concentration (PPB):	205.66

Attachment B1.4

PCB Assay Data Sheets

Date/Time: 8-24-04 / 16:09
Initials: HV

Data Reduction: Ln. Regression
X Formation: Ln / LgtB
Read Mode: ABSORBANCE
Wavelength: 450nm
Units: PPM
Range: 0.50 - 10.0

EQUATION OF LINE
Slope: -0.713
Intercept: 0.806
Correlation (r): 0.9988

CALIBRATOR DATA	0.00	0.50	2.00	10.00
Mean: Concentration (PPM)	N/A	0.48	2.18	9.62
Absorbance (nm)	1.115	0.882	0.627	0.344
%CV:	10.1 * HI	3.7	0.3	7.9

CONTROL DATA	#1
Absorbance (nm):	0.440
Concentration (PPM):	5.66

Date/Time: 8-25-04 / 11:03
Initials: HV

Data Reduction: Lin. Regression
X Formation: Ln | LgtB
Read Mode: Absorbance
Wavelength: 450 nm
Units: PPM
Range: 0.50 - 10.00

EQUATION OF LINE
Slope: -0.651
Intercept: 0.751
Correlation (r): 0.9978

CALIBRATOR DATA	0.00	0.50	2.00	10.00
Mean: Concentration (PPM)	N/A	0.47	2.24	9.48
Absorbance (nm)	1.061	0.823	0.590	0.349
%CV:	0.6	0.6	8.3	3.6

CONTROL DATA	#1
Absorbance (nm):	0.434
Concentration (PPM):	5.57

Date/Time: 08-26-04 / 1126
Initials: CAA

Data Reduction: linear regression
X Formation: Ln/Lg+B
Read Mode: Absorbance
Wavelength: 450 nm
Units: PPM
Range: 0.50 - 10.00

EQUATION OF LINE
Slope: -0.739
Intercept: 0.922
Correlation (r): 1.0000

CALIBRATOR DATA	0.00	0.50	2.00	10.00
Mean: Concentration (PPM)	NA	0.50	2.00	9.99
Absorbance (nm)	1.254	1.013	0.763	0.394
%CV:	2.9	6.1	2.2	1.9

CONTROL DATA	#1
Absorbance (nm):	0.485
Concentration (PPM):	6.51

Date/Time: 1239 / 09-13-04
Initials: CAA

Data Reduction: linear regression
X Formation: Ln/LgtB
Read Mode: Absorbance
Wavelength: 450 nm
Units: PPM
Range: 0.50 - 10.00

EQUATION OF LINE
Slope: -0.907
Intercept: 1.394
Correlation (r): 0.9956

CALIBRATOR DATA	0.00	0.50	2.00	10.00
Mean: Concentration (PPM)	NA	0.46	2.35	9.28
Absorbance (nm)	1.264	1.127	0.821	0.440
%CV:	6.8	0.4	2.8	5.6

CONTROL DATA	#1
Absorbance (nm):	0.566
Concentration (PPM):	5.87

Date/Time: 9-14-04 / 4:37
Initials: HV

Data Reduction: Lin. Regression
X Formation: Ln/LgtB
Read Mode: Absorbance
Wavelength: 450 nm
Units: PPM
Range: 0.50 - 10.00

EQUATION OF LINE
Slope: -0.709
Intercept: 1.111
Correlation (r): 0.9959

CALIBRATOR DATA	0.00	0.50	2.00	10.00
Mean: Concentration (PPM)	N/A	0.46	2.34	9.30
Absorbance (nm)	1.143	0.961	0.714	0.440
%CV:	3.9	0.4	5.2	3.4

CONTROL DATA	#1
Absorbance (nm):	0.602
Concentration (PPM):	4.13

Attachment B1.5

Equipment Calibration Logs

Calibration A: PAH Field Screening

Date/Time: 08-19-04/1609

Initials: CAA

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPB

Range: 10.0-500.0

EQUATION OF LINE

Slope: -0.630

Intercept: 3.956

Correlation (r): 0.9950

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	9.11	125.49	437.45
Absorbance (nm)	0.866	0.804	0.617	0.459
%CV:	5.3	3.4	2.2	6.4

CONTROL DATA	#1
Absorbance (nm):	0.580
Concentration (PPB):	172.62

Calibration B: PAH Field Screening

Date/Time: 08-23-04/1536

Initials: CAA

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPB

Range: 10.0-500.0

EQUATION OF LINE

Slope: -0.727

Intercept: 4.332

Correlation (r): 1.0000

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	10.05	98.68	503.93
Absorbance (nm)	0.941	0.879	0.687	0.425
%CV:	2.0	0.1	1.9	0.8

CONTROL DATA	#1
Absorbance (nm):	0.588
Concentration (PPB):	191.56

Calibration C: PAH Field Screening

Date/Time: 08-26-04/1438

Initials: HV

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPB

Range: 10.00-500.00

EQUATION OF LINE

Slope: -0.615

Intercept: 3.683

Correlation (r): 0.9968

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	10.78	83.37	556.47
Absorbance (nm)	0.902	0.814	0.653	0.405
%CV:	1.4	1.0	6.0	1.3

CONTROL DATA	#1
Absorbance (nm):	0.570
Concentration (PPB):	166.43

Calibration D: PAH Field Screening

Date/Time: 09-10-04/1616

Initials: CAA

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPB

Range: 10.00-500.00

EQUATION OF LINE

Slope: -0.646

Intercept: 4.065

Correlation (r): 0.9995

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	10.30	93.15	521.33
Absorbance (nm)	1.043	0.968	0.790	0.528
%CV:	3.1	0.2	0.1	2.6

CONTROL DATA	#1
Absorbance (nm):	0.699
Concentration (PPB):	181.00

Calibration D: PAH Field Screening

Date/Time: 09-13-04/1540

Initials: CAA

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPB

Range: 10.00-500.00

EQUATION OF LINE

Slope: -0.721

Intercept: 4.469

Correlation (r): 0.9980

CALIBRATOR DATA	0.00	10.00	100.00	500.00
Mean: Concentration (PPB)	NA	10.61	86.59	544.21
Absorbance (nm)	0.903	0.850	0.702	0.435
%CV:	1.1	3.0	0.7	1.4

CONTROL DATA	#1
Absorbance (nm):	0.589
Concentration (PPB):	205.66

Calibration A: PCB Field Screening

Date/Time: 08-24-04/1609

Initials: HV

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPM

Range: 0.50-10.00

EQUATION OF LINE

Slope: -0.713

Intercept: 0.806

Correlation (r): 0.9988

CALIBRATOR DATA	**0.00**	**0.50**	**2.00**	**10.00**
Mean: Concentration (PPM)	NA	0.48	2.18	9.62
Absorbance (nm)	1.115	0.882	0.627	0.344
%CV:	10.1*	3.7	0.3	7.9

CONTROL DATA

Absorbance (nm):	0.440
Concentration (PPM):	5.66

Calibration B: PCB Field Screening

Date/Time: 08-25-04/1103

Initials: HV

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPM

Range: 0.50-10.00

EQUATION OF LINE

Slope: -0.651

Intercept: 0.751

Correlation (r): 0.9978

CALIBRATOR DATA	**0.00**	**0.50**	**2.00**	**10.00**
Mean: Concentration (PPM)	NA	0.47	2.24	9.48
Absorbance (nm)	1.061	0.823	0.590	0.349
%CV:	0.6	0.6	8.3	3.6

CONTROL DATA

Absorbance (nm):	0.434
Concentration (PPM):	5.57

Calibration C: PCB Field Screening

Date/Time: 08-26-04/1126

Initials: CAA

Data Reduction: linear regression

X Formation: Ln/LgtB

Read Mode: Absorbance

Wavelength: 450 nm

Units: PPM

Range: 0.50-10.00

EQUATION OF LINE

Slope: -0.739

Intercept: 0.922

Correlation (r): 1.0000

CALIBRATOR DATA	**0.00**	**0.50**	**2.00**	**10.00**
Mean: Concentration (PPM)	NA	0.50	2.00	9.99
Absorbance (nm)	1.254	1.013	0.753	0.394
%CV:	2.9	6.1	2.2	1.9

CONTROL DATA

Absorbance (nm):	0.485
Concentration (PPM):	6.51

Calibration D: PCB Field Screening

Date/Time:	09-13-04/1239
Initials:	CAA
Data Reduction:	linear regression
X Formation:	Ln/LgtB
Read Mode:	Absorbance
Wavelength:	450 nm
Units:	PPM
Range:	0.50-10.00

EQUATION OF LINE

Slope:	-0.907
Intercept:	1.394
Correlation (r):	0.9956

CALIBRATOR DATA	**0.00**	**0.50**	**2.00**	**10.00**
Mean: Concentration (PPM)	NA	0.46	2.35	9.28
Absorbance (nm)	1.264	1.127	0.821	0.440
%CV:	6.8	0.4	2.8	5.6

CONTROL DATA

Absorbance (nm):	0.566
Concentration (PPM):	5.87

Calibration E: PCB Field Screening

Date/Time:	09-14-04/1637
Initials:	HV
Data Reduction:	linear regression
X Formation:	Ln/LgtB
Read Mode:	Absorbance
Wavelength:	450 nm
Units:	PPM
Range:	0.50-10.00

EQUATION OF LINE

Slope:	-0.709
Intercept:	1.111
Correlation (r):	0.9959

CALIBRATOR DATA	**0.00**	**0.50**	**2.00**	**10.00**
Mean: Concentration (PPM)	NA	0.46	2.34	9.30
Absorbance (nm)	1.143	0.961	0.714	0.440
%CV:	3.9	0.4	5.2	3.4

CONTROL DATA

Absorbance (nm):	0.602
Concentration (PPM):	4.13

Check A: XRF Field Screening

Date: 08/31/04

Initials: KH

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	not recorded	not recorded
Mn:	not recorded	not recorded
Co:	not recorded	not recorded

ENERGY CALIBRATION CHECK

keV: 6.4010

counts: 4534

WAS ENERGY CALIBRATION NECESSARY?: Yes

RESOLUTION CHECK

1.) keV = 6.56 **counts =** 1756

2.) keV = 6.25 **counts =** 1976

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)

Pb Concentration (PPM): 24.0

Standard Deviation (PPM): 13.5

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)

Pb Concentration (PPM): 967000

Standard Deviation (PPM): 11300

Check B: XRF Field Screening

Date: 09/01/04

Initials: KH

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.961967	0.00735028
Mn:	-0.000826045	0.00110735
Co:	-0.00125952	0.00215057

ENERGY CALIBRATION CHECK

keV: 6.4041

counts: 1117

WAS ENERGY CALIBRATION NECESSARY?: No

RESOLUTION CHECK

1.) keV = 6.5631 **counts =** 423

2.) keV = 6.2449 **counts =** 529

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)

Pb Concentration (PPM): 11

Standard Deviation (PPM): 12.7

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)

Pb Concentration (PPM): 975700

Standard Deviation (PPM): 8020

Check C: XRF Field Screening

Date: 09/08/04

Initials: CAA

Count per Source: 100

Fe CHECK

	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.955125	0.00736401
Mn:	0.00553522	0.00132004
Co:	-0.000721761	0.00215919

ENERGY CALIBRATION CHECK

keV: 6.3966

counts: 1146

WAS ENERGY CALIBRATION NECESSARY?: No

RESOLUTION CHECK

1.) keV = 6.2532 **counts =** 531

2.) keV = 6.5559 **counts =** 487

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)

Pb Concentration (PPM): 16

Standard Deviation (PPM): 13.1

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)

Pb Concentration (PPM): 1062100

Standard Deviation (PPM): 8800

Check D: XRF Field Screening

Date: 09/09/04

Initials: CAA

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.951523	0.00735346
Mn:	0.0053009	0.00118007
Co:	-0.00321098	0.00213152

ENERGY CALIBRATION CHECK

keV: 6.4073

counts: 1114

WAS ENERGY CALIBRATION NECESSARY?: No

RESOLUTION CHECK

1.) keV = 6.2478 **counts =** 467

2.) keV = 6.5510 **counts =** 580

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)

Pb Concentration (PPM): 6.0

Standard Deviation (PPM): 13.13

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)

Pb Concentration (PPM): 1028000

Standard Deviation (PPM): 8500

Check E: XRF Field Screening

Date: 09/14/04

Initials: HV

Count per Source: 100

Fe CHECK	Concentration (PPM)	Standard Deviation (PPM)
Fe:	0.957174	0.00740328
Mn:	0.00420388	0.00127072
Co:	0.000564505	0.00218363

ENERGY CALIBRATION CHECK

keV: 6.4061

counts: 1133

WAS ENERGY CALIBRATION NECESSARY?: No

RESOLUTION CHECK

1.) keV = 6.2469 **counts =** 527

2.) keV = 6.5493 **counts =** 475

ANALYTICAL BACKGROUND CHECK
(WITH TEFLON BLANK)

Pb Concentration (PPM): 37

Standard Deviation (PPM): 14.2

STANDARD-REFERENCE MATERIAL CHECK
(TARGET METAL RESPONSE CHECK)

Pb Concentration (PPM): 1286000

Standard Deviation (PPM): 10700

Attachment B2

Investigative Derived Waste Documentation

Attachment B2.1

Waste Characterization Strategy Forms

Waste Characterization Strategy Form

Project Title	**Accelerated Corrective Action (ACA) at SWMU 19-001-99**
Operating Unit #	**N/A**
PRS #	**SWMU 19-001-99, which consists of:** **· [a]SWMUs 19-001(septic system), 19-002(surface disposal area) and 19-003(sewer drainline outfall)** **· [a]AOC C-19-001(potential contamination beneath buildings)** *[a]Formerly TA-19, Now Part of Technical Area (TA)-72*
Activity Type	**Soil excavation and soil sampling**
Field Team Leader	**Angelo Ortelli**
Waste Management Coordinator	**Douglas Hopinkah, Shaw E&I**
Completed by	**D. Hopinkah/ A. Ortelli**
Date	**July 9, 2004**

COMPLETED
7/12/04

Description of activity:

Three (3) SWMUs and one (1) AOC comprise consolidated SWMU 19-001-99. This project involves limited soil excavation and soil sampling at this SWMU.

The selected soil excavation locations are based on historical data and will occur at historical sample locations 19-01266 (excavation of 1.0 yd^3) and 19-01268 (excavation of 1.0 yd^3) *(See attachment A)*. Confirmation sampling will be conducted at the soil excavation locations to verify the effectiveness of the soil removal, and the excavated soil will be contained in bulk sacks and sampled for waste management purposes. In addition to the soil excavation activities, supplemental characterization sampling will be conducted at: Area of Concern (AOC) C-19-001, mesa top, and at the down gradient extent of consolidated Solid Waste Management Unit (SWMU) 19-001-99 (lower mesa slopes), to further define the nature and extent of potential contamination. Activities conducted will help support a determination of either additional post-risk analysis removal activities or no further action (NFA) at this SWMU.

In the designated areas of soil removal, a total of 4 confirmation samples (2 at each location) will be collected. In addition, a soil sample will be collected form each bulk sack for waste characterization based on toxicity characteristic leaching procedure (TCLP) analysis for volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), and metals. Historical data will be the acceptable knowledge basis for the radiological component of the excavated soil.

For the additional characterization sampling on the mesa top (within AOC C-19-001), a total of 31 surface soil and subsurface soil/tuff samples will be collected. On the north and south mesa slopes, in drainages of the down gradient extent of SWMU 19-001-99, a total of 8 surface soil and subsurface soil samples will be collected. In determining the lateral and vertical extent of potential contamination detected during previous investigations, the surface soil and subsurface soil/tuff samples will be collected from two distinct horizons and depths: 0-6 inches (0-0.5 ft.) using a stainless steel scoop and 42-48 inches (3.5-4.0 ft.) using a hand auger, respectively. The surface soil and subsurface soil/tuff samples will be collected in accordance with the RRES-RS SOP-6.09, R2, "Spade and Scoop Method for Collection of Soil Samples" and SOP-6.10, R3, "Hand Auger and Thin Wall Tube Sampler," respectively.

All samples collected will be submitted to the RRES-RS SMO (sample management office) for off-site contract laboratory analysis. Site characterization samples will be analyzed for the following contaminant suites: VOCs, SVOCs (including PAHs), PCBs, pesticides, herbicides, dioxins/furans, gamma- and alpha emitting radionuclides and Target Analyte List metals. For waste characterization of the excavated soil, bulk sack samples will be collected and analyzed using EPA SW-846 TCLP Methods 1311/6010-B/8260/8270. Onsite field screening for total PCBs and PAHs will be conducted utilizing the Strategic Diagnostics, Inc. RaPID Assay® enzyme immunoassay test kits. The analytical method for PCB is EPA SW-846 Method 4020 with a test kit detection limit of 0.5 parts per million (ppm). The analytical method for PAHs is EPA SW-846 Method 4035 with a test kit detection limit of 10 ppb (billion). In addition, a Spectrace 9000 Field-Portable X-Ray Fluorescence (XRF) instrument will be utilized as the screening tool for detecting metals such as antimony, lead, manganese and zinc. The onsite field screening activities will be in accordance with RRES-RS SOP 10.01, R1, "Screening for Polychlorinated Biphenyls in Soil," and SOP 10.08, R2, "Operation of Spectrace 9000 Field-Portable X-Ray Fluorescence (XRF) Instrument."

A post geodetic survey will be conducted at all hand-auger sampling locations to confirm the exact locations of sample collection and to ensure that all deviations, if any, from the proposed sample design, are documented. This activity will be in accordance with RRES-RS SOP-03.11, R1, "Geodetic Surveys."

Site history and description:

Consolidated SWMU 19-001-99, former TA-19/East Gate Laboratory and septic system, operated from 1944 to 1974. The former East Gate Laboratory was constructed in the summer of 1944 for a scientist who needed an isolated location for experimental work on small sources. In 1947, the site consisted of a storage hutment and laboratory building, which were used for spontaneous fission experiments and storage of radioactive source material. In the early 1950s, more buildings were added until the site consisted of laboratory, battery, guard, retreat, and shelter buildings and a latrine and septic tank. During this time, documented site operations included irradiation experiments using sealed lanthanum sources and two scintillation studies involving the use of aromatic compounds (Froman 1953, 0643). In 1956, several buildings, including the battery building, guard house, and latrine were decommissioned and removed. The remaining structures were transferred to the Zia Company in 1957 and 1962. The retreat building operated from 1944 to 1962 when it was transferred to the Zia Company and assigned to DOE-Los Alamos Area Office municipal activities branch and used for civil defense purposes. It later was leased to the Los Alamos radio club, which used the site until 1974. The retreat building's septic system operated from 1957 to 1974. All remaining buildings were removed in 1974 when operations ceased at the property. The historical land use at SWMU 19-001-99 was industrial. However, since the removal of structures in 1956 and discontinuation of all operations at the East Gate Laboratory in 1974, SWMU 19-001-99 has remained undeveloped and has only been used for recreational purposes. SWMU 19-001-99 includes access to, and a portion of, a public, recreational hiking trail.

The SWMUs and AOC that comprise consolidated SWMU 19-001-99 are described below.

SWMU 19-001, Septic System: A septic system consisting of a storage tank (TA-19-6), the outfall from the tank, and associated piping. The system was operated from about 1957 until about 1974 and reportedly handled sanitary waste from the retreat building. Because this system handled only sanitary waste, no hazardous or radioactive contamination is suspected. The septic tank and pipelines were removed as a part of a Voluntary Corrective Action (VCA) conducted in 1995 (LANL 1992, 0781).

SWMU 19-002, Surface Disposal Area: The surface disposal area covers an area of approximately 100 ft by 10 ft (30 m by 3 m) in Pueblo Canyon, north of TA-19. Building debris from decommissioned TA-19 structures and numerous old batteries were disposed of on the north-facing slope of Pueblo Canyon immediately north of TA-19. The building debris and batteries were removed as a part of a VCA conducted in 1995 (LANL 1992, 0781).

SWMU 19-003, Sewer Drainline and Outfall: A sewer drainline and outfall handled sanitary waste from the laboratory building (TA-19-1) and was probably used from 1944 until the building was decommissioned in 1974. Wastes were discharged through the sewer drainline to an outfall into Pueblo Canyon (LANL 1992, 0781).

AOC C-19-001, Potential Soil Contamination Beneath Buildings: AOC C-19-001 contains potentially contaminated soil located beneath the now-demolished laboratory, battery building, guard house (the precise location of the guard house could not be substantiated in previous reports or historical documents of the site), latrine, retreat building, and shelter buildings (TA-19-1, -2, -3, -4, -5, and -7) (LANL 1992, 0781).

In 1995 a Voluntary Corrective Action was conducted at SWMU 19-002, and in 1997, further investigation was conducted to complete the characterization and remediation of the site, specifically at SWMUs 19-001 and 19-003 and AOC C-19-001.

Characterization Strategy:

Waste #1: *Decontamination water:* If effective decontamination of sampling equipment is not accomplished using dry techniques in accordance with LANL ER-SOP-01.08, R1, "Field Decontamination of Drilling and Sampling Equipment," then washing liquids will be utilized to achieve complete decontamination. This method will generate less than six gallons of decontamination water per day and discharged on-site in accordance with LANL ER-SOP-01.06, R2, " Management of Environmental Restoration Project Waste."

Waste #2: *Spent methanol from test kits:* This is a RCRA hazardous waste (F003, D001) due to its ignitability and use; methanol from each individual immunoassay test/sample vial will be transferred to a polyethylene storage bottle with a threaded/sealed top. The material safety data sheet for methanol will be the basis of acceptable knowledge for this waste stream. This waste will be stored in a sealed secondary container at a Satellite Accumulation Area (SAA) on-site until a Waste Profile Form (WPF) and Consolidated Remote Waste Storage Site (CRWSS) disposal request are approved.

Waste #3: *Plastics, Personal Protective Equipment, and Sampling Wastes*: This waste stream will include various types of plastic sheeting (e.g., tarps and contamination control covers); disposable gloves and coveralls; sampling supplies such as plastic scoops, plastic bags, jars, and containers; materials from used immunoassay test kits; and dry decontamination waste such as paper towels. Plastics, personnel protective equipment, sampling-related wastes and decontamination wastes have the potential to become contaminated through direct contact with contaminated environmental media and debris. Because this contact waste is generated only during ACA activities, it is assumed that the waste contaminants will be identical to the contaminants found in the soil, and therefore, contaminant concentrations in the soil will be divided by 100 to estimate contaminant concentrations present on the waste. The waste will be placed in a 55-gallon drum with a polyethylene liner stored at a SAA until a waste determination is made. Pending analytical results, the anticipated classification of the waste will be municipal refuse and disposal at the Los Alamos County Landfill will be requested.

Waste #4: *Potentially Contaminated Soil*: This waste stream will be composed of low-level radioactive (bulk) unconsolidated soil waste potentially contaminated with low concentrations of organic and inorganic chemical constituents. Characterization of the radiological component of this waste will be based on historical data *(See Table 1)*. Characterization of potential organic and inorganic chemical constituents will be based on sample analytical results from each bulk sack using TCLP EPA Method 1311/6010-B/8260/8270. The bulk sacks will be stored in a designated low-level radiological controlled area on-site until the waste characterization results are obtained to determine the final deposition. If the TCLP results indicate that the concentrations of organic and inorganic chemical constituents are below the regulatory levels, the soil waste will be handled as low-level radioactive waste and will be transported to TA-54, Area G for final disposal. If the TCLP results indicate that the concentrations of organic and inorganic chemical constituents are above the regulatory levels, the soil waste will be handled as a potentially mixed waste and will be transported to an off-site TSDF for final disposal.

Waste Characterization Strategy Form

CHARACTERIZATION TABLE

WASTE DESCRIPTION	Waste # 1 Decontamination Water	Waste # 2 Spent Methanol	Waste # 3 PPE, Admin. & Sampling Waste	Waste # 4 Potentially Contaminated Soil
Volume	**< 6-gal/day**	**<1 liter**	**110 gallons**	**2 yd³**
Packaging	**Discharged On-site**	**polyethylene bottle**	**2-55 gallon drums with liners**	**2-1yd³ bulk sacks**
Regulatory classification				**Low-level radioactive (DOE Order 5400.5)**
Solid			X	
RCRA		X	**(based on the text description)**	X
TSCA				
New Mexico Special				
CHARACTERIZATION METHOD				
AK: Existing Data/Documentation		X		X
AK: from Site Characterization	X		X	
Direct Sampling of Containerized Waste				X
ANALYTICAL TESTING				
Volatile Organic Constituents EPA 8260-B				
Semivolatiles EPA 8270-C				
Organic Pesticides EPA 8081-A				
Organic Herbicides EPA 8151-A				
PCBs EPA 8082				
Total Metals EPA 6010-B				
Total Cyanide EPA 9012-A				
High Explosives Constituents EPA 8330				
Asbestos				
TPH EPA 8015				
TCLP Metals (EPA 1311/6010-B)				X
TCLP Organics (EPA 1311/8260 & 1311/8270)				X
TCLP Pest. & Herb. (EPA 1311/8081/1311/8151-A)				
Gross Alpha (alphacounting)				
Gross Beta (beta counting)				
Gross Gamma (gamma counting)				
Tritium (liquid scintillation)				
Gamma spectroscopy				
Isotopic plutonium (chem. separation/alpha spec.)				

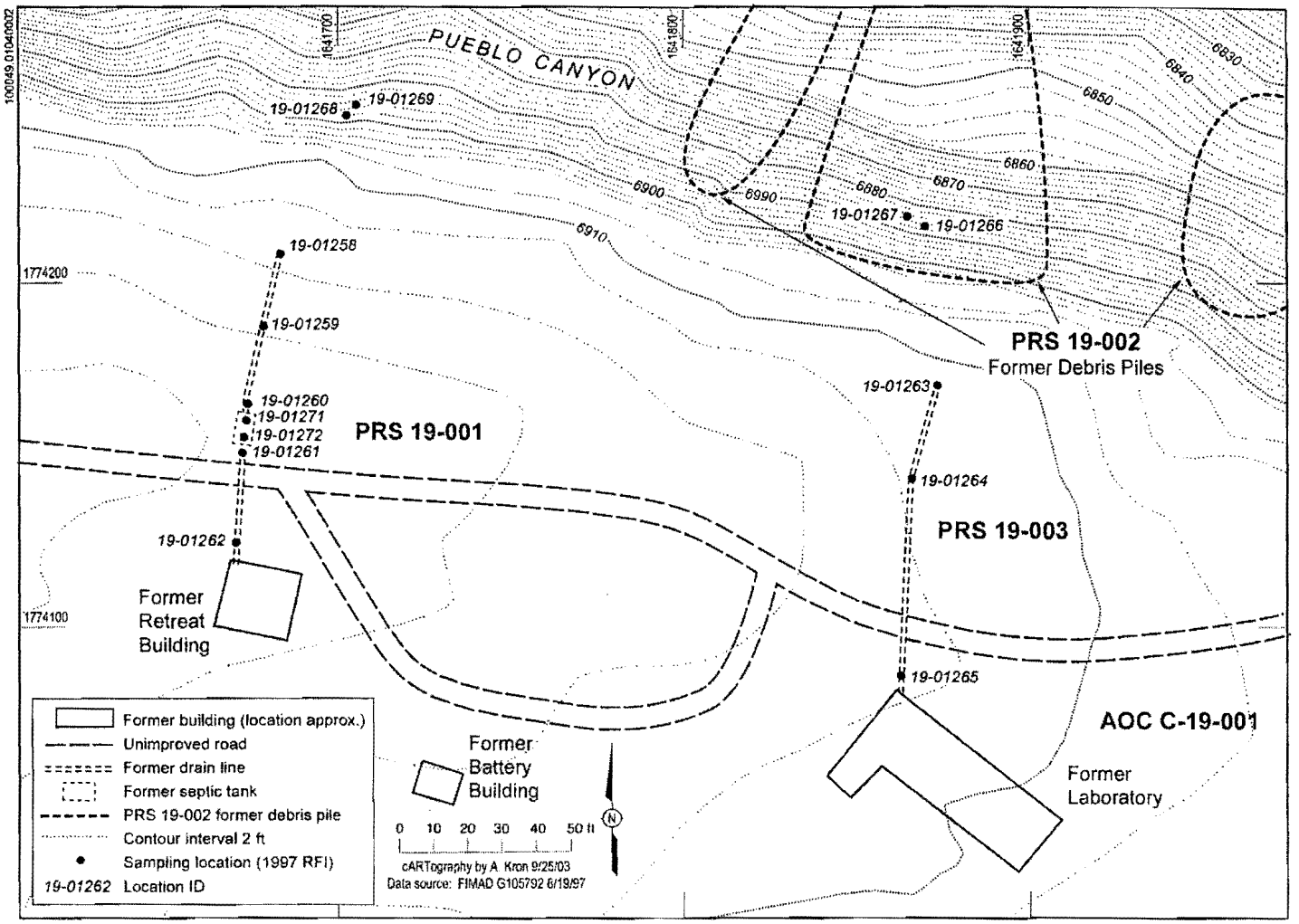
Isotopic uranium (chem. separation/alpha spec.)				
Total uranium (6020 ICPMS)				
Strontium-90 (beta proportional counting)				
Americium-241 (chem. separation/alpha spec.)				
SWSC Suite				
Ignitability				
Waste Profile Form #				

Waste Characterization Strategy Form (continued)

SIGNATURES	DATE
Team Leader (Print name and then sign below.) Terry Rust	7/12/04
Regulatory Compliance Focus Area representative (Print name and then sign below.) Kelly VanDerpoel	7/12/04
ER Waste Management Coordinator (Print name and then sign below.) Douglas Hopinkah	7/12/04
Waste Services representative (Print name and then sign below.) Michelle Coriz	7/12/04

ER-SOP-01.10, R1	Los Alamos Environmental Restoration Project

ATTACHMENT A



Map showing historical sample locations 19-01266 (outfall from PRS 19-003) and 19-01268 (outfall from PRS 19-001).

Table 1

Radiological analytical data for historical locations 19-01266 and 19-01268, SWMU 19-001-99

LOCATION_ID	SAMPLE_ID	COLLECTION DATE	MEDIA CODE	BEGIN DEPTH (ft)	END DEPTH (ft)	ANALYTE NAME	SAMPLE CONCENTRATION	REPORTING UNITS	QUALIFIER	UNCERTAINTY	DILUTION FACTOR
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Americium-241	0.08	PCI/G	U	0.19	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Cesium-134	0.02	PCI/G	U	0.03	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Cesium-137	2.49	PCI/G		0.09	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Cobalt-60	-0.01	PCI/G	U	0.03	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Europium-152	0.35	PCI/G	U	0.12	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Ruthenium-106	0.13	PCI/G	U	0.22	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Sodium-22	0	PCI/G	U	0.03	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Uranium-235	0.07	PCI/G	U	0.18	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Americium-241	0.11	PCI/G	U	0.06	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Cesium-134	-0.01	PCI/G	U	0.03	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Cesium-137	5.85	PCI/G		0.13	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Cobalt-60	-0.04	PCI/G	U	0.03	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Europium-152	0.15	PCI/G	U	0.18	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Ruthenium-106	-0.41	PCI/G	U	0.26	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Sodium-22	-0.03	PCI/G	U	0.03	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Uranium-235	-0.08	PCI/G	U	0.17	1

Amendment to the
Waste Characterization Strategy Form (WCSF) for the
Accelerated Corrective Action at Consolidated SWMU 19-001-99

INTRODUCTION This amendment addresses a waste generating activity that was not previously addressed in the original WCSF for this project, entitled "Accelerated Corrective Action (ACA) at SWMU 19-001-99", dated July 9, 2004 . The activity that is the subject of this amendment is the segregation of battery debris from potentially low level radioactive contaminated soil. Two 1-cubic yard bulk sacks have been filled with excavated soil. This activity was not previously addressed because the decision to segregate battery debris from the soil was made on-site during soil removal activities and after approval of the original WCSF.

BACKGROUND
This project involved soil sampling and limited soil removal of potentially low level radioactive contaminated soil. Soil sampling was conducted at: 1) Area of Concern (AOC) C-19-001, mesa top; 2) at the down-gradient extent of Solid Waste Management Unit (SWMU) 19-001-99 (Lower Mesa Slopes), to determine the extent of potential contamination; 3) confirmation sampling at the selected soil removal locations, to verify the effectiveness of the soil removal; and 4) direct sampling of the bulk sacks containing the excavated soil. Soil removal locations were based on historical data and occurred at historical sample locations 19-01266 (removal of 1.0 yd^3) and 19-01268 (removal of 1.0 yd^3). Activities conducted will help support a determination that either additional removal activities are required or that no further action (NFA) is required for SWMU 19-001-99.

WASTE DESCRIPTION This waste stream is composed of battery debris. Building debris from decommissioned TA-19 structures and numerous old batteries were disposed of on the upper mesa slope of the north-facing side of Pueblo Canyon at former TA-19. The building debris and batteries were removed as a part of a VCA conducted in 1995. Before excavation began, the project team decided to collect and retrieve battery debris that was encountered during the sampling and soil removal activities, whereby the battery debris was sifted by hand and segregated from the excavated soil that was placed in bulk sacks. Approximately five 5-gallon buckets of batteries debris were generated.

CHARACTERIZATION, MANAGEMENT AND DISPOSAL Characterization of the battery debris waste stream is based on the knowledge of process and waste process description associated with waste profile form (WPF) #22099 (for one yd^3 of battery and metal fencing debris and two yd^3 of concrete debris from previous remediation activities at TA-19). The battery debris has been packaged in 1-gallon bags, placed in 5-gallon buckets, placed in a 55-gallon drum, and held in a temporary waste storage area on site. In accordance with WPF #22099, the battery debris waste meets the criteria for disposal as industrial waste, therefore, the anticipated method of disposal for this debris will be burial at an industrial waste landfill.

Amendment to the
Waste Characterization Strategy Form (WCSF) for the
Accelerated Corrective Action at Consolidated SWMU 19-001-99

SIGNATURES (Print name and then sign.)	
Field Team Leader: **Terry Rust**	
Regulatory Compliance Focus Area representative: Kelly VanDerpoel	12/6/04
Waste Services representative: Michelle Coriz	
ER Project Waste Management Coordinator: Paula Bertino	12/6/04

ER-SOP-01.10, R1	Los Alamos Environmental Restoration Project

Attachment B2.2

Waste Profile Forms

Los Alamos NATIONAL LABORATORY

Waste Profile Form

Contact (*if other than given below*)	For rapid processing, complete all sections in black or blue ink and mail to: FWO-SWO at **MS J595.** For assistance with completing this form, call FWO-SWO at **5-4000.**	Reference Number (*For FWO-SWO use only*)

Generator's Z Number	Waste Generator's Name (*print*)	WMC's Z Number	WMC's Name (*print*)
092228	Terry Rust	192466	Douglas Hopinkah

Generator's Telephone	Generator's Mail Stop	Waste Generating Group	Waste Stream Technical Area	Building	Room
665-8843	M992	ENV-ECR	72: Former TA-19/East Gate Lab	outside	n/a

Waste Accumulation (*Check only one*)

- ☐ Satellite Accumulation Area — Site no: _____
- ☐ Less-than-90-days Storage Area — Site no: _____
- ☐ TSDF — Site no: _____
- ☐ Universal Waste Storage Area — Site no: _____
- ☒ None of the Above

ER Use Only

- ☑ ER Site — PRS #: 19-001-99

Method of Characterization (*Check as many as apply*)

- ☒ Analysis/Documents Attached
- ☒ Chemical/Physical Analysis — Sample #: see sec. 3
- ☒ Radiological Analysis — Sample #: see sec. 3
- ☐ PCB Analysis — Sample #: _____
- ☐ Acceptable Knowledge Documentation — Documentation #: _____
- ☐ MSDS

Section 1 - Chemical and Physical Information

Waste Type (*Check only one*)

- ☐ Unused/Unspent Chemical (Complete all sections as appropriate.)
- ☒ Process Waste/Spent Chemical/ other (Complete all sections.)
- ☐ Green is Clean Waste (Complete all sections as appropriate.)

Waste Classes

Radiological Information

Was Waste Generated in a RCA?

☐ Yes ☒ No

☐ Non-radioactive

Radioactive

- ☒ Low-Level
- ☐ Transuranic

Wastewater Information

- ☐ Wastewater for SWWS (TA-46) (**Complete Attachment 1**)
- ☐ Wastewater for RLWTF (TA-50/TA-21) (**Complete Attachment 2**)
- ☐ Wastewater for TA-16 (HE)

Classification Information

- ☒ Unclassified
- ☐ Classified/Sensitive

Waste Category (*Check as many as apply*)

- ☐ Inorganic
- ☐ Organic
- Volatile Organics ☐ < 500 ppm ☐ ≥ 500 ppm
- ☐ Solvent *
- ☐ Degreaser *
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous waste residue
- ☐ Explosive process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (See instructions)
- ☐ Battery (*See instructions*)
- Asbestos ☐ friable ☐ non-friable
- PCB Source Concentration
- ☐ PCB < 50 ppm
- ☐ PCB ≥ 50 - < 500 ppm
- ☐ PCB ≥ 500 ppm
- ☒ Other (*Describe below*)

* Concentrations 10% or greater before use.

Waste Source (*Check only one*)

Routine Waste

- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ☐ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (*Describe below*)

Non-routine Waste

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☐ Investigative Derived
- ☐ Orphan/Legacy
- ☒ Remediation/Restoration
- ☐ Repacking (*Secondary*)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping - Non-routine
- ☐ Spill Cleanup - Non-routine
- ☐ UST - Non-petroleum
- ☐ UST - Petroleum
- ☐ Other (*Describe below*)

Waste Matrix (*Check only one*)

Gas

- ☐ ≤ 1.5 Atmospheres pressure
- ☐ > 1.5 Atmospheres pressure
- ☐ Liquefied compressed gas

Liquid

- ☐ Aqueous
- ☐ Non-aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-aqueous

Solid

- ☐ Powder/Ash
- ☒ Solid
- ☐ Sludge
- ☐ Absorbed liquid

Matrix Type (*Check only one*)

- ☒ Homogeneous
- ☒ Heterogeneous (*Describe below*)

Waste/Process Description (*Chemical formulas may be used in this field*)

2 - 1 cubic yard bulk sacks containing low-level radioactive soil and nitrile gloves.

Section 2 – Characteristics

Ignitability (*Check only one*) (°F)	(°C)	Corrosivity (*Check only one*) (pH)	Reactivity (*Check as many as apply*)	Boiling Point (*Check only one*) (°F)	(°C)
☐ < 73	< 22.8	☐ ≤ 2.0	☐ RCRA Unstable	☐ ≤ 95	≤ 35
☐ 73 - 99	22.8 - 37.2	☐ 2.1 - 4.0	☐ Water Reactive	☐ > 95	> 35
☐ 100 - 139	37.8 - 59.4	☐ 4.1 - 6.0	☐ Cyanide Bearing (> 250 ppm)	☒ Not applicable	
☐ 140 -200	60.0 - 99.3	☐ 6.1 - 9.0	☐ Sulfide Bearing (> 500 ppm)		
☐ > 200	> 99.3	☐ 9.1 - 12.4	☐ Pyrophoric		
☐ EPA Ignitable - Non-liquid		☐ ≥ 12.5	☐ Shock Sensitive		
☐ DOT Flammable Gas		☐ Liquid corrosive to steel	☐ Explosive - DOT Div. _____		
☐ DOT Oxidizer		☒ Non-aqueous	☒ Non-reactive		
☒ Not ignitable					

Identify for all contaminants listed.	Characterization Method			Concentration of Contaminants		
	AK	TCLP	Total	None or Non-detect	Present Below Regulatory Limit	Above Regulatory Limit Minimum / Maximum (Concentration in ppm only.)
Toxicity Characteristic Metals						
Arsenic	☐	☒	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Barium	☐	☒	☐	☐	☒ < 100.0 ppm	0.2 to 0.33 ppm
Cadmium	☐	☒	☐	☐	☒ < 1.0 ppm	_____ to 0.022 ppm
Chromium (Total)	☐	☒	☐	☐	☒ < 5.0 ppm	0.021 to 0.025 ppm
Lead	☐	☒	☐	☐	☒ < 5.0 ppm	0.0091 to 0.17 ppm
Mercury	☐	☒	☐	☐	☒ < 0.2 ppm	0.00055 to 0.00061 ppm
Selenium	☐	☒	☐	☐	☒ < 1.0 ppm	_____ to 0.01 ppm
Silver	☐	☒	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Toxicity Characteristic Organics						
Benzene	☐	☒	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Carbon tetrachloride	☐	☒	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Chlordane	☐	☒	☐	☒	☐ < 0.03 ppm	_____ to _____ ppm
Chlorobenzene	☐	☒	☐	☒	☐ < 100.0 ppm	_____ to _____ ppm
Chloroform	☐	☒	☐	☒	☐ < 6.0 ppm	_____ to _____ ppm
o - cresol	☐	☒	☐	☒	☐ < 200.0 ppm	_____ to _____ pp
m - cresol	☐	☒	☐	☒	☐ < 200.0 ppm	_____ to _____ pp
p - cresol	☐	☒	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
Cresol - mixed	☐	☒	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
2,4-D	☐	☒	☐	☒	☐ < 10.0 ppm	_____ to _____ ppm
1,4-Dichlorobenzene	☐	☒	☐	☒	☐ < 7.5 ppm	_____ to _____ ppm
1,2-Dichloroethane	☐	☒	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
1,1-Dichloroethylene	☐	☒	☐	☒	☐ < 0.7 ppm	_____ to _____ ppm
2,4-Dinitrotoluene	☐	☒	☐	☒	☐ < 0.13 ppm	_____ to _____ ppm
Endrin	☐	☒	☐	☒	☐ < 0.02 ppm	_____ to _____ ppm
Heptachlor (& its epoxide)	☐	☒	☐	☒	☐ < 0.008 ppm	_____ to _____ ppm
Hexachlorobenzene	☐	☒	☐	☒	☐ < 0.13 ppm	_____ to _____ ppm
Hexachlorobutadiene	☐	☒	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Hexachloroethane	☐	☒	☐	☒	☐ < 3.0 ppm	_____ to _____ ppm
Lindane	☐	☒	☐	☒	☐ < 0.4 ppm	_____ to _____ ppm
Methoxychlor	☐	☒	☐	☒	☐ < 10.0 ppm	_____ to _____ ppm
Methyl ethyl ketone	☐	☒	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
Nitrobenzene	☐	☒	☐	☒	☐ < 2.0 ppm	_____ to _____ ppm
Pentachlorophenol	☐	☒	☐	☒	☐ < 100.0 ppm	_____ to _____ ppm
Pyridine	☐	☒	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Tetrachloroethylene	☐	☒	☐	☒	☐ < 0.7 ppm	_____ to _____ ppm
Toxaphene	☐	☒	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Trichloroethylene	☐	☒	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
2,4,5-Trichlorophenol	☐	☒	☐	☒	☐ < 400.0 ppm	_____ to _____ ppm
2,4,6-Trichlorophenol	☐	☒	☐	☒	☐ < 2.0 ppm	_____ to _____ ppm
2,4,5-TP (Silvex)	☐	☒	☐	☒	☐ < 1.0 ppm	_____ to _____ ppm
Vinyl chloride	☐	☒	☐	☒	☐ < 0.2 ppm	_____ to _____ ppm

Section 3 - Additional Constituents

Additional Constituents and Contaminates. Please account for 100% of waste. Ranges should be given within guidelines of LIG 404-00-03 of individual constituents. List all other constituents (including inerts) not identified above and attach any applicable analysis. No chemical formulas allowed in this field. Continue in Section 3 Additional Information as necessary. CAS Numbers are needed for all chemical constituents, for material without a CAS Number enter "No CAS Number." Contact Waste Services at 5-4000 for assistance.

CAS No.	Name of constituent	Minimum		Maximum	
	Soil/vegetation	99	to	100	%
	Nitrile gloves	.5	to	1	%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
	Total of max. ranges of this section	101			**in %**
	Total of max. ranges from page 2.	0.55761			**in ppm**

Additional Information (*Use additional sheet if necessary.*)

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

Sample ID for the bulk sacks are 19-04-55097 and 19-04-55098 for TCLP Analyses.
Sample ID for the bulk sacks are 0119-97-0066 and 0119-97-0068 for Radiological Analyses.

WASTE GENERATOR CERTIFICATION: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violations.

Signature: Date: 12/20/04

WASTE MANAGEMENT COORDINATOR: I have reviewed this form and to the best of my knowledge, the information is complete and accurate.

Signature: Date: 12/20/04

WASTE_SAMPLES

SAMPLE_ID	ANYL_METH_CODE	ANALYTICAL_SUITE	LOCATION_ID	ANALYTE_NAME	MDL	QUANT_LMT	DILUTION_FACTOR	SAMPLE_VALUE	REPORTING_UNITS	STD_SAMPLE_VALUE	STD_REPORTING_UNITS	LAB_QUALIFIER
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Arsenic	0.018	0.03	1	0.03	MG/L	30	UG/L	U
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Barium	0.0018	0.02	1	0.2	MG/L	200	UG/L	
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Cadmium	0.0009	0.01	1	0.022	MG/L	22	UG/L	
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Chromium	0.01	0.03	1	0.021	MG/L	21	UG/L	B
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Lead	0.0007	0.02	1	0.17	MG/L	170	UG/L	
RE19-04-55097	SW-846:7470A_TCLP	METALS_TCLP	19-01266	Mercury	0.00047	0.002	1	0.00061	MG/L	0.61	UG/L	B
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Selenium	0.01	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Silver	0.0008	0.01	1	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Vinyl Chloride	0.0055	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Dichloroethene[1,1-]	0.0041	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Butanone[2-]	0.023	0.05	10	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Chloroform	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Carbon Tetrachloride	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Dichloroethane[1,2-]	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Trichloroethene	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Tetrachloroethene	0.0033	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Chlorobenzene	0.0032	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Dichlorobenzene[1,4-]	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Benzene	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Pyridine	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Dichlorobenzene[1,4-]	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Methylphenol[2-]	0.0023	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Methylphenol[4-]	0.003	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Hexachloroethane	0.0022	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Nitrobenzene	0.0032	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Hexachlorobutadiene	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Trichlorophenol[2,4,6-]	0.002	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Trichlorophenol[2,4,5-]	0.0049	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Pentachlorophenol	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Hexachlorobenzene	0.0033	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Dinitrotoluene[2,4-]	0.0035	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Arsenic	0.018	0.03	1	0.03	MG/L	30	UG/L	U
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Barium	0.0018	0.02	1	0.33	MG/L	330	UG/L	
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Cadmium	0.0009	0.01	1	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Chromium	0.01	0.03	1	0.025	MG/L	25	UG/L	B
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Lead	0.0007	0.02	1	0.0091	MG/L	9.1000004	UG/L	B
RE19-04-55098	SW-846:7470A_TCLP	METALS_TCLP	19-01268	Mercury	0.00047	0.002	1	0.00055	MG/L	0.55	UG/L	B
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Selenium	0.01	0.05	1	0.01	MG/L	10	UG/L	B
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Silver	0.0008	0.01	1	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Vinyl Chloride	0.0055	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Dichloroethene[1,1-]	0.0041	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Butanone[2-]	0.023	0.05	10	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Chloroform	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Carbon Tetrachloride	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Dichloroethane[1,2-]	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Trichloroethene	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Tetrachloroethene	0.0033	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Chlorobenzene	0.0032	0.01	10	0.01	MG/L	10	UG/L	U

Radiological analytical data for historical locations 19-01266 and 19-01268, SWMU 19-001-99

LOCATION_ID	SAMPLE_ID	COLLECTION DATE	MEDIA CODE	BEGIN DEPTH (ft)	END DEPTH (ft)	ANALYTE NAME	SAMPLE CONCENTRATION	REPORTING UNITS	QUALIFIER	UNCERTAINTY	DILUTION FACTOR
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Americium-241	0.08	PCI/G	U	0.19	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Cesium-134	0.02	PCI/G	U	0.03	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Cesium-137	2.49	PCI/G		0.09	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Cobalt-60	-0.01	PCI/G	U	0.03	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Europium-152	0.35	PCI/G	U	0.12	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Ruthenium-106	0.13	PCI/G	U	0.22	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Sodium-22	0	PCI/G	U	0.03	1
19-01266	0119-97-0066	7/15/1997	SED	0	0.25	Uranium-235	0.07	PCI/G	U	0.18	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Americium-241	0.11	PCI/G	U	0.06	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Cesium-134	-0.01	PCI/G	U	0.03	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Cesium-137	5.85	PCI/G		0.13	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Cobalt-60	-0.04	PCI/G	U	0.03	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Europium-152	0.15	PCI/G	U	0.18	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Ruthenium-106	-0.41	PCI/G	U	0.26	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Sodium-22	-0.03	PCI/G	U	0.03	1
19-01268	0119-97-0068	7/15/1997	SED	0	0.25	Uranium-235	-0.08	PCI/G	U	0.17	1

RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Dichlorobenzene[1,4-]	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Benzene	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Pyridine	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Dichlorobenzene[1,4-]	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Methylphenol[2-]	0.0023	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Methylphenol[4-]	0.003	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Hexachloroethane	0.0022	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Nitrobenzene	0.0032	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Hexachlorobutadiene	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Trichlorophenol[2,4,6-]	0.002	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Trichlorophenol[2,4,5-]	0.0049	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Pentachlorophenol	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Hexachlorobenzene	0.0033	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Dinitrotoluene[2,4-]	0.0035	0.05	1	0.05	MG/L	50	UG/L	U

(M892)

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM
WPF #: 38121

Generator: RUST, TERRY A MS: M992 PH: 6658843 Z#: 092228
WMC: HOPINKAH, DOUGLAS MS: M892 PH: Z#: 192466
Contact:
RCRA Rev: CORIZ, MICHELLE MS: J595 PH: 54000 Z#: 120950
Status: ACTIVE Activation Date: 14-Jan-2005 Expiration Date: 14-Jan-2006
Group: E-CO TA: 72 Bldg: 000000 Room: NA

You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to FWO-SWO Customer Service, and attach a copy of the WPF which is being replaced.

Waste Accumu: **None of the Above Site ID#**
ER Waste PRS# 19-001-99

Method of Char: **Analysis/Documents Attached**
Chemical/Physical Analysis **Number: SEE SEC.3**
Radiological Analysis **Number: SEE SEC.3**

Waste Type: **Process Waste/Spent Chemical/Other**
Waste Classes: RCA Waste - **Not RCA Waste**
RAD Waste - **Radioactive-LL**
Classif/Sensi - **N**

Waste Category: **Other**

Waste Sources: **Remediation/Restoration**

Waste Matrix: **Solid**

Matrix Type: **Heterogeneous**

Waste/Proc Desc: 2-1 CUBIC YARD BULK SACKS CONTAINING LOW-LEVEL RADIOACTIVE SOIL AND NITRILE GLOVES.

Ignitability: **Not ignitable**

Corrosivity: **Non-aqueous**

Reactivity: **Non-reactive**

Boiling Point: **Not applicable**

Toxicity Characteristic Metals:

Contaminant	Method	Limit	Min	Max	Unit
BARIUM	**TCLP**	**Y**	**.2**	**.33**	**PPM**
CADMIUM	**TCLP**	**Y**	**0**	**.022**	**PPM**
CHROMIUM	**TCLP**	**Y**	**.021**	**.025**	**PPM**
LEAD	**TCLP**	**Y**	**.0091**	**.17**	**PPM**
MERCURY	**TCLP**	**Y**	**.00055**	**.00061**	**PPM**
SELENIUM	**TCLP**	**Y**	**0**	**.01**	**PPM**

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants:

CAS NO	Constituent	MIN	MAX	UOM
	SOIL/VEGETATION	**99**	**100**	**%**

NITRILE GLOVES	**.5**	**1**	**%**

Additional Information: SAMPLE ID FOR THE BULK SACKS ARE 19-04-55097 AND 19-04-55098 FOR TCLP ANALYSES. SAMPLE ID FOR THE BULK SACKS ARE 0119-97-0066 AND 0119-97-0068 FOR RADIOLOGICAL ANALYSES.

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category : **RADIOACTIVE-LL**

RCRA Category : **NON HAZARDOUS**

Secondary Info : N/A

Waste Classification : **LOW-LEVEL WASTE**

Waste Acceptances :

EPA Hazardous Waste Code : N/A

Los Alamos
NATIONAL LABORATORY

RECEIVED NOV 03 2004

ORIGINAL

Waste Profile Form

Contact (*if other than given below*)	For rapid processing, complete all sections in black or blue ink and mail to: FWO-SWO at **MS J595.** For assistance with completing this form, call FWO-SWO at **5-4000.**	Reference Number (*For FWO-SWO use only*) 37981

Generator's Z Number	Waste Generator's Name (*print*)	WMC's Z Number	WMC's Name (*print*)
092228	Terry Rust	192466	Douglas Hopinkah

Generator's Telephone	Generator's Mail Stop	Waste Generating Group	Waste Stream Technical Area	Building	Room
665-8843	M992	RRES-ECR	72: Former TA-19/East Gate Lab.	outside	n/a

Waste Accumulation (*Check only one*)

- ☐ Satellite Accumulation Area — Site no: _____
- ☐ Less-than-90-days Storage Area — Site no: _____
- ☐ TSDF — Site no: _____
- ☒ ~~Universal Waste Storage Area~~ DH 12/15/04 — Site no: ~~2875~~
- ☒ None of the Above

ER Use Only — ☒ ER Site — PRS #: 19-001-99

Method of Characterization (*Check as many as apply*)

- ☐ Analysis/Documents Attached
- ☐ Chemical/Physical Analysis — Sample #: _____
- ☐ Radiological Analysis — Sample #: _____
- ☐ PCB Analysis — Sample #: _____
- ☒ Acceptable Knowledge Documentation — Documentation #: see sec. 3
- ☐ MSDS

Section 1 - Chemical and Physical Information

Waste Type (*Check only one*)

- ☐ Unused/Unspent Chemical (Complete all sections as appropriate.)
- ☒ Process Waste/Spent Chemical/ other (Complete all sections.)
- ☐ Green is Clean Waste (Complete all sections as appropriate.)

Waste Classes

Radiological Information

Was Waste Generated in a RCA?
☐ Yes ☒ No

☒ Non-radioactive

Radioactive
- ☐ Low-Level
- ☐ Transuranic

Wastewater Information

- ☐ Wastewater for SWWS (TA-46) (Complete Attachment 1)
- ☐ Wastewater for RLWTF (TA-50/TA-21) (Complete Attachment 2)
- ☐ Wastewater for TA-16 (HE)

Classification Information

- ☒ Unclassified
- ☐ Classified/Sensitive

Waste Category (*Check as many as apply*)

- ☐ Inorganic
- ☐ Organic
- Volatile Organics ☐ < 500 ppm ☐ ≥ 500 ppm
- ☐ Solvent *
- ☐ Degreaser *
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous waste residue
- ☐ Explosive process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (See instructions)
- ☒ Battery (*See instructions*)
- Asbestos ☐ friable ☐ non-friable
- PCB Source Concentration
  - ☐ PCB < 50 ppm
  - ☐ PCB ≥ 50 - < 500 ppm
  - ☐ PCB ≥ 500 ppm
  - ☐ Other (*Describe below*)

* Concentrations 10% or greater before use.

Waste Source (*Check only one*)

Routine Waste

- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ☐ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (*Describe below*)

Non-routine Waste

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☐ Investigative Derived
- ☐ Orphan/Legacy
- ☒ Remediation/Restoration
- ☐ Repacking (*Secondary*)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping - Non-routine
- ☐ Spill Cleanup - Non-routine
- ☐ UST - Non-petroleum
- ☐ UST - Petroleum
- ☐ Other (*Describe below*)

Waste Matrix (*Check only one*)

Gas

- ☐ ≤ 1.5 Atmospheres pressure
- ☐ > 1.5 Atmospheres pressure
- ☐ Liquefied compressed gas

Liquid

- ☐ Aqueous
- ☐ Non-aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-aqueous

Solid

- ☐ Powder/Ash
- ☒ Solid
- ☐ Sludge
- ☐ Absorbed liquid

Matrix Type (*Check only one*)

- ☐ Homogeneous
- ☒ Heterogeneous (*Describe below*)

Waste/Process Description (*Chemical formulas may be used in this field*)

Battery debris packed in 1-gallon bags along with Nitrile gloves. The bags were placed in 5-gallon buckets and sealed. There are four buckets total and are packed in a 55-gallon drum.

Section 2 – Characteristics

Ignitability (*Check only one*) (°F)	(°C)	Corrosivity (*Check only one*) (pH)	Reactivity (*Check as many as apply*)	Boiling Point (*Check only one*) (°F)	(°C)
☐ < 73	< 22.8	☐ ≤ 2.0	☐ RCRA Unstable	☐ ≤ 95	≤ 35
☐ 73 - 99	22.8 - 37.2	☐ 2.1 - 4.0	☐ Water Reactive	☐ > 95	> 35
☐ 100 - 139	37.8 - 59.4	☐ 4.1 - 6.0	☐ Cyanide Bearing (> 250 ppm)	☒ Not applicable	
☐ 140 -200	60.0 - 99.3	☐ 6.1 - 9.0	☐ Sulfide Bearing (> 500 ppm)		
☐ > 200	> 99.3	☐ 9.1 - 12.4	☐ Pyrophoric		
☐ EPA Ignitable - Non-liquid		☐ ≥ 12.5	☐ Shock Sensitive		
☐ DOT Flammable Gas		☐ Liquid corrosive to steel	☐ Explosive - DOT Div. _____		
☐ DOT Oxidizer		☒ Non-aqueous	☒ Non-reactive		
☒ Not ignitable					

Identify for all contaminants listed.	Characterization Method: AK	TCLP	Total	Concentration of Contaminants: None or Non-detect	Present Below Regulatory Limit	Above Regulatory Limit (Concentration in ppm only.) Minimum	Maximum
Toxicity Characteristic Metals							
Arsenic	☒	☐	☑	☒	☐ < 5.0 ppm	1.371	to 6.562 ppm
Barium	☒	☐	☑	☒	☐ < 100.0 ppm	82.65	to 148.667 ppm
Cadmium	☒	☐	☑	☒	☐ < 1.0 ppm	.717	to 4.693 ppm
Chromium (Total)	☒	☐	☑	☒	☐ < 5.0 ppm		to ppm
Lead	☒	☑	☐	☒	☐ < 5.0 ppm	0	to .629 ppm
Mercury	☒	☐	☑	☒	☐ < 0.2 ppm		to ppm
Selenium	☒	☐	☑	☒	☐ < 1.0 ppm	.192	to 2.891 ppm
Silver	☒	☐	☑	☒	☑ < 5.0 ppm		to ppm
Toxicity Characteristic Organics							
Benzene	☒	☐	☐	☒	☐ < 0.5 ppm		to ppm
Carbon tetrachloride	☒	☐	☐	☐	☐ < 0.5 ppm		to ppm
Chlordane	☒	☐	☐	☐	☐ < 0.03 ppm		to ppm
Chlorobenzene	☒	☐	☐	☐	☐ < 100.0 ppm		to ppm
Chloroform	☒	☐	☐	☐	☐ < 6.0 ppm		to ppm
o - cresol	☒	☐	☐	☐	☐ < 200.0 ppm		to
m - cresol	☒	☐	☐	☐	☐ < 200.0 ppm		to ppm
p - cresol	☒	☐	☐	☐	☐ < 200.0 ppm		to ppm
Cresol - mixed	☒	☐	☐	☐	☐ < 200.0 ppm		to ppm
2,4-D	☒	☐	☐	☐	☐ < 10.0 ppm		to ppm
1,4-Dichlorobenzene	☒	☐	☐	☐	☐ < 7.5 ppm		to ppm
1,2-Dichloroethane	☒	☐	☐	☐	☐ < 0.5 ppm		to ppm
1,1-Dichloroethylene	☒	☐	☐	☐	☐ < 0.7 ppm		to ppm
2,4-Dinitrotoluene	☒	☐	☐	☐	☐ < 0.13 ppm		to ppm
Endrin	☒	☐	☐	☐	☐ < 0.02 ppm		to ppm
Heptachlor (& its epoxide)	☒	☐	☐	☐	☐ < 0.008 ppm		to ppm
Hexachlorobenzene	☒	☐	☐	☐	☐ < 0.13 ppm		to ppm
Hexachlorobutadiene	☒	☐	☐	☐	☐ < 0.5 ppm		to ppm
Hexachloroethane	☒	☐	☐	☐	☐ < 3.0 ppm		to ppm
Lindane	☒	☐	☐	☐	☐ < 0.4 ppm		to ppm
Methoxychlor	☒	☐	☐	☐	☐ < 10.0 ppm		to ppm
Methyl ethyl ketone	☒	☐	☐	☐	☐ < 200.0 ppm		to ppm
Nitrobenzene	☒	☐	☐	☐	☐ < 2.0 ppm		to ppm
Pentachlorophenol	☒	☐	☐	☐	☐ < 100.0 ppm		to ppm
Pyridine	☒	☐	☐	☐	☐ < 5.0 ppm		to ppm
Tetrachloroethylene	☒	☐	☐	☐	☐ < 0.7 ppm		to ppm
Toxaphene	☒	☐	☐	☐	☐ < 0.5 ppm		to ppm
Trichloroethylene	☒	☐	☐	☐	☐ < 0.5 ppm		to ppm
2,4,5-Trichlorophenol	☒	☐	☐	☐	☐ < 400.0 ppm		to ppm
2,4,6-Trichlorophenol	☒	☐	☐	☐	☐ < 2.0 ppm		to ppm
2,4,5-TP (Silvex)	☒	☐	☐	☐	☐ < 1.0 ppm		to ppm
Vinyl chloride	☒	☐	☐	☐	☐ < 0.2 ppm		to

Changes per WMC Omg Hopinlab DT 12/15/04

Section 3 - Additional Constituents

Additional Constituents and Contaminates. Please account for 100% of waste. Ranges should be given within guidelines of LIG 404-00-03 of individual constituents. List all other constituents (including inerts) not identified above and attach any applicable analysis. No chemical formulas allowed in this field. Continue in Section 3 Additional Information as necessary. CAS Numbers are needed for all chemical constituents, for material without a CAS Number enter "No CAS Number." Contact Waste Services at 5-4000 for assistance.

CAS No.	Name of constituent	Minimum		Maximum	
	Batteries	95	to	98	%
	Nitrile gloves	1	to	2	%
	plastics bags	1	to	2	%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
	Total of max. ranges of this section	102			**in %**
	Total of max. ranges from page 2.				**in ppm**

Additional Information (*Use additional sheet if necessary.*)

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

Attached is the Waste Profile Form# 22099, with analytical data, that was used to initiate cleanup of battery debris in 1996.

WASTE GENERATOR CERTIFICATION: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violations.

Signature: [illegible] Date: 11/3/04

WASTE MANAGEMENT COORDINATOR: I have reviewed this form and to the best of my knowledge, the information is complete and accurate.

Signature: [illegible] Date: 11/3/04

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM
WPF #: 37981

15-Dec-2004 02:39 PM (Version: 1) 1

Generator :	RUST, TERRY A	MS :	M992	PH :	6658843	Z#:	092228
WMC :	HOPINKAH, DOUGLAS	MS :		PH :		Z#:	192466
Contact :							
RCRA Rev :	ELICIO, ANDY	MS :	J595	PH :	76956	Z#:	118692
Status :	ACTIVE	Activation Date :	15-Dec-2004	Expiration Date:	15-Dec-2005		
Group :	RRESECO	TA :	72	Bldg :	000000	Room:	N/A

You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to FWO-SWO Customer Service, and attach a copy of the WPF which is being replaced.

Waste Accumu : **None of the Above** **Site ID#**
ER Waste PRS# **19-001-99**

Method of Char : **Acceptable Knowledge Documentation** **Number: SEE SEC. 3**

Waste Type : **Process Waste/Spent Chemical/Other**

Waste Classes: RCA Waste - **Not RCA Waste**
RAD Waste - **Non-rad**
Classif/Sensi - **N**

Waste Category: **Battery**

Waste Sources : **Remediation/Restoration**

Waste Matrix : **Solid**

Matrix Type : **Heterogeneous**

Waste/Proc Desc : BATTERY DEBRIS PACKED IN 1-GALLON BAGS ALONG WITH NITRILE GLOVES. THE BAGS WERE PLACED IN 5-GALLON BUCKETS AND SEALED. THERE ARE FOUR BUCKETS TOTAL AND ARE PACKED IN A 55-GALLON DRUM.

Ignitability : **Not ignitable**

Corrosivity : **Non-aqueous**

Reactivity : **Non-reactive**

Boiling Point : **Not applicable**

Toxicity Characteristic Metals :

Contaminant	Method	Limit	Min	Max	Unit
ARSENIC	**TOTA**	**Y**	**1.371**	**6.562**	**PPM**
BARIUM	**TOTA**	**Y**	**82.65**	**148.667**	**PPM**
CADMIUM	**TOTA**	**Y**	**.717**	**4.693**	**PPM**
LEAD	**TCLP**	**Y**	**0**	**.629**	**PPM**
SELENIUM	**TOTA**	**Y**	**.192**	**2.891**	**PPM**
SILVER	**TOTA**	**Y**			**PPM**

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants :

CAS NO	Constituent	MIN	MAX	UOM
	BATTERIES	**95**	**98**	**%**
	NITRILE GLOVES	**1**	**2**	**%**

PLASTIC BAGS	1	2	%

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category : **NON-RAD**

RCRA Category : **NON HAZARDOUS**

Secondary Info : N/A

Waste Classification : **SOLID WASTE**

Waste Acceptances :
EPA Hazardous Waste Code : N/A

COPY

Los Alamos NATIONAL LABORATORY

Waste Profile Form

Contact (*if other than given below*)	For rapid processing, complete all sections in black or blue ink and mail to: FWO-SWO at **MS J595.** For assistance with completing this form, call FWO-SWO at **5-4000**.	Reference Number (*For FWO-SWO use only*)

Generator's Z Number	Waste Generator's Name (*print*)	WMC's Z Number	WMC's Name (*print*)
092228	Terry Rust	192466	Douglas Hopinkah

Generator's Telephone	Generator's Mail Stop	Waste Generating Group	Waste Stream Technical Area	Building	Room
665-8843	M992	RRES-ECR	72	Outside	N/A

Waste Accumulation (*Check only one*)

- [x] Satellite Accumulation Area — Site no: 2674
- [ ] Less-than-90-days Storage Area — Site no: ____
- [ ] TSDF — Site no: ____
- [ ] Universal Waste Storage Area — Site no: ____
- [ ] None of the Above

ER Use Only

- [ ] ER Site — PRS #: ____

Method of Characterization (*Check as many as apply*)

- [ ] Analysis/Documents Attached

- [ ] Chemical/Physical Analysis — Sample #: ____
- [ ] Radiological Analysis — Sample #: ____
- [ ] PCB Analysis — Sample #: ____
- [ ] Acceptable Knowledge Documentation — Documentation #: ____
- [x] MSDS

Section 1 - Chemical and Physical Information

Waste Type (*Check only one*)

- [ ] Unused/Unspent Chemical (Complete all sections as appropriate.)
- [x] Process Waste/Spent Chemical/ other (Complete all sections.)
- [ ] Green is Clean Waste (Complete all sections as appropriate.)

Waste Classes

Radiological Information

Was Waste Generated in a RCA?

- [ ] Yes
- [x] No

- [x] Non-radioactive

Radioactive

- [ ] Low-Level
- [ ] Transuranic

Wastewater Information

- [ ] Wastewater for SWWS (TA-46) (Complete Attachment 1)
- [ ] Wastewater for RLWTF (TA-50/TA-21) (Complete Attachment 2)
- [ ] Wastewater for TA-16 (HE)

Classification Information

- [x] Unclassified
- [ ] Classified/Sensitive

Waste Category (*Check as many as apply*)

- [ ] Inorganic
- [x] Organic

Volatile Organics [x] < 500 ppm [ ] ≥ 500 ppm

- [ ] Solvent *
- [ ] Degreaser *
- [ ] Dioxin
- [ ] Electroplating
- [ ] Treated Hazardous waste residue
- [ ] Explosive process
- [ ] Infectious/Medical
- [ ] Biological
- [ ] Beryllium
- [ ] Empty Container (See instructions)
- [ ] Battery (*See instructions*)

Asbestos [ ] friable [ ] non-friable

PCB Source Concentration

- [ ] PCB < 50 ppm
- [ ] PCB ≥ 50 - < 500 ppm
- [ ] PCB ≥ 500 ppm
- [ ] Other (*Describe below*)

* Concentrations 10% or greater before use.

Waste Source (*Check only one*)

Routine Waste

- [ ] Decon
- [ ] Materials Processing/Production
- [ ] Research/Development/Testing
- [ ] Scheduled Maintenance
- [ ] Housekeeping - Routine
- [ ] Spill Cleanup - Routine
- [ ] Sampling - Routine Monitoring
- [ ] Other (*Describe below*)

Non-routine Waste

- [ ] Abatement
- [ ] Construction/Upgrades
- [ ] Demolition
- [ ] Decon/Decom
- [x] Investigative Derived
- [ ] Orphan/Legacy
- [ ] Remediation/Restoration
- [ ] Repacking (*Secondary*)
- [ ] Unscheduled Maintenance
- [ ] Housekeeping - Non-routine
- [ ] Spill Cleanup - Non-routine
- [ ] UST - Non-petroleum
- [ ] UST - Petroleum
- [ ] Other (*Describe below*)

Waste Matrix (*Check only one*)

Gas

- [ ] ≤ 1.5 Atmospheres pressure
- [ ] > 1.5 Atmospheres pressure
- [ ] Liquefied compressed gas

Liquid

- [ ] Aqueous
- [ ] Non-aqueous
- [x] Suspended Solids/Aqueous
- [ ] Suspended Solids/Non-aqueous

Solid

- [ ] Powder/Ash
- [ ] Solid
- [ ] Sludge
- [ ] Absorbed liquid

Matrix Type (*Check only one*)

- [ ] Homogeneous
- [x] Heterogeneous (*Describe below*)

Waste/Process Description (*Chemical formulas may be used in this field*)

Spent methanol from sample extraction kits containing minimal amounts of soil settled at the bottom of the container.

Section 2 – Characteristics

Ignitability (*Check only one*) (°F)	(°C)	Corrosivity (*Check only one*) (pH)	Reactivity (*Check as many as apply*)	Boiling Point (*Check only one*) (°F)	(°C)
☒ < 73	< 22.8	☐ ≤ 2.0	☐ RCRA Unstable	☐ ≤ 95	≤ 35
☐ 73 - 99	22.8 - 37.2	☐ 2.1 - 4.0	☐ Water Reactive	☐ > 95	> 35
☐ 100 - 139	37.8 - 59.4	☐ 4.1 - 6.0	☐ Cyanide Bearing (> 250 ppm)	☒ Not applicable	
☐ 140 -200	60.0 - 99.3	☒ 6.1 - 9.0	☐ Sulfide Bearing (> 500 ppm)		
☐ > 200	> 99.3	☐ 9.1 - 12.4	☐ Pyrophoric		
☐ EPA Ignitable - Non-liquid		☐ ≥ 12.5	☐ Shock Sensitive		
☐ DOT Flammable Gas		☐ Liquid corrosive to steel	☐ Explosive - DOT Div. _____		
☐ DOT Oxidizer		☐ Non-aqueous	☒ Non-reactive		
☐ Not ignitable					

Identify for all contaminants listed.	Characterization Method			Concentration of Contaminants		
	AK	TCLP	Total	None or Non-detect	Present Below Regulatory Limit	Above Regulatory Limit Minimum Maximum (Concentration in ppm only.)
Toxicity Characteristic Metals						
Arsenic	☒	☐	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Barium	☒	☐	☐	☒	☐ < 100.0 ppm	_____ to _____ ppm
Cadmium	☒	☐	☐	☒	☐ < 1.0 ppm	_____ to _____ ppm
Chromium (Total)	☒	☐	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Lead	☒	☐	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Mercury	☒	☐	☐	☒	☐ < 0.2 ppm	_____ to _____ ppm
Selenium	☒	☐	☐	☒	☐ < 1.0 ppm	_____ to _____ ppm
Silver	☒	☐	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Toxicity Characteristic Organics						
Benzene	☒	☐	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Carbon tetrachloride	☒	☐	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Chlordane	☒	☐	☐	☒	☐ < 0.03 ppm	_____ to _____ ppm
Chlorobenzene	☒	☐	☐	☒	☐ < 100.0 ppm	_____ to _____ ppm
Chloroform	☒	☐	☐	☒	☐ < 6.0 ppm	_____ to _____ ppm
o - cresol	☒	☐	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
m - cresol	☒	☐	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
p - cresol	☒	☐	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
Cresol - mixed	☒	☐	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
2,4-D	☒	☐	☐	☒	☐ < 10.0 ppm	_____ to _____ ppm
1,4-Dichlorobenzene	☒	☐	☐	☒	☐ < 7.5 ppm	_____ to _____ ppm
1,2-Dichloroethane	☒	☐	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
1,1-Dichloroethylene	☒	☐	☐	☒	☐ < 0.7 ppm	_____ to _____ ppm
2,4-Dinitrotoluene	☒	☐	☐	☒	☐ < 0.13 ppm	_____ to _____ ppm
Endrin	☒	☐	☐	☐	☐ < 0.02 ppm	_____ to _____ ppm
Heptachlor (& its epoxide)	☒	☐	☐	☒	☐ < 0.008 ppm	_____ to _____ ppm
Hexachlorobenzene	☒	☐	☐	☒	☐ < 0.13 ppm	_____ to _____ ppm
Hexachlorobutadiene	☒	☐	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Hexachloroethane	☒	☐	☐	☒	☐ < 3.0 ppm	_____ to _____ ppm
Lindane	☒	☐	☐	☒	☐ < 0.4 ppm	_____ to _____ ppm
Methoxychlor	☒	☐	☐	☒	☐ < 10.0 ppm	_____ to _____ ppm
Methyl ethyl ketone	☒	☐	☐	☒	☐ < 200.0 ppm	_____ to _____ ppm
Nitrobenzene	☒	☐	☐	☒	☐ < 2.0 ppm	_____ to _____ ppm
Pentachlorophenol	☒	☐	☐	☒	☐ < 100.0 ppm	_____ to _____ ppm
Pyridine	☒	☐	☐	☒	☐ < 5.0 ppm	_____ to _____ ppm
Tetrachloroethylene	☒	☐	☐	☒	☐ < 0.7 ppm	_____ to _____ ppm
Toxaphene	☒	☐	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
Trichloroethylene	☒	☐	☐	☒	☐ < 0.5 ppm	_____ to _____ ppm
2,4,5-Trichlorophenol	☒	☐	☐	☐	☐ < 400.0 ppm	_____ to _____ ppm
2,4,6-Trichlorophenol	☒	☐	☐	☒	☐ < 2.0 ppm	_____ to _____ ppm
2,4,5-TP (Silvex)	☒	☐	☐	☒	☐ < 1.0 ppm	_____ to _____ ppm
Vinyl chloride	☒	☐	☐	☒	☐ < 0.2 ppm	_____ to _____ ppm

Section 3 - Additional Constituents

Additional Constituents and Contaminates. Please account for 100% of waste. Ranges should be given within guidelines of LIG 404-00-03 of individual constituents. List all other constituents (including inerts) not identified above and attach any applicable analysis. No chemical formulas allowed in this field. Continue in Section 3 Additional Information as necessary. CAS Numbers are needed for all chemical constituents, for material without a CAS Number enter "No CAS Number." Contact Waste Services at 5-4000 for assistance.

CAS No.	Name of constituent	Minimum		Maximum	
67-56-1	methanol	45	to	50	%
	water	45	to	50	%
	soil	0.5	to	1	%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
	Total of max. ranges of this section	101			**in %**
	Total of max. ranges from page 2.				**in ppm**

Additional Information (*Use additional sheet if necessary.*)

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

WASTE GENERATOR CERTIFICATION: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violations.

Signature: [illegible] Date: 9/21/04

WASTE MANAGEMENT COORDINATOR: I have reviewed this form and to the best of my knowledge, the information is complete and accurate.

Signature: [illegible] Date: 9/21/04

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM
WPF #: 37867

Generator : **RUST, TERRY A** MS : **M992** PH : **6658843** Z#: **092228**
WMC : **HOPINKAH, DOUGLAS** MS : M892 PH : Z#: **192466**
Contact :
RCRA Rev : **MULLEN, LORI ANN** MS : **J595** PH : **54000** Z#: **102337**
Status : **ACTIVE** Activation Date : **01-Oct-2004** Expiration Date: **01-Oct-2005**
Group : **RRESECO** TA : **72** Bldg : **000000** Room: **OUTSIDE**

You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to FWO-SWO Customer Service, and attach a copy of the WPF which is being replaced.

Waste Accumu : **Satellite Accumulation Area Site ID# 2674**
Method of Char : **MSDS**

Waste Type : **Process Waste/Spent Chemical/Other**
Waste Classes: RCA Waste - **Not RCA Waste**
RAD Waste - **Non-rad**
Classif/Sensi - **N**

Waste Category: **Organic**
Volatile Organics < 500 ppm
Solvent

Waste Sources : **Investigative Derived**

Waste Matrix : **Suspended Solids / Aqueous**

Matrix Type : **Heterogeneous**

Waste/Proc Desc : SPENT METHANOL FROM SAMPLE EXTRACTION KITS CONTAINING MINIMAL AMOUNTS OF SOIL SETTLED AT THE BOTTOM OF THE CONTAINER.

Ignitability : **<73 F <22.8 C**

Corrosivity : **6.1 - 9.0**

Reactivity : **Non-reactive**

Boiling Point : **Not applicable**

Toxicity Characteristic Metals : N/A

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants :

CAS NO	Constituent	MIN	MAX	UOM
67-56-1	**METHANOL**	**45**	**50**	**%**
	WATER	**45**	**50**	**%**
	SOIL	**.5**	**1**	**%**

LDR and Underlying Hazardous Constituents Information
Non-Wastewater/Wastewater Category: **Non Wastewater**
Notification of California List Applicability: N/A
Notification Of Underlying Hazardous Constituents:
Constituents
No Underlying Hazardous Constituents in this waste stream

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category :	**NON-RAD**
RCRA Category :	**HAZARDOUS WASTE**
Secondary Info :	N/A
Waste Classification :	**HAZARDOUS WASTE**
Waste Acceptances :	
EPA Hazardous Waste Code :	**D001 F003**

Los Alamos NATIONAL LABORATORY

Waste Profile Form

Contact (*if other than given below*)	For rapid processing, complete all sections in black or blue ink and mail to: FWO-SWO at MS J595. For assistance with completing this form, call FWO-SWO at 5-4000.	Reference Number (*For FWO-SWO use only*)

Generator's Z Number	Waste Generator's Name (*print*)	WMC's Z Number	WMC's Name (*print*)
092228	Terry Rust	192466	Douglas Hopinkah

Generator's Telephone	Generator's Mail Stop	Waste Generating Group	Waste Stream Technical Area	Building	Room
665-8843	M992	ENV-ECR	TA-72: Former TA-19/East Gate Lab	Outside	n/a

Waste Accumulation (*Check only one*)

- [x] Satellite Accumulation Area — Site no: 2675
- [ ] Less-than-90-days Storage Area — Site no: ____
- [ ] TSDF — Site no: ____
- [ ] Universal Waste Storage Area — Site no: ____
- [ ] None of the Above

ER Use Only

- [x] ER Site — PRS #: 19-001-99

Method of Characterization (*Check as many as apply*)

- [x] Analysis/Documents Attached

- [x] Chemical/Physical Analysis — Sample #: See sec. 3
- [ ] Radiological Analysis — Sample #: ____
- [ ] PCB Analysis — Sample #: ____
- [ ] Acceptable Knowledge Documentation — Documentation #: ____
- [ ] MSDS

Section I - Chemical and Physical Information

Waste Type (*Check only one*)

- [ ] Unused/Unspent Chemical (Complete all sections as appropriate.)
- [x] Process Waste/Spent Chemical/ other (Complete all sections.)
- [ ] Green is Clean Waste (Complete all sections as appropriate.)

Waste Classes

Radiological Information

Was Waste Generated in a RCA?

- [ ] Yes
- [x] No

- [x] Non-radioactive

Radioactive

- [ ] Low-Level
- [ ] Transuranic

Wastewater Information

- [ ] Wastewater for SWWS (TA-46) (Complete Attachment 1)
- [ ] Wastewater for RLWTF (TA-50/TA-21) (Complete Attachment 2)
- [ ] Wastewater for TA-16 (HE)

Classification Information

- [x] Unclassified
- [ ] Classified/Sensitive

Waste Category (*Check as many as apply*)

- [ ] Inorganic
- [ ] Organic

Volatile Organics
- [ ] < 500 ppm
- [ ] ≥ 500 ppm

- [ ] Solvent *
- [ ] Degreaser *
- [ ] Dioxin
- [ ] Electroplating
- [ ] Treated Hazardous waste residue
- [ ] Explosive process
- [ ] Infectious/Medical
- [ ] Biological
- [ ] Beryllium
- [ ] Empty Container (See instructions)
- [ ] Battery (*See instructions*)

Asbestos
- [ ] friable
- [ ] non-friable

PCB Source Concentration

- [ ] PCB < 50 ppm
- [ ] PCB ≥ 50 - < 500 ppm
- [ ] PCB ≥ 500 ppm
- [x] Other (*Describe below*)

* Concentrations 10% or greater before use.

Waste Source (*Check only one*)

Routine Waste

- [ ] Decon
- [ ] Materials Processing/Production
- [ ] Research/Development/Testing
- [ ] Scheduled Maintenance
- [ ] Housekeeping - Routine
- [ ] Spill Cleanup - Routine
- [ ] Sampling - Routine Monitoring
- [ ] Other (*Describe below*)

Non-routine Waste

- [ ] Abatement
- [ ] Construction/Upgrades
- [ ] Demolition
- [ ] Decon/Decom
- [ ] Investigative Derived
- [ ] Orphan/Legacy
- [x] Remediation/Restoration
- [ ] Repacking (*Secondary*)
- [ ] Unscheduled Maintenance
- [ ] Housekeeping - Non-routine
- [ ] Spill Cleanup - Non-routine
- [ ] UST - Non-petroleum
- [ ] UST - Petroleum
- [ ] Other (*Describe below*)

Waste Matrix (*Check only one*)

Gas

- [ ] ≤ 1.5 Atmospheres pressure
- [ ] > 1.5 Atmospheres pressure
- [ ] Liquefied compressed gas

Liquid

- [ ] Aqueous
- [ ] Non-aqueous
- [ ] Suspended Solids/Aqueous
- [ ] Suspended Solids/Non-aqueous

Solid

- [ ] Powder/Ash
- [x] Solid
- [ ] Sludge
- [ ] Absorbed liquid

Matrix Type (*Check only one*)

- [ ] Homogeneous
- [x] Heterogeneous (*Describe below*)

Waste/Process Description (*Chemical formulas may be used in this field*)

This solid waste consists of sampling debris such as paper towels, nitrile gloves, plastic bags, glass ampules/tubes and plastic weight-bowls.

empty 7th, 1/12/05

Section 2 – Characteristics

Ignitability (*Check only one*) (°F)	(°C)	Corrosivity (*Check only one*) (pH)	Reactivity (*Check as many as apply*)	Boiling Point (*Check only one*) (°F)	(°C)
☐ < 73	< 22.8	☐ ≤ 2.0	☐ RCRA Unstable	☐ ≤ 95	≤ 35
☐ 73 - 99	22.8 - 37.2	☐ 2.1 - 4.0	☐ Water Reactive	☐ > 95	> 35
☐ 100 - 139	37.8 - 59.4	☐ 4.1 - 6.0	☐ Cyanide Bearing (> 250 ppm)	☒ Not applicable	
☐ 140 -200	60.0 - 99.3	☐ 6.1 - 9.0	☐ Sulfide Bearing (> 500 ppm)		
☐ > 200	> 99.3	☐ 9.1 - 12.4	☐ Pyrophoric		
☐ EPA Ignitable - Non-liquid		☐ ≥ 12.5	☐ Shock Sensitive		
☐ DOT Flammable Gas		☐ Liquid corrosive to steel	☐ Explosive - DOT Div. _____		
☐ DOT Oxidizer		☒ Non-aqueous	☒ Non-reactive		
☒ Not ignitable					

Identify for all contaminants listed.	Characterization Method: AK	TCLP	Total	Concentration of Contaminants: None or Non-detect	Present Below Regulatory Limit	Above Regulatory Limit (Concentration in ppm only.) Minimum	Maximum
Toxicity Characteristic Metals							
Arsenic	☐	☒	☐	☒	☐ < 5.0 ppm		ppm
Barium	☐	☒	☐	☐	☒ < 100.0 ppm	0.2	0.23 ppm
Cadmium	☐	☒	☐	☐	☒ < 1.0 ppm		0.022 ppm
Chromium (Total)	☐	☒	☐	☐	☒ < 5.0 ppm	0.021	0.025 ppm
Lead	☐	☒	☐	☐	☒ < 5.0 ppm	0.0091	0.17 ppm
Mercury	☐	☒	☐	☐	☒ < 0.2 ppm	0.00055	0.00061 ppm
Selenium	☐	☒	☐	☐	☒ < 1.0 ppm		0.01 ppm
Silver	☐	☒	☐	☒	☐ < 5.0 ppm		ppm
Toxicity Characteristic Organics							
Benzene	☐	☒	☐	☒	☐ < 0.5 ppm		ppm
Carbon tetrachloride	☐	☒	☐	☒	☐ < 0.5 ppm		ppm
Chlordane	☐	☒	☐	☒	☐ < 0.03 ppm		ppm
Chlorobenzene	☐	☒	☐	☒	☐ < 100.0 ppm		ppm
Chloroform	☐	☒	☐	☒	☐ < 6.0 ppm		ppm
o - cresol	☐	☒	☐	☒	☐ < 200.0 ppm		ppm
m - cresol	☐	☒	☐	☒	☐ < 200.0 ppm		ppm
p - cresol	☐	☒	☐	☒	☐ < 200.0 ppm		ppm
Cresol - mixed	☐	☒	☐	☒	☐ < 200.0 ppm		ppm
2,4-D	☐	☒	☐	☒	☐ < 10.0 ppm		ppm
1,4-Dichlorobenzene	☐	☒	☐	☒	☐ < 7.5 ppm		ppm
1,2-Dichloroethane	☐	☒	☐	☒	☐ < 0.5 ppm		ppm
1,1-Dichloroethylene	☐	☒	☐	☒	☐ < 0.7 ppm		ppm
2,4-Dinitrotoluene	☐	☒	☐	☒	☐ < 0.13 ppm		ppm
Endrin	☐	☒	☐	☐	☐ < 0.02 ppm		ppm
Heptachlor (& its epoxide)	☐	☒	☐	☒	☐ < 0.008 ppm		ppm
Hexachlorobenzene	☐	☒	☐	☒	☐ < 0.13 ppm		ppm
Hexachlorobutadiene	☐	☒	☐	☒	☐ < 0.5 ppm		ppm
Hexachloroethane	☐	☒	☐	☒	☐ < 3.0 ppm		ppm
Lindane	☐	☒	☐	☒	☐ < 0.4 ppm		ppm
Methoxychlor	☐	☒	☐	☒	☐ < 10.0 ppm		ppm
Methyl ethyl ketone	☐	☒	☐	☒	☐ < 200.0 ppm		ppm
Nitrobenzene	☐	☒	☐	☒	☐ < 2.0 ppm		ppm
Pentachlorophenol	☐	☒	☐	☒	☐ < 100.0 ppm		ppm
Pyridine	☐	☒	☐	☒	☐ < 5.0 ppm		ppm
Tetrachloroethylene	☐	☒	☐	☒	☐ < 0.7 ppm		ppm
Toxaphene	☐	☒	☐	☒	☐ < 0.5 ppm		ppm
Trichloroethylene	☐	☒	☐	☒	☐ < 0.5 ppm		ppm
2,4,5-Trichlorophenol	☐	☒	☐	☐	☐ < 400.0 ppm		ppm
2,4,6-Trichlorophenol	☐	☒	☐	☒	☐ < 2.0 ppm		ppm
2,4,5-TP (Silvex)	☐	☒	☐	☒	☐ < 1.0 ppm		ppm
Vinyl chloride	☐	☒	☐	☒	☐ < 0.2 ppm		ppm

DOT 1/12/05

Section 3 - Additional Constituents

Additional Constituents and Contaminates. Please account for 100% of waste. Ranges should be given within guidelines of LIG 404-00-03 of individual constituents. List all other constituents (including inerts) not identified above and attach any applicable analysis. No chemical formulas allowed in this field. Continue in Section 3 Additional Information as necessary. CAS Numbers are needed for all chemical constituents, for material without a CAS Number enter "No CAS Number." Contact Waste Services at 5-4000 for assistance.

CAS No.	Name of constituent	Minimum		Maximum	
	Plastics	25	to	30	%
	Nitrile gloves	25	to	30	%
	Paper towels	25	to	30	%
	glass	15	to	20	%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
	Total of max. ranges of this section	110			**in %**
	Total of max. ranges from page 2.	~~0.55761~~			**in ppm**

DH 1/12/05

Additional Information (*Use additional sheet if necessary.*)

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

The results in Section 2 are based on analytical results from confirmation sampling of excavated soil and characterization sampling of the area. The sampling debris is based on these results. The analytical are attached and the Sample IDs are as follows: 19-04-55097 and 19-04-55098.

WASTE GENERATOR CERTIFICATION: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violations.

Signature: Terry Rowe Date: 1/12/05

WASTE MANAGEMENT COORDINATOR: I have reviewed this form and to the best of my knowledge, the information is complete and accurate.

Signature: Dale Hill Date: 1/12/05

WASTE_SAMPLES

SAMPLE_ID	ANYL_METH_CODE	ANALYTICAL_SUITE	LOCATION_ID	ANALYTE_NAME	MDL	QUANT_LMT	DILUTION_FACTOR	SAMPLE_VALUE	REPORTING_UNITS	STD_SAMPLE_VALUE	STD_REPORTING_UNITS	LAB_QUALIFIER
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Arsenic	0.018	0.03	1	0.03	MG/L	30	UG/L	U
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Barium	0.0018	0.02	1	0.2	MG/L	200	UG/L	
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Cadmium	0.0009	0.01	1	0.022	MG/L	22	UG/L	
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Chromium	0.01	0.03	1	0.021	MG/L	21	UG/L	B
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Lead	0.0007	0.02	1	0.17	MG/L	170	UG/L	
RE19-04-55097	SW-846:7470A_TCLP	METALS_TCLP	19-01266	Mercury	0.00047	0.002	1	0.00061	MG/L	0.61	UG/L	B
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Selenium	0.01	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:6020_TCLP	METALS_TCLP	19-01266	Silver	0.0008	0.01	1	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Vinyl Chloride	0.0055	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Dichloroethene[1,1-]	0.0041	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Butanone[2-]	0.023	0.05	10	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Chloroform	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Carbon Tetrachloride	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Dichloroethane[1,2-]	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Trichloroethene	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Tetrachloroethene	0.0033	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Chlorobenzene	0.0032	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Dichlorobenzene[1,4-]	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8260B_TCLP	VOC_TCLP	19-01266	Benzene	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Pyridine	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Dichlorobenzene[1,4-]	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Methylphenol[2-]	0.0023	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Methylphenol[4-]	0.003	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Hexachloroethane	0.0022	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Nitrobenzene	0.0032	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Hexachlorobutadiene	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Trichlorophenol[2,4,6-]	0.002	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Trichlorophenol[2,4,5-]	0.0049	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Pentachlorophenol	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Hexachlorobenzene	0.0033	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55097	SW-846:8270C_TCLP	SVOC_TCLP	19-01266	Dinitrotoluene[2,4-]	0.0035	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Arsenic	0.018	0.03	1	0.03	MG/L	30	UG/L	U
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Barium	0.0018	0.02	1	0.33	MG/L	330	UG/L	
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Cadmium	0.0009	0.01	1	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Chromium	0.01	0.03	1	0.025	MG/L	25	UG/L	B
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Lead	0.0007	0.02	1	0.0091	MG/L	9.1000004	UG/L	B
RE19-04-55098	SW-846:7470A_TCLP	METALS_TCLP	19-01268	Mercury	0.00047	0.002	1	0.00055	MG/L	0.55	UG/L	B
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Selenium	0.01	0.05	1	0.01	MG/L	10	UG/L	B
RE19-04-55098	SW-846:6020_TCLP	METALS_TCLP	19-01268	Silver	0.0008	0.01	1	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Vinyl Chloride	0.0055	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Dichloroethene[1,1-]	0.0041	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Butanone[2-]	0.023	0.05	10	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Chloroform	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Carbon Tetrachloride	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Dichloroethane[1,2-]	0.0029	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Trichloroethene	0.0036	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Tetrachloroethene	0.0033	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Chlorobenzene	0.0032	0.01	10	0.01	MG/L	10	UG/L	U

RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Dichlorobenzene[1,4-]	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8260B_TCLP	VOC_TCLP	19-01268	Benzene	0.0025	0.01	10	0.01	MG/L	10	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Pyridine	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Dichlorobenzene[1,4-]	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Methylphenol[2-]	0.0023	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Methylphenol[4-]	0.003	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Hexachloroethane	0.0022	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Nitrobenzene	0.0032	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Hexachlorobutadiene	0.0016	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Trichlorophenol[2,4,6-]	0.002	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Trichlorophenol[2,4,5-]	0.0049	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Pentachlorophenol	0.025	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Hexachlorobenzene	0.0033	0.05	1	0.05	MG/L	50	UG/L	U
RE19-04-55098	SW-846:8270C_TCLP	SVOC_TCLP	19-01268	Dinitrotoluene[2,4-]	0.0035	0.05	1	0.05	MG/L	50	UG/L	U

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 38159

08-Jun-2005 11:23 AM (Version: 1)

Generator :	RUST, TERRY A	MS :	M992	PH :	6658843	Z# :	092228
WMC :	HOPINKAH, DOUGLAS	MS :	M892	PH :	505	Z# :	192466
Contact :							
RCRA Rev :	Elicio Andy U	MS :	J595	PH :	5056676956	Z# :	118692
Status :	ACTIVE	Activation Date :	01/21/2005		Expiration Date :		01/21/2006
Group :	RRESECO	TA :	72	Bldg :	000000	Room :	NA

You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same. Should your waste change, please submit a new WPF to NWTS-SWO Customer Service.

Waste Accumu : **Satellite Accumulation Area Site ID# 2675**
ER Waste PRS# 19-001-99

Method of Char : Analysis/Documents Attached
Chemical/Physical Analysis Number: SEE SEC 3

Waste Type : **Process Waste/Spent Chemical/Other**

Waste Classes: RCA Waste - **Not RCA Waste**
RAD Waste - **Non-rad**
Classif/Sensi - N

Waste Category: **Other**

Waste Sources : **Remediation/Restoration**

Waste Matrix : **Solid**

Matrix Type : **Heterogeneous**

Waste/Proc Desc : THIS SOLID WASTE CONSISTS OF SAMPLING DEBRIS SUCH AS PAPER TOWELS, NITRILE GLOVES, PLASTIC BAGS, EMPTY GLASS AMPULES/TUBES AND PLASTIC WEIGHT-BOWLS.

Ignitability : **Not ignitable**

Corrosivity : **Non-aqueous**

Reactivity : **Non-reactive**

Boiling Point : **Not applicable**

Toxicity Characteristic Metals:

Contaminant	Method	Limit	Min	Max	Unit
BARIUM	**TCLP**				**PPM**
CADMIUM	**TCLP**				**PPM**
CHROMIUM	**TCLP**				**PPM**
LEAD	**TCLP**				**PPM**
MERCURY	**TCLP**				**PPM**
SELENIUM	**TCLP**				**PPM**

Toxicity Characteristic Organic Compounds: **N/A**

Additional Chemical Constituents and Contaminants:

CAS NO	Constituent	MIN	MAX	UOM
	PLASTICS	**25**	**30**	**%**

NITRILE GLOVES	25	30	%
PAPER TOWELS	25	30	%
GLASS	15	20	%

Additional Information: THE RESULTS IN SECTION 2 ARE BASED ON ANALYTICAL RESULTS FROM CONFIRMATION SAMPLING OF EXCAVATED SOIL AND CHARACTERIZATION SAMPLING OF THE AREA. THE SAMPLING DEBRIS IS BASED ON THESE RESULTS. THE ANALYTICAL ARE ATTACHED AND THE SAMPLE IDS ARE AS FOLLOWS: 19-04-55097 AND 19-04-55098.

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category : **NON-RAD**

RCRA Category : **NON HAZARDOUS**

Secondary Info : N/A

Waste Classification : **NM SOLID WASTE DETERMINATION**

Waste Acceptances :

EPA Hazardous Waste Code : N/A

Attachment B2.3

Chemical Waste Disposal Requests

Los Alamos
National Laboratory

Chemical Waste Disposal Request

Waste Services Use Only

This form is used to request disposal of chemical and low-level radioactive wastes. Mail completed form to Waste Services at **MS J595.**

Account Information	Z Number	Name (Print)	Telephone	Date
7H20MX3R0223KUT0	192466	Douglas Hopinkah	661-5274	9/16/04

Waste Pick-up Location and Storage Type:	TA	Building	Room	☐ Security Area	☐ Direct Off-Site Shipment
	72	outside	n/a		

☐ < 90 Day Accumulation Area
☐ Universal Waste Area
(Start Date _____)

☐ Satellite Accumulation Area (Approx. vol. _____)
☐ PCB Waste (Start Date: _____)
☐ NM Special Waste (<90 days) (Start Date: _____)

☐ Rad Staging Area (<90 days)
☐ Rad Storage Area (<1 year)
(Start Date: _____)

☐ Rad Dumpster
(No:__ _____)

☒ Other (describe in description)

Item Id	Waste Profile Number	Shipping Container Information					Waste Information				*S=Solid L=Liquid G=Gas P=Powder	Description
		Type	Volume	Unit	Tare Weight	Unit	Volume	Unit	Weight	Unit		
2292483	pendng	13	27	F	10	P	27	F	1.5	T	S	1-cubic yard bulk sack of low-level radioactive soil
2292484	pendng	13	27	F	10	P	27	F	1.5	T	S	1-cubic yard bulk sack of low-level radioactive soil

Container Types
01-Bulk (Unpackaged) 04-Plastic Bottle or Container 07-Fiber or Plastic Box 10-Portable Tank 13-Other **(specify in description)**
02-Metal Drum 05-Glass Bottle or Container 08-Wooden Box 11-Cylinder 14-Compactor Box
03-Fiber or Plastic Drum 06-Plastic Bag 09-Metal Box 12-Shield Cask 15-Aerosol Can

Units for Volume
G-Gallon M-Cubic Meters
L-Liters O-Fluid Ounce
F-Cubic Feet P-Pint
Q-Quart

Units for Weight
P-Pound O-Ounce
K-Kilograms T-Tons
G-Grams

CERTIFICATION STATEMENT: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Printed Name	Signature	Z Number	Date
Douglas C. Hopinkah		192466	9/16/04

*For new and unused chemicals
FMU64-F286, R.0 (5/01)

Low- Level Radiological Information

Item ID	S/V/B[1]	C/NC[2]	Health Physics Container/Package Information				Radionuclide	Amount				Unit	Uncertainty			
			Container Surface (mrem/hr)	1 Meter Dose (mrem/hr)	Package Surface Contamination (DPM/100 sq. cm)											
					Alpha	Beta-Gamma										
2292483	V	NC					Cs-137	2.49	E	-	12	C	3.24	E	-	13
									E					E		
2292484	V	NC					Cs-137	5.85	E	-	12	C	7.61	E	-	13
									E					E		
									E					E		
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									E					E		

[1] S = Surface, V = Volume, B = Both Surface and Volume [2] C = Compactible, NC = Non-compactible

Units for Activity **C** – curies **M** – grams **L** - curies/liter

CONSOLIDATED REMOTE WASTE STORAGE SITE DISPOSAL REQUEST

Waste Pick-up Location and Storage Type: **Former TA-19/East Gate Laboratory**			☐	**< 90 Day Accumulation Area** Start Date:	☐ **Satellite Accumulation Area** Approximate Volume:
TA: 72	Building: --	Room: --	☐	**Universal Waste** Start Date:	☐ **PCB Waste** Start Date:
					☐ **NM Special Waste** (<90 days) Start Date:

Item ID	Phys State	Volume	Unit	Weight	Unit	Temp.Con*	Acis Bar C	Profile	Cost Ctr	Prg Cd	Cost Acc	Work Pkg	Description of Waste	RCRA*	Subcat.*
2292763	S	55	G	110	P		none	37981	7H20	MX3R	0223	KUT0	Battery debris/Plastic/Nitrile gloves		

*Temp. Con, RCRA, and subcat codes to be completed by FWO-SWO personnel only.

Units for Volume	**Units for Weight**
G-Gallon **M**-Cubic Meters **L**-Liters **O**-Fluid Ounce **F**-Cubic Feet **P**-Pint **Q**-Quart **C**-Cubic centimeters	**P**-Pound **O**-Ounce **K**-Kilograms **T**-Tons **G**-Grams

WMC CERTIFICATION STATEMENT: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Printed Name: Douglas C. Hopinkah	**Signature:**	**Z Number: 192466**	**Date: 12/15/04**

FMU6-F373,R.1 (3/04)
DOP-SWO-028, PLAN-SWO-024

Printed on: 3/24/2004

CONSOLIDATED REMOTE WASTE STORAGE SITE DISPOSAL REQUEST

Waste Pick-up Location and Storage Type:			☐	**< 90 Day Accumulation Area** Start Date:	☑	**Satellite Accumulation Area** Approximate Volume: 6 Liters Total
TA: 72/ Former TA-19	Building: --	Room: --	☐	**Universal Waste** Start Date:	☐	**PCB Waste** Start Date:
					☐	**NM Special Waste** (<90 days) Start Date:

Item ID	Phys State	Volume	Unit	Weight	Unit	Temp.Con*	Acis Bar C	Profile	Cost Ctr	Prg Cd	Cost Acc	Work Pkg	Description of Waste	RCRA*	Subcat.*
2292478	L	1.0	L	1.5	P		none	37867	7H20	MX3R	0223	KUT0	Spent methanol with settled soil		
2292479	L	1.0	L	1.5	P		none	37867	7H20	MX3R	0223	KUT0	Spent methanol with settled soil		
2292480	L	1.0	L	1.5	P		none	37867	7H20	MX3R	0223	KUT0	Spent methanol with settled soil		
2292481	L	1.0	L	1.5	P		none	37867	7H20	MX3R	0223	KUT0	Spent methanol with settled soil		
2292482	L	1.0	L	1.5	P		none	37867	7H20	MX3R	0223	KUT0	Spent methanol with settled soil		
2292485	L	1.0	L	1.5	P		none	37867	7H20	MX3R	0223	KUT0	Spent methanol with settled soil		

*Temp. Con, RCRA, and subcat codes to be completed by FWO-SWO personnel only.

Units for Volume	**Units for Weight**
G-Gallon **M**-Cubic Meters **L**-Liters **O**-Fluid Ounce **F**-Cubic Feet **P**-Pint **Q**-Quart **C**-Cubic centimeters	**P**-Pound **O**-Ounce **K**-Kilograms **T**-Tons **G**-Grams

WMC CERTIFICATION STATEMENT: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Printed Name: Douglas C. Hopinkah	**Signature:**	**Z Number: 192466**	**Date: 10/18/04**

FMU6-F373,R.1 (3/04)
DOP-SWO-028, PLAN-SWO-024

Printed on: 3/24/2004

CONSOLIDATED REMOTE WASTE STORAGE SITE DISPOSAL REQUEST

Waste Pick-up Location and Storage Type: **Former TA-19/East Gate Laboratory**			☐	**< 90 Day Accumulation Area** Start Date:	☐	**Satellite Accumulation Area** Approximate Volume:
TA: **72**	Building: --	Room: --	☐	**Universal Waste** Start Date:	☐	**PCB Waste** Start Date:
					☐	**NM Special Waste** (<90 days) Start Date:

Item ID	Phys State	Volume	Unit	Weight	Unit	Temp.Con*	Acis Bar C	Profile	Cost Ctr	Prg Cd	Cost Acc	Work Pkg	Description of Waste	RCRA*	Subcat.*
2292758	S	55	G	110	P		none	38159	7H20	MX3R	0223	KUT0	Sampling debris: nitrile gloves, plastic baggies, paper towels, empty glass ampules/tubes, plastic weight-bowls		

*Temp. Con, RCRA, and subcat codes to be completed by FWO-SWO personnel only.

Units for Volume	**Units for Weight**
G-Gallon **M**-Cubic Meters **L**-Liters **O**-Fluid Ounce **F**-Cubic Feet **P**-Pint **Q**-Quart **C**-Cubic centimeters	**P**-Pound **O**-Ounce **K**-Kilograms **T**-Tons **G**-Grams

WMC CERTIFICATION STATEMENT: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Printed Name: Douglas C. Hopinkah	**Signature:**	**Z Number: 192466**	**Date: 3/1/05**

FMU6-F373,R.1 (3/04)
DOP-SWO-028, PLAN-SWO-024

Printed on: 3/24/2004

CONSOLIDATED REMOTE WASTE STORAGE SITE DISPOSAL REQUEST

Waste Pick-up Location and Storage Type: **Former TA-19/East Gate Laboratory**			☐	**< 90 Day Accumulation Area** Start Date:	☐ **Satellite Accumulation Area** Approximate Volume:
TA: 72	Building: --	Room: --	☐	**Universal Waste** Start Date:	☐ **PCB Waste** Start Date:
					☐ **NM Special Waste** (<90 days) Start Date:

Item ID	Phys State	Volume	Unit	Weight	Unit	Temp.Con*	Acis Bar C	Profile	Cost Ctr	Prg Cd	Cost Acc	Work Pkg	Description of Waste	RCRA*	Subcat.*
2292484	S	15	G	20	P		none	38159	7H20	MX3R	0223	KUT0	Sampling debris: nitrile gloves, plastic baggies, paper towels		

*Temp. Con, RCRA, and subcat codes to be completed by FWO-SWO personnel only.

Units for Volume	**Units for Weight**
G-Gallon **M**-Cubic Meters **L**-Liters **O**-Fluid Ounce **F**-Cubic Feet **P**-Pint **Q**-Quart **C**-Cubic centimeters	**P**-Pound **O**-Ounce **K**-Kilograms **T**-Tons **G**-Grams

WMC CERTIFICATION STATEMENT: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Printed Name: Douglas C. Hopinkah	**Signature:**	**Z Number: 192466**	**Date: 3/1/05**

Attachment B2.4

Waste Manifest Forms

☆ U.S. GOVERNMENT PRINTING OFFICE: 2004-673-348/40067

CRWSS WASTE MANIFEST

Manifest No.: 03110404-02 *** IN CASE OF EMERGENCY CALL 505-667-6211 ***

EPA ID#: NM0890010515

SHIP TO:

LOS ALAMOS NATIONAL LABORATORY

CRWSS LOCATION:

TA-03 ✓ TA-46 _____

TA-35 _____ TA-53 _____

TA-43 _____ AREA J _____

TRANSPORTER: DFS

SHIP FROM:

WMC: Doug Hopinkah

Z#: / PH.# 192466/

MAIL STOP: M892/661-5274

TA. / BLDG. 72

ROOM: N/A

ITEM	HM	DOT SHIPPING DESCRIPTION	CONTAINER NO./TYPE		TOTAL QUANTITY	UNIT WT/VOL
a.	X	Waste Flammable liquids, NOS, 3, UN1993, PG II	1	DF	10	P
b.						
c.						
d.						

ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE:

Item a. ERG# 128

Item b. ERG#

Item c. ERG#

Item d. ERG#

SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION:

Generator's certification: I hereby declare that the contents of this consignment are fully and acurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certifiy that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

PRINTED/TYPED NAME: Douglas C. Hopinkah SIGNATURE: x [signature] DATE: 11/4/04

TRANSPORTER ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME: Pat O'Grady SIGNATURE: x Pat O'Grady DATE: 11-4-04

CRWSS RECEIVING PERSONNEL: CERTIFICATION OF RECEIPT OF HAZARDOUS MATERIALS COVERED BY THIS MANIFEST

Pat O'Grady x Pat O'Grady 11-4-04

CRWSS WASTE MANIFEST

Page_ of 1

*** IN CASE OF EMERGENCY CALL 505-667-6211 ***

Manifest No.: 03-[illegible]

EPA ID#: NM0890010515

SHIP TO:

LOS ALAMOS NATIONAL LABORATORY

CRWSS LOCATION:

TA-03 ✓ TA-46 _____

TA-35 _____ TA-53 _____

TA-43 _____ AREA J _____

TRANSPORTER: [illegible]

SHIP FROM:

WMC: [illegible]

Z#: / PH.# [illegible]

MAIL STOP: [illegible]

TA. / BLDG. [illegible]

ROOM:

ITEM	HM	DOT SHIPPING DESCRIPTION	CONTAINER NO./TYPE		TOTAL QUANTITY	UNIT WT/VOL
a.		Non-hazardous waste	1	[illegible]	110	P
b.						
c.						
d.						

ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE:

Item a. ERG# N/A

Item b. ERG#

Item c. ERG#

Item d. ERG#

SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION:

Generator's certification I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

PRINTED/TYPED NAME [illegible] SIGNATURE X [illegible] DATE [illegible]

TRANSPORTER ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME [illegible] SIGNATURE X [illegible] DATE 1-24-05

CRWSS RECEIVING PERSONNEL: CERTIFICATION OF RECEIPT OF HAZARDOUS MATERIALS COVERED BY THIS MANIFEST

PRINTED/TYPED NAME _____ SIGNATURE X _____ DATE _____

WHITE: ORIGINAL-RETURN TO GENERATOR

YELLOW: CRWSS SITE COPY

PINK: CRWSS FILE COPY

GOLD: GENERATOR COPY

*** IN CASE OF EMERGENCY CALL 505-667-6211 ***

SHIP FROM	SHIP TO
WDR #: 3018686 Requestor: DOUGLAS HOPINKAH Z #: 192466 Phone: 5 TA: 72 Bldg: 000000 Room: NA	EM-SWO Phone: 505-665-6158 Solid Radioactive Waste Management Los Alamos National Laboratory Location: TA-54 Area-G,L, TA-50 Transporter: _____

Line Item	HM	DOT Shipping Description	Containers No./Type		Total Quantity	Unit / Vol
1		NON-REGULATED WASTE, SOLID,77,NP	1	NP	1859.7	K

L05178235: Solid, CS137, 2.1645e-13 TBq(5.8500e-12 Ci)

[redacted]

INFORMATION ONLY

ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE

SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

THIS IS TO CERTIFY THAT THE ABOVE-NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, LABELED, AND PLACARDED; ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION; AND MEET THE WASTE ACCEPTANCE CRITERIA OF EM-SWO

PRINTED/TYPED NAME	SIGNATURE	DATE
Douglas Hopinkah	X [signature]	3/24/05

TRANSPORTER ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME	SIGNATURE	DATE
Andrew Vigil	X [signature]	3-24-05

WASTE DATA FORM

COPY

Container # : C05178913	WMC : OGRADY JAMES
C05178913	Z # : 151358
WDR # : 3018694	Phone : 6658678
3018694	TA : 03
DIS/TRE # : 05228	Building:
05228	Room:

Shipping Name : NONREGULATED WASTE

Hazard Class : 99 DOT ID# : Packing Group :
Secondary Label : None
Technical Name :
Additional Desc :
ERG# :
Haz Substance : LSA/SCO Group :

Proper Container for Material?	Y	N		Inner Receptacle(s) Closed?	Y	N	NA
Is Outer Container in Good Condition?	Y	N		Absorbent Used?	Y	N	NA
Outer Container Properly Closed?	Y	N		Packed by Generator?	Y	N	

Waste Code : C0 - CHEMICAL WASTE	Other Con #: 3403-x15
Storage Code : CS03 Bldg :	Container Type: DM Volume : 55G
Row : Col : Layer:	Container Gross Wgt: 77p Net Wgt: 27p
Treat/Disp Loc : ONYX	Reviewed By : 181940
Transported By : DURA	Data Entry By : 181940
	DOT Check By :
Other Document : 05228	
AreaG/J Loc :	Accumulation Start Date : 22-MAR-05
	Checklist comp & P/U By: 21-MAR-05 00:00
Treat/Disp By: DFS	Load Check By/Date: 21-MAR-05
Treat/Disp Date: 13-MAY-05	Pickup Update Check By :
	Off-Site Check By/Date :
TSDF Date :	
Destruction # :	Update By/Date : 106963 / 25-MAY-05
Destruction Date :	Final Update Check By :

Item 2292758: SAPLING DEBRIS: NITRILE GLOVES, PLASTIC BAGGIES, PAPER TOWELS, EMPTY GLASS AMPULES / TUBES, PLASTIC WEIGHT BOWLS

Generator : RUST TERRY A Group : RRESECO Phone : 6658843
WPF : 38159 Phy_state: S Volume : 55 Gallon Weight : 110 Pound
Classification : NM SOLID WASTE DETERMINATION
Secondary :

CRWSS WASTE MANIFEST

*** IN CASE OF EMERGENCY CALL 505-667-6211 ***

Manifest No.: 03050505-02

EPA ID#: NM0890010515

SHIP TO:

LOS ALAMOS NATIONAL LABORATORY

CRWSS LOCATION:

TA-03 ✓ TA-46 ____

TA-35 ____ TA-53 ____

TA-43 ____ AREA J ____

TRANSPORTER: DFS

SHIP FROM:

WMC: Doug Hopinkah

Z#: / PH.# 192466/661-5274

MAIL STOP: M892

TA. / BLDG. 72

ROOM:

ITEM	HM	DOT SHIPPING DESCRIPTION	CONTAINER NO./TYPE		TOTAL QUANTITY	UNIT WT/VOL
a.		NON-Regulated Waste	1	/	20	P
b.						
c.						
d.						

ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE:

Item a. ERG# N/A

Item b. ERG#

Item c. ERG#

Item d. ERG#

SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION:

Generator's certification: I hereby declare that the contents of this consignment are fully and acurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certifiy that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR,** if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

PRINTED/TYPED NAME: Douglas Hopinkah — SIGNATURE: x [signature] — DATE: 5/5/05

TRANSPORTER ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME: Pat O'Grady — SIGNATURE: x Pat O'Grady — DATE: 5-5-05

CRWSS RECEIVING PERSONNEL: CERTIFICATION OF RECEIPT OF HAZARDOUS MATERIALS COVERED BY THIS MANIFEST

Pat O'Grady — x Pat O'Grady — 5-5-05

PRINTED/TYPED NAME — SIGNATURE — DATE

WHITE: ORIGINAL-RETURN TO GENERATOR

YELLOW: CRWSS SITE COPY

PINK: CRWSS FILE COPY

GOLD: GENERATOR COPY

Attachment B3

Documentation of Technical Changes

RECORD OF TECHNICAL CHANGE

Date: August 24, 2004

Shaw Project No.: 100049

Project Name: TA-19 ACA

Phase/Task: Reinvestigation/Remediation Work Plan

Applicable Document(s):
January 30, 2004. Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory). LA-UR-04-0199. ERID# ER2003-0749.

May 18, 2004. Response to the Notice of Disapproval for the ACA Workplan for Technical Area (TA) 19, Former East Gate Laboratory. Letter from D. McInroy (LANL) and D. Gregory (DOE) to J. Bearzi (NMED). ERID# ER2004-0277.

June 23, 2004. Approval as Modified: Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory). Letter from D. Goering (NMED-HWB) to D. Gregory (DOE) and P. Nanos (LANL).

July 06, 2004. Sampling Notification, SWMU 19-001-99 (Former TA-19/East Gate Laboratory). Letter from D. McInroy (LANL) and D. Gregory (DOE) to J. Bearzi (NMED). ERID# ER2004-0371.

Description of Technical Change(s):
The two changes detailed in this Record of Technical Change are a result of commitments to the New Mexico Environment Department (NMED) based on the NMED's comments/approval of the TA-19 Accelerated Corrective Action (ACA) Work Plan and subsequent adjustments that must be made to field activities based on safety concerns.

1. Deletion of Two Upper South Slope Historical Sample Locations

During a site visit (08/18/04: T. Rust, J. Vigerust, and Kate Herrell) to determine access and safety issues associated with the sample collection at historical sample locations, it was determined that two historical sample locations on the upper, south slope (Location IDs 19-01254 and 19-01255) could not be accessed safely and would not be revisited/re-sampled during the ACA activities.

2. Relocation of Historical Samples within 6 feet of the Mesa Edge
During the 08/18/04 site visit mentioned above in Item 1, it was determined that three historical sample locations along the south edge of the mesa top (Location IDs 19-01251, 19-01252, and 19-01253) could not be accessed safely. Therefore, the re-sampling at these locations will occur as close to the original sample locations as possible, but not within 6 feet of the edge of the mesa. A post-sampling geodetic survey will document the actual locations of samples collected during the ACA activities.

The changes represent: a minor change.

Estimated impact on present and/or completed work: None.

Prepared By: Sharon Wirth, TA-19 PM

Client Notified: Yes _X_ No __ Date: 08/23/04

Contract Change Order Required: Yes __ No _X__

Contract Change Order No.: not applicable

RECORD OF TECHNICAL CHANGE

Date: September 1, 2004

Shaw Project No.: 100049

Project Name: TA-19 ACA

Phase/Task: Reinvestigation/Remediation Work Plan

Applicable Document(s):
January 30, 2004. Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory). LA-UR-04-0199. ERID# ER2003-0749.

May 18, 2004. Response to the Notice of Disapproval for the ACA Workplan for Technical Area (TA) 19, Former East Gate Laboratory. Letter from D. McInroy (LANL) and D. Gregory (DOE) to J. Bearzi (NMED). ERID# ER2004-0277.

June 23, 2004. Approval as Modified: Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory). Letter from D. Goering (NMED-HWB) to D. Gregory (DOE) and P. Nanos (LANL).

July 06, 2004. Sampling Notification, SWMU 19-001-99 (Former TA-19/East Gate Laboratory). Letter from D. McInroy (LANL) and D. Gregory (DOE) to J. Bearzi (NMED). ERID# ER2004-0371.

Description of Technical Change(s):
The technical change detailed in this Record of Technical Change is a result of additional information on the exact locations of the 1995 VCA samples (see LANL 2004, ERID# ER2003-0749 for summary information), relative to sampling commitments to the New Mexico Environment Department (NMED) based on the NMED's comments/approval of the TA-19 Accelerated Corrective Action (ACA) Work Plan. The Technical Change will provide for more comprehensive fixed analytical sampling at SWMU 19-001-99 than originally agreed upon with the NMED.

There are 20 historical VCA sample locations where it was determined that field screening would be conducted for PAHs, PCBs, and metals. The field-screening results will be used to determine 4 locations (representing the upper 20% of the field-screening results) from which samples will be analyzed at a fixed analytical laboratory. All 20 historical VCA samples were located on the upper north mesa slope.

There are 20 historical RFI sample locations for which the commitment was to re-visit all 20 locations and conduct field-screening analysis for PCBs. The field-screening results will be used to determine 4 locations (representing the upper 20% of the PCB field-screening results) from which samples will be analyzed at a fixed analytical laboratory. The 20 locations are as follows: 3 are located on the upper south mesa slope, 4 on the upper north mesa slope, and 13 on the mesa top. Two of the 3 upper south mesa slope locations will not re-visited due to health and safety concerns posed at those locations (see 08/24/04 Record of Technical Change). Thus, 18 of the 20 historical RFI locations will be re-visited for PCB screening.

The 4 upper north mesa slope historical RFI locations are: (1) within the area being re-visited for the field-screening of the 20 historical VCA locations on the upper north mesa slope and (2) proximal to the two areas where additional soil removal activities are planned, each of which will include a location sampled

for analysis at a fixed analytical laboratory.

Samples for fixed laboratory analysis will be collected on the upper north mesa slope at 6 locations (2 at historical RFI locations where soil removal activities will be conducted, and 4 historical VCA sample locations identified by the field-screening results). These 6 locations encompass the area of the 4 historical upper north mesa slope RFI locations; thus, sampling the 4 upper north mesa slope RFI locations in addition to these 6 locations will result in an overrepresentation of fixed analytical samples from the upper north mesa slope compared to the mesa top or the south mesa slope. The Technical Change is to "bias" the 4 samples from the historical RFI locations for analysis at a fixed analytical laboratory by limiting these to locations on the mesa top and south mesa slope, providing for a more balanced approach to the fixed laboratory analytical sampling and more characterization of SWMU 19-001-99. Thus, field-screening for PCBs will not be performed at the 4 upper north slope historical RFI locations (Location IDs 19-01266, 19-01267, 19-01268, and 19-01269) and the upper 20% will be determined based on the remaining 14 historical RFI sample locations on the mesa top and south mesa slope.

The changes represent: a minor change.

Estimated impact on present and/or completed work: None.

Prepared By: Sharon Wirth, TA-19 PM

Client Notified: Yes X No _ Date: 09/01/04

Contract Change Order Required: Yes _ No X

Contract Change Order No.: not applicable

Appendix C

Analytical Program (Event #2)

List of Attachments

Attachment C1	Sample Collection Logs (Event #2)
Attachment C2	Chain-of-Custody Forms (Event #2)
Attachment C3	Electronic Database (CD included with this document)

In Attachment C1, please note that the page numbers on the sample collection logs are an artifact of the paperwork generation. Any pages that do not appear in the attachment were marked "Not Collected" and returned to the sample management office in compliance with established procedures to account for all sample collection logs generated. Gaps in the page number sequence do not imply missing logs.

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Attachment C1

Sample Collection Logs (Event #2)

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55091

EVENT ID: 3662

EVENT NAME: TA-19 Rinsates

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	NA	OK
TIME COLLECTED (HH:MM):		NA	SAMPLE TECH CODE:	~~NA~~ DC KH 09-24-04	DC
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FTB	OK KH 9-24
LOCATION ID:	NA	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		NA (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():		NA (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		1.05 R1

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 SEPTUM AMBER GLASS	ICE	8260B	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Trip blank sand for sampling activities conducted on 09-08-2004

SAMPLE LOCATION DESC: NA

Location Description: NA

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) [signature] (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55001

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004
TIME COLLECTED (HH:MM):		0942
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22631	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	~~8260B~~ENCORE	
~~4~~	~~5 G ENCORE~~	~~ICE~~	~~8260B~~ENCORE	Aso
5	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Medium to fine-grained brown soil. Soil is slightly moist + contains a few roots + tuff fragments + some sand.

SAMPLE LOCATION DESC: 19-22631

Location Description: Located on the South Mesa slope. Farthest East location of the S. Mesa Slope drainage. (3 of 3)

FIELD SCREENING/MEASUREMENT RESULTS:

α = NDA

β/γ = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55001

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		0942	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22631	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	8260BENCORE	
~~4~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	Aro
	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Medium to fine-grained brown soil. Soil is slightly moist + contains a few roots + tuff fragments + some sand.

SAMPLE LOCATION DESC: 19-22631

Location Description: Located on the South Mesa slope. Farthest East location of the S. Mesa slope drainage. (3 of 3)

FIELD SCREENING/MEASUREMENT RESULTS:

α = NDA

β/γ = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55002

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004
TIME COLLECTED (HH:MM):		1003
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22631	↓
LOCATION TYPE:	GENERIC	↓
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QBT3
SAMPLE TECH CODE:	SS	HA
FIELD QC TYPE:	NA	OK
COMPOSITE TYPE:	NA	↓
FIELD PREP:	NA	↓
SAMPLE USAGE:	INV	↓

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
~~3~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
4	5 G ENCORE	ICE	8260BENCORE	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

Tuff sample collected soil/tuff interface. Soil/tuff contact is sharp + auger was advanced 0.5 feet further to confirm tuff has been contacted + sampled.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light-brown to pink non-welded tuff. 0.5 to 1.0 mm quartz phenocrysts surrounded by a light brown ash/glassy matrix. 1.0 to 2.0 cm pumice clasts round + brown are also present as well as some lithic clasts (2-5%).

SAMPLE LOCATION DESC: 19-22631

Location Description:

South Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 384 dpm.

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55002

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1003	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22631	↓	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
~~3~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
4	5 G ENCORE	ICE	8260BENCORE	
	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
8	1 L POLY	ICE	GS+TAL Metals	

Tuff sample collected soil/tuff interface. Soil/tuff contact is sharp + auger was advanced 0.5 feet further to confirm tuff has been contacted + sampled.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light-brown to pink non-welded tuff. 0.5 to 1.0 mm quartz phenocrysts surrounded by a light brown ash/glassy matrix. 1.0 to 2.0 cm pumice clasts round + brown are also present as well as some lithic clasts (2-5%).

SAMPLE LOCATION DESC: 19-22631

Location Description:

South Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 384 dpm.

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54999

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004
TIME COLLECTED (HH:MM):		1022
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22630	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	8260BENCORE	
~~4~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~Also~~
5	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, fine to medium grained sandy soil. Root fragments + tuff cobbles (1 to 2 inches) ~35% vol. Slightly mois

SAMPLE LOCATION DESC: 19-22630

Location Description: S. Mesa Slope drainage. (2 of 3) South location

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA

β/γ = 75 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54999

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1022	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22630	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	8260BENCORE	
4	~~5 G ENCORE~~	ICE	~~8260BENCORE~~ ASO	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, fine to medium grained sandy soil. Root fragments + tuff cobbles (1 to 2 inches) ~35% vol. Slightly mois

SAMPLE LOCATION DESC: 19-22630

Location Description: S. Mesa Slope drainage. (2 of 3) South location

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA
β/γ = 75 dpm

COLLECTED BY: (PRINTED NAME) Kate Harrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55000

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004
TIME COLLECTED (HH:MM):		1048
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22630	↓
LOCATION TYPE:	GENERIC	↓
TOP DEPTH ():	3.50	1.25 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	1.75 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QST3
SAMPLE TECH CODE:	SS	HA
FIELD QC TYPE:	NA	OK
COMPOSITE TYPE:	NA	↓
FIELD PREP:	NA	↓
SAMPLE USAGE:	INV	↓

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	8260BENCORE	
~~4~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	Stan
5	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
8	1 L POLY	ICE	GS+TAL Metals	

Tuff at soil/tuff interface. Auger advanced to tuff surface + auger shoved off tuff surface for sample collection.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink crystalline non welded medium to fine-grained tuff. Tuff is cemented w/ phenocrysts, 1-2 mm, of quartz surrounded by a yellow-pink ash matrix. 1-2 cm, partially devitrified pumice clasts (brown) + some lithic clasts (~20%) also present.

SAMPLE LOCATION DESC: 19-22630

Location Description:

pinflag is labeled "#2". South mesa slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 381 dpm

COLLECTED BY: (PRINTED NAME) Kate Hewell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55000

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QST3
TIME COLLECTED (HH:MM):		1048	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22630	↓	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH ():	3.50	1.25 (FT/cm/NA)	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH ():	4.00	1.75 (FT/cm/NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	8260BENCORE	
4	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

Tuff at soil/tuff interface. Auger advanced to tuff surface + auger shaved off tuff surface for sample collection.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink crystalline non welded medium to fine-grained tuff. Tuff is cemented w/ phenocrysts, 1-2 mm, of quartz surrounded by a yellow-pink ash matrix. 1-2 cm, partial devitrified pumice clasts (brown) + some lithic clasts (~20%) also present.

SAMPLE LOCATION DESC: 19-22630

Location Description: pinflag is labeled "#2". South mesa slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = 381 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54997

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004
TIME COLLECTED (HH:MM):		1105
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-22629	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLL
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	8260BENCORE	
~~4~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~ ASO	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown sandy soil, medium grained w/ some coarse grained rounde pebbles. Soil is dry w/ some roots

SAMPLE LOCATION DESC: 19-22629

Location Description: South Mesa slope drainage. (1 of 3) Location located farthest west.

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA

β/γ = 50 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54997

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1105	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22629	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	8260BENCORE	
~~4~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown sandy soil, medium grained w/ some coarse grained rounde pebbles. Soil is dry w/ some roots

SAMPLE LOCATION DESC: 19-22629

Location Description: South Mesa slope drainage. (1 of 3) Location located farthest west.

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA

β/γ = 50 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54998

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLI	D
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3	
TIME COLLECTED (HH:MM):		1115	SAMPLE TECH CODE:	SS	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK	
LOCATION ID:	19-22629	↓	COMPOSITE TYPE:	NA	↓	
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓	
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	INV	↓	
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X	
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA	
			ER SOP Followed:		6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~KH~~ 09-08-04
4	5 G ENCORE	ICE	8260BENCORE	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
8	1 L POLY	ICE	GS+TAL Metals	

Tuff collected at the soil/tuff interface. Tuff is friable so auger advanced ~1.0 ft after ~~sharp~~ contacting the sharp interface between soil + tuff. KH 09-08-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to light grey fine grained tuff. Tuff is friable w/ 1 to 2 cm devitrified pumice clasts. Clasts are round + brown phenocrysts of quartz (~1 mm) are also present in the friable glass/ash matrix

SAMPLE LOCATION DESC: 19-22629

Location Description: pin flag is labeled "#7" S. Mesa Slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results: γ = NDA
β = 531 dpm

COLLECTED BY: (PRINTED NAME) Kate Hervell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54998

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1115	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-22629	↓	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH ():	3.50	1.5 (FT / cm / NA)	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH ():	4.00	2.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
4	5 G ENCORE	ICE	8260BENCORE	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

Tuff collected at the soil/tuff interface. Tuff is friable so auger advanced ~1.0 ft after ~~sharp~~ contacting the sharp interface between soil + tuff. KH 09-08-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: white to light grey fine grained tuff. Tuff is friable w/ 1 to 2 cm devitrified pumice clasts. Clasts are round + brown phenocrysts of quartz (~1 mm) are also present in the friable glass/ash matrix

SAMPLE LOCATION DESC: 19-22629

Location Description: pin flag is labeled "#7" S. Mesa Slope drainage.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results: γ = NDA
β = 531 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54976

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1421	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23264	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	UA	NA
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	Aro
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, brown medium-grained sandy soil. Soil slightly moist w/ some roots.

SAMPLE LOCATION DESC: 19-23264

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS: ~~CAA 09-09-04~~ ~~γ = 1.7 k cpm~~ α = 10 dpm β/γ = 300 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54976

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1421	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23264	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	UA	NA
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	Aro
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: moist, brown medium-grained sandy soil. Soil slightly moist w/ some roots.

SAMPLE LOCATION DESC: 19-23264

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS: ~~CAA 09-09-04~~ ~~γ = 1.7 K cpm~~ α = 10 dpm β/γ = 300 dpm

COLLECTED BY: (PRINTED NAME) Kate Heriell (SIGNATURE) Kate Heriell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54992

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

KH 09-08-04

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	~~QBT3~~ OK
TIME COLLECTED (HH:MM):		~~1430~~ 1435 KH 09-08-04	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23264		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	3.50	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	4.00	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	~~R~~ OK KH 09-08-04	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

~~Tuff at Soil/tuff interface~~ KH 9-08-04
Collected sample at depth (4.0 feet)

ADDITIONAL INFORMATION (optional): Special Instructions: light brown fine to medium grained soil w/ some loose rock cobbles. Dry.

SAMPLE DESC: ~~Light pink to light brown non welded, slightly friable, tuff 1 to 2 cm light grey pumice clasts~~ KH 9-08-04

SAMPLE LOCATION DESC: 19-23264

Location Description: N mesa slope drainage

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey Results: γ = NDA
β = 456 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54992

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

KH 09-08-04

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	~~QB3~~ OK
TIME COLLECTED (HH:MM):		~~1430~~ 1435 KH 09-08-04	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23264		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	3.50	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	4.00	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	~~R~~ OK KH 09-08-04	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09.15.04
8	1 L POLY	ICE	GS+TAL Metals	

~~Tuff at soil/tuff interface~~ KH 9-08-04
collected sample at depth (4.0 feet)

ADDITIONAL INFORMATION (optional): Special Instructions: light brown fine to medium grained soil w/ some loose rock cobbles. Dry.

SAMPLE DESC: ~~light pink to light brown non welded, slightly friable, tuff 1 to 2 cm light grey pumice clasts~~ KH 9-08-04

SAMPLE LOCATION DESC: 19-23264

Location Description: N mesa slope drainage

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey Results: γ = NDA
β = 456 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54977

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1455	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23265	OK	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	UA	NA
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	5 G ENCORE	ICE	8260BENCORE	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~ 760	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, yellow sand w/ some pebbles + cobbles 1-2 cm in diameter. Sand dry w/ some root material.

SAMPLE LOCATION DESC: 19-23265

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS: ~~γ = 0 K cpm~~ 09-09-04 α = NDA β/γ = 200 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54977

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1455	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23265	OK	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	UA	NA
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	5 G ENCORE	ICE	8260BENCORE	
2	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	~~125 ML GLASS~~	~~ICE~~	~~8290~~ KH 09-15-04	
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~ KH 09-15-04	
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, yellow sand w/ some pebbles + cobbles 1-2 cm in diameter. Sand dry w/ some root material.

SAMPLE LOCATION DESC: 19-23265

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS: ~~γ = 0 K cpm~~ OK 09-09-04 α = NDA β/γ = 200 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54993

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLL	D
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3	
TIME COLLECTED (HH:MM):		1507	SAMPLE TECH CODE:	SS	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK	
LOCATION ID:	19-23265	OK	COMPOSITE TYPE:	NA		
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA		
TOP DEPTH ():	3.50	OK (FT / cm / NA)	SAMPLE USAGE:	INV		
BOTTOM DEPTH ():	4.00	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X	
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA	
			ER SOP Followed:		6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	5 G ENCORE	ICE	8260BENCORE	
2	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

Tuff sample collected at depth of 4.0 feet.

ADDITIONAL INFORMATION (optional): Special Instructions:

KH 9-8-04

SAMPLE DESC: yellow to pink non-welded tuff. Tuff is friable, ~~wt~~ moist slightly, + contains quartz phenocrysts and elongated pumice clasts. Matrix is porous + glassy.

SAMPLE LOCATION DESC: 19-23265

Location Description:

N Mesa slope drainage

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results: γ = NDA
β = 366 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54993

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		1507	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23265	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	4.00	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	5 G ENCORE	ICE	8260BENCORE	
2	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-15-04
8	1 L POLY	ICE	GS+TAL Metals	

Tuff sample collected at depth of 4.0 feet.

ADDITIONAL INFORMATION (optional): Special Instructions:

KH 9-8-04

SAMPLE DESC: yellow to pink non-welded tuff. Tuff is friable, ~~wt~~ moist slightly, + contains quartz phenocrysts and elongated pumice clasts. Matrix is porous + glassy.

SAMPLE LOCATION DESC: 19-23265

Location Description:

N Mesa slope drainage

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results: γ = NDA
β = 366 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54978

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1520	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23266	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	UA	NA
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH ():	KH 9-8-04	~~1.0~~ 0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	5 G ENCORE	ICE	8260BENCORE	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~A20~~
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09·15·04
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09·15·04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown slightly moist Sand w/ some Silt (~45%) Roots are present w/ a few cobbles + pebbles (1-2 cm round)

SAMPLE LOCATION DESC: 19-23266

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA
β/γ = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54978

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1520	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23266	OK	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	UA	NA
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH ():	9-8-04	~~1.0~~ 0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	5 G ENCORE	ICE	8260BENCORE	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~A20~~
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown slightly moist Sand w/ some Silt (~45%) Roots are present w/ a few cobbles + pebbles (1-2 cm round)

SAMPLE LOCATION DESC: 19-23266

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA
β/γ = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54994

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004
TIME COLLECTED (HH:MM):		1535
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-23266	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.50	OK (FT / cm / NA)
BOTTOM DEPTH ():	4.00	OK (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLL	ID
EVAL CLASS:	ALLH	OBT3	
SAMPLE TECH CODE:	SS	MA	
FIELD QC TYPE:	NA	OK	
COMPOSITE TYPE:	NA		
FIELD PREP:	NA		
SAMPLE USAGE:	INV		

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~ Ave	
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	~~8290~~ KH 09.15.04	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~ KH 09.15.04	
8	1 L POLY	ICE	GS+TAL Metals	

Tuff sample collected at target depth of 4.0 feet. Cannot confirm whether sample is at soil/tuff interface

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: tan to light pink non welded tuff. Tuff is friable w/ lithic clasts (1-2 cm) and phenocrysts of quartz.

SAMPLE LOCATION DESC: 19-23266

Location Description: N Mesa Slope drainage. Location is farthest East

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results: γ = NDA
β = 546 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/18/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54994

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/08/2004	EVAL CLASS:	ALLH	OBT3
TIME COLLECTED (HH:MM):		1535	SAMPLE TECH CODE:	SS	NA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23266	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	3.50	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	4.00	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~5 G ENCORE~~	ICE	~~8260BENCORE~~	
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	125 ML GLASS	ICE	8290	
7	125 ML GLASS	ICE	8290	
8	1 L POLY	ICE	GS+TAL Metals	

Tuff sample collected at target depth of 4.0 feet. Cannot confirm whether sample is at soil/tuff interface

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: tan to light pink non welded tuff. Tuff is friable w/ lithic clasts (1-2 cm) and phenocrysts of quartz.

SAMPLE LOCATION DESC: 19-23266

Location Description: N Mesa Slope drainage. location is farthest East

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey results: γ = NDA
β = 546 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/08/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-09-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55092

EVENT ID: 3662

EVENT NAME: TA-19 Rinsates

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/04	EVAL CLASS:	NA	OK
TIME COLLECTED (HH:MM):		NA	SAMPLE TECH CODE:	~~NA~~ DC KH 09.24.04	DC KH 09.24.
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FTB	OK
LOCATION ID:	NA		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():		NA (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():		NA (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	N/A	
			ER SOP Followed:	1.05 R1	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 SEPTUM AMBER GLASS	ICE	8260B	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Trip blanks and for sampling activities conducted on 09-09-2004

SAMPLE LOCATION DESC: NA

Location Description:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Kate Werrell (SIGNATURE) [signature] (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54959

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1233	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~TA~~ 19-01007 KH 09-14-04	19-01007	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	0.00 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	0.50 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-14-04
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown, fine to medium grained Sandy Soil. Soil is dry w/ minimal roots.

SAMPLE LOCATION DESC: ~~TA~~ 19-01007 KH 09-14-04

Location Description: Historic VCA location. East end of Upper North Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey: γ = NDA
β = 403 dpm

COLLECTED BY: (PRINTED NAME) Kate Merrell (SIGNATURE) Kate Merrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54958

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1241	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
KH 09-14-04 LOCATION ID:	~~DA~~ 19-01002	19-01002	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	0.00 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	0.50 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-14-04
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown fine grained sand. Sand is moist w/ some cobbles and minimal roots.

SAMPLE LOCATION DESC: ~~DA~~ 19-01002 KH 09-14-04

Location Description: Historic VCA location. East end of Upper North Mesa Slope

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = NDA
β = 407 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54960

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1316	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~TA~~ 19-01016	19-01016	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	0.00 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	0.50 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-14-04
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown fine grained sandy soil. Soil is dry w/ abundant vegetative + organic matter.

SAMPLE LOCATION DESC: ~~TA~~ 19-01016 KH 09-14-04

Location Description: Historic VCA location. East end of Upper N. Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = NDA
β = 520 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54961

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/09/2004
TIME COLLECTED (HH:MM):		1332
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~DA~~ 19-01013	19-01013
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	0.00	0.00 (FT / cm / NA)
BOTTOM DEPTH ():	0.50	0.50 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-14-04
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
7	125 ML GLASS	ICE	8290	
8	125 ML GLASS	ICE	8290	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Moist, grey-brown, medium-grained sand. Soil contains some roots + organic matter present. A few large sized pebbles also present.

SAMPLE LOCATION DESC: ~~DA~~ 19-01013 KH 09-14-04

Location Description:

Historic VCA location. East end of upper North Mesa Slope.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = NDA
β = 475 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/09/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) [signature] (DATE) 09-13-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55093

EVENT ID: 3662

EVENT NAME: TA-19 Rinsates

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09-10-2004	EVAL CLASS:	NA	OK
TIME COLLECTED (HH:MM):		NA	SAMPLE TECH CODE:	~~NA~~ DC KA 09-24-04	DC KA 09.24.
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FTB	OK
LOCATION ID:	NA	OK	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		NA (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():		NA (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	~~NA~~ OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		1.05 RI

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 SEPTUM AMBER GLASS	ICE	8260B	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Trip blank sand for Sample activities conducted 09-09-04

SAMPLE LOCATION DESC: NA

Location Description:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) NA (SIGNATURE) NA (DATE)

REVIEWED BY: (PRINTED NAME) Kate Darrell (SIGNATURE) [signature] (DATE) 09/09/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55094

EVENT ID: 3662

EVENT NAME: TA-19 Rinsates

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09-10-2004	EVAL CLASS:	NA	OK
TIME COLLECTED (HH:MM):		NA	SAMPLE TECH CODE:	~~NA~~ DC KH 09-24-04	DC KH 09-24-04
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FTB	OK
LOCATION ID:	NA		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():		NA (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():		NA (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		1.05 R1

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 SEPTUM AMBER GLASS	ICE	8260B	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Trip blank Sand.

SAMPLE LOCATION DESC: NA

Location Description:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) NA (SIGNATURE) NA (DATE) _____

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/10/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54963

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		0830	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~UA~~ KH 09-10-04 19-01028	A-01028	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.00	0.00 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	0.50 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-14-2004
3	5 G ENCORE	ICE	8260BENCORE	
	125 ML GLASS	ICE	8151A	
	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-2004
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-2004

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown, moist, fine to medium-grained sandy soil. Contains numerous roots.

SAMPLE LOCATION DESC: ~~UA~~ 19-01028 KH 09-14-2004

Location Description:

Historic VCA location. West end of upper North Mesa slope

FIELD SCREENING/MEASUREMENT RESULTS:

RAD screening results: γ = 7.61 dpm
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Merrell (SIGNATURE) Kate Merrell (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-10-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55003

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004
TIME COLLECTED (HH:MM):		1049
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-23318	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	OK
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
~~3~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-04
4	5 G ENCORE	ICE	8260BENCORE	
~~5~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-14-04
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	
7	1 L POLY	ICE	GS+TAL Metals	
8	250 ML GLASS	ICE	8270C+8081A+8082	

Confirmation sample ~~tak~~ KH 09-10-04 collected after soil removal action at historic RFI location 19-01268. (1 of 2)

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Grey-brown fine grained soil w/ numerous tuff fragments (~2cm). Soil is dry w/ some roots.

SAMPLE LOCATION DESC: 19-23318

Location Description: Historical RFI location 19-01268. Confirmation samples taken within the area. Area on west end of site.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = 69.4 dpm
β = 731 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) HEATHER VOSS (SIGNATURE) HEATHER VOSS (DATE) 09/13/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55004

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1051	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23319		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
3	5 G ENCORE	ICE	~~8260BENCORE~~	KH 09-13-04
4	5 G ENCORE	ICE	~~8260BENCORE~~	STET KH 09-13-04
	125 ML GLASS	ICE	8290	
6	125 ML GLASS	ICE	8290	
7	1 L POLY	ICE	GS+TAL Metals	
8	250 ML GLASS	ICE	8270C+8081A+8082	

Confirmation sample (2 of 2) for soil removal area @ 19-01268.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Mixture of soil and tuff. Grey brown fine-grained soil w/ some roots and tuff fragments (~2cm). Soil is dry

SAMPLE LOCATION DESC: 19-23319

Location Description: Historical RFI location 19-01268. Confirmation samples taken w/in the area. Area on west end of site.

FIELD SCREENING/MEASUREMENT RESULTS:

Rad Survey = γ = 18.84 dpm
β = 864 dpm

COLLECTED BY: (PRINTED NAME) Kate Berrell (SIGNATURE) Kate Berrell (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Douglas Hopinkah (SIGNATURE) [signature] (DATE) 9/10/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55006

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/16/2004
TIME COLLECTED (HH:MM):		1414
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-23321	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.00	OK (FT / cm / NA)
BOTTOM DEPTH ():	0.50	(FT / cm / NA)
FIELD MATRIX:	S	

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
~~3~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-04
4	5 G ENCORE	ICE	8260BENCORE	
~~5~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	STET KH
6	125 ML GLASS	ICE	8290	09-13-04
7	1 L POLY	ICE	GS+TAL Metals	
8	250 ML GLASS	ICE	8270C+8081A+8082	

Confirmation Sample (2 of 2) for soil removal area @ 19-01266

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: red brown fine to medium-grained sand. Sand is moist and some roots are present. A few pebbles cobbles intermixed w/ sand (~3%).

SAMPLE LOCATION DESC: 19-23321

Location Description: Historical RFI location 19-01266. Confirmation samples taken w/in soil removal area. Area located on east end of area.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = 60 dpm
β = 609 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) HEATHER VOSS (SIGNATURE) Heather Voss (DATE) 09/13/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55005

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1417	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23320		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	0.00	OK (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.50	OK (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8151A	
2	125 ML GLASS	ICE	8151A	
~~3~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-04
4	5 G ENCORE	ICE	8260BENCORE	
~~5~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	
7	1 L POLY	ICE	GS+TAL Metals	
8	250 ML GLASS	ICE	8270C+8081A+8082	

Confirmation sample (1 of 2) for soil removal area @ 19-01266.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown to grey, medium-grained sandy soil. Soil is moist, w/ tuff fragments (~1 cm).

SAMPLE LOCATION DESC: 19-23320

Location Description: Historical RFI location 19-01266. Confirmation samples taken w/in soil removal area. Area located on east end of site.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = 31.9 dpm
β = 637 dpm

COLLECTED BY: (PRINTED NAME) Kate Kerrch (SIGNATURE) [signature] (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Heather Voss (SIGNATURE) Heather Voss (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55097

EVENT ID: 3672

EVENT NAME: TA-19 TCLP samples

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004
TIME COLLECTED (HH:MM):		1510
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01266	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	KH 09.24
SAMPLE USAGE:	~~INV~~ WST	WST

KH 09.24.04

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	500 ML POLY	ICE	METALS_TCLP	
2	125 SEPTUM AMBER GLASS	ICE	8260B-TCLP	
3	500 ML GLASS	ICE	8270C-TCLP	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: TCLP Sample for Soil removal at location 19-01266. Historic RFI location

SAMPLE LOCATION DESC: 19-01266

Location Description: Historic RFI location area 19-01266. TCLP collected from King bag Area located from east end of site.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = 3.87 dpm
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Karen Greene (SIGNATURE) [signature] (DATE) 9/13/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55097

EVENT ID: 3672

EVENT NAME: TA-19 TCLP samples

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004
TIME COLLECTED (HH:MM):		1510
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01266	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	500 ML POLY	ICE	METALS_TCLP	
2	125 SEPTUM AMBER GLASS	ICE	8260B-TCLP	
3	500 ML GLASS	ICE	8270C-TCLP	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: TCLP Sample for Soil removal at location 19-01266. Historic RFI location

SAMPLE LOCATION DESC: 19-01266

Location Description: Historic RFI location area 19-01266. TCLP collected from King bag Area located from east end of site.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = 3.87 dpm
β^- NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Kathy Gocanne (SIGNATURE) [signature] (DATE) 9/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55098
EVENT ID: 3672
EVENT NAME: TA-19 TCLP samples

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004
TIME COLLECTED (HH:MM):		1515
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01268	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	500 ML POLY	ICE	METALS_TCLP	
2	125 SEPTUM AMBER GLASS	ICE	8260B-TCLP	
3	500 ML GLASS	ICE	8270C-TCLP	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: TCLP Sample for Soil removal at Historic RFI location 19-01268

SAMPLE LOCATION DESC: 19-01268

Location Description: Historic RFI location area 19-01268. Collected from King bag Area was located on West End.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = 15.11 dpm
β = 254 dpm

COLLECTED BY: (PRINTED NAME) Kate Merrell (SIGNATURE) [signature] (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Keith Greene (SIGNATURE) [signature] (DATE) 9/13/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55098

EVENT ID: 3672

EVENT NAME: TA-19 TCLP samples

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/10/2004
TIME COLLECTED (HH:MM):		1515
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-01268	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	~~TNA~~ WST KH 09-24-04	~~S~~ WST KH 09-24

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	500 ML POLY	ICE	METALS_TCLP	
2	125 SEPTUM AMBER GLASS	ICE	8260B-TCLP	
3	500 ML GLASS	ICE	8270C-TCLP	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: TCLP Sample for Soil removal at Historic RFI location 19-01268

SAMPLE LOCATION DESC: 19-01268

Location Description: Historic RFI location area 19-01268. Collected from King bag Area was located on West End.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = 18.11 dpm
β = 254 dpm

COLLECTED BY: (PRINTED NAME) Kate Merrell (SIGNATURE) Kate Merrell (DATE) 09/10/04

REVIEWED BY: (PRINTED NAME) Keith Greene (SIGNATURE) [signature] (DATE) 9/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55095

EVENT ID: 3662

EVENT NAME: TA-19 Rinsates

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/04
TIME COLLECTED (HH:MM):		NA
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	NA	OK
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		NA (FT / cm / NA)
BOTTOM DEPTH ():		NA (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	NA	OK
SAMPLE TECH CODE:	~~NA~~ DC KH 09.24.04	DC KH 09.24.
FIELD QC TYPE:	FTB	OK
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	QC	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 1.05 R1

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 SEPTUM AMBER GLASS	ICE	8260B	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Field trip sand blank for samples collected 09-13-04

SAMPLE LOCATION DESC: NA

Location Description: NA

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) HEATHER VOSS (SIGNATURE) HEATHER VOSS (DATE) 9/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-55096

EVENT ID: 3662

EVENT NAME: TA-19 Rinsates

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/04	EVAL CLASS:	NA	OK
TIME COLLECTED (HH:MM):		NA	SAMPLE TECH CODE:	~~NA~~ DC KH 09.24.04	DC KH
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FTB	OK 09.24
LOCATION ID:	NA		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():		NA (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():		NA (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		1.05 RI

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 SEPTUM AMBER GLASS	ICE	8260B	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Field trip Sand blank for samples collected 09-13-04

SAMPLE LOCATION DESC: NA

Location Description:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Heather Voss (SIGNATURE) Heather Voss (DATE) 9/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54964

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/04	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		10:17	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	~~Duplicate~~ OK KH 09-13-04	FIELD QC TYPE:	NA	FD
LOCATION ID:	~~UA~~ 19-23267 KH 09-14-04	19-23267	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	0.0	0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	0.5	0.5 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
2	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	Jen 9/13/04
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Silty Sand, yellowish-brown, slightly moist, loose, non-plastic (SM); some gravel (~10%), 3-5mm angular tuff fragments.

SAMPLE LOCATION DESC: UA

Location Description:

Lower North Mesa Slope - Drainage Channel

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Angie Dorelli (SIGNATURE) [signature] (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Gurrell (SIGNATURE) [signature] (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54979

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		10:17	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23267		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	UA	NA
TOP DEPTH ():	0.0	0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH ():	0.5	0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~Aco 9/13/04~~
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
	250 ML GLASS	ICE	8270C+8081A+8082	
6	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09/13/04
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09/13/04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: ~~yellowish brown~~ Aco 9/13/04 SILTY SAND, yellowish-brown, slightly moist, loose, non-plastic, (SM); some gravel, ~3-5 mm angular tuff fragments, 10%

SAMPLE LOCATION DESC: 19-23267

Location Description: Lower North Area Slope - Drainage Channel

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Angelo Ortelli (SIGNATURE) [signature] (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Krell (SIGNATURE) [signature] (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54995

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		10:35
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-23267	↓
LOCATION TYPE:	GENERIC	↓
TOP DEPTH ():	3.50	3.5 (FT / cm / NA)
BOTTOM DEPTH ():	4.00	4.0 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	HA
FIELD QC TYPE:	NA	OK
COMPOSITE TYPE:	NA	↓
FIELD PREP:	NA	↓
SAMPLE USAGE:	INV	↓

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	Aro 9-13-04
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
6	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Sandy Silt, light yellowish-brown, dry, loose, non-plastic (ML) some gravel (10-15%) 3-5mm, angular/subangular tuff fragments

SAMPLE LOCATION DESC: 19-23267

Location Description:

Lower North Mesa Slope, Drainage Channel

FIELD SCREENING/MEASUREMENT RESULTS:

Rad survey results: γ = NDA
β = 106.7 dpm

COLLECTED BY: (PRINTED NAME) Angela Vitelli (SIGNATURE) Angela Vitelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54980

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		10:49
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-23268	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	0.0	~~0.0~~ 0.0 (FT / cm / NA)
BOTTOM DEPTH ():	0.5	0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	UA	NA
SAMPLE USAGE:	INV	OK

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~Ana 9/13/04~~
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	Kit 09-13-04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	Kit 09-13-04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Silty Sand, yellowish-brown, slightly moist, loose, non-plastic (Pr some gravel (10%), angular/subangular tuff fragments,

SAMPLE LOCATION DESC: 19-23268

Location Description:

Lower North Mesa Slope - Drainage Channel

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY: (PRINTED NAME) Angela Intelli (SIGNATURE) [signature] (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) [signature] (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54996

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	QBT4
TIME COLLECTED (HH:MM):		10:59	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	OK
LOCATION ID:	19-23268	↓	COMPOSITE TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH ():	3.50	2.5 (FT / cm / NA)	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH ():	4.00	3.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~AEO 9/13/04~~
2	5 G ENCORE	ICE	8260BENCORE	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	250 ML GLASS	ICE	8270C+8081A+8082	
~~6~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
8	1 L POLY	ICE	GS+TAL Metals	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Tuff: weathered, light-gray, dry, moderately hard (QBt4)

SAMPLE LOCATION DESC: 19-23268

Location Description:

Lower North Mesa Slope - Drainage Channel

FIELD SCREENING/MEASUREMENT RESULTS:

Rad Survey results: γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Angela Ortelli (SIGNATURE) Angela Ortelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Worrell (SIGNATURE) [signature] (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54975

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		11:52
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA~~ 19-01271 KA 09-13-04	19-01271
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown, fine to medium-grained sandy soil w/ tuff cobbles. Soil is moist, unconsolidated (loose), w/ some organic matter and roots.

SAMPLE LOCATION DESC: UA

Location Description: West Dunlap / South end. Historic RFI location on the mesa top.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results from field screening γ = NDA β = 700 dpm

COLLECTED BY: (PRINTED NAME) Angie Intelli (SIGNATURE) Angie Intelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54974

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		11:56
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA~~ 19-01265 KLH 09-13-04	19-01265
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown, fine to medium grained, silty sand containing small rounded pebbles of tuff (~1cm) (~20%). Soil is slightly moist.

SAMPLE LOCATION DESC: UA

Location Description: East Drain Line / South end. Historical RFI location on the mesa top.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey screening results: γ = NDA, β = 400 dpm

COLLECTED BY: (PRINTED NAME) Angela Stoll (SIGNATURE) Angela Stoll (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54965

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		11:45	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	FD
LOCATION ID:	~~UA~~ KH 09-13-04 19-01258	19-01258	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
~~1~~	~~1 L POLY~~	ICE	GS+TAL Metals	
~~2~~	5 G ENCORE	ICE	8260BENCORE	
~~3~~	5 G ENCORE	~~ICE~~	~~8260BENCORE~~	
~~4~~	~~125 ML GLASS~~	ICE	8151A	KH 09-13-04
	~~125 ML GLASS~~	~~ICE~~	~~8151A~~	
~~6~~	~~250 ML GLASS~~	~~ICE~~	~~8270C+8081A+8082~~	
7	125 ML GLASS	ICE	~~8290~~ 8082	KH 09-13-04
8	125 ML GLASS	ICE	~~8290~~ 8082	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Med to coarse-grained sandy soil containing ~20% tuff fragments + rounded pebbles. Soil is moist, brown, + contains some roots.

SAMPLE LOCATION DESC: UA

Location Description:

Historic RFI location on Mesa Top, N. Rim. Western drainline farthest North.

FIELD SCREENING/MEASUREMENT RESULTS: γ = NDA

RAD survey results from field screening: β = 200 dpm

COLLECTED BY: (PRINTED NAME) Angela Intalli (SIGNATURE) [signature] (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Hercell (SIGNATURE) [signature] (DATE) 09/13/04

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54973

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		11:45
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA~~ 19-01258 (KH 09-13-04)	19-01258
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Medium to coarse-grained, brown, sandy soil containing ~20% tuff fragments + rounded pebbles. Soil is moist + contains some roots.

SAMPLE LOCATION DESC: UA

Location Description: West Drainline / North End. Historic RFI location on the Mesa top.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results from field screening: γ = NDA, β = 200 dpm

COLLECTED BY: (PRINTED NAME) Angela Jarrell (SIGNATURE) Angela Jarrell (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Merrell (SIGNATURE) Kate Merrell (DATE) 09/13/04

Los Alamos National Laboratory
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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54972

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		12:02	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~04~~ 19-01251 (K4 09-13-04)	19-01251	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: fine-grained silty sand. Soil is moist, dark brown, unconsolidated, relatively homogenous, and contains some organic matter.

SAMPLE LOCATION DESC: UA

Location Description: Mesa Top - South Rim. Historic RFI location.

FIELD SCREENING/MEASUREMENT RESULTS: γ = NDA (no detectable anom

RAD survey from field screening: β = 300 dpm.

COLLECTED BY: (PRINTED NAME) Angie Roth (SIGNATURE) Angie Roth (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

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Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54950

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		12:39
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA CAT~~ 09-13-04	19-22608
LOCATION TYPE:	GENERIC	GK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	GK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown, fine-grained silty sand. Soil is slightly moist w/ a few roots + pebbles (2%) (~0.5 cm) rounded.

SAMPLE LOCATION DESC: UA

Location Description: AOC-11 (AOC C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS: γ = NDA dpm

RAD Survey results: β = 150 dpm

COLLECTED BY: (PRINTED NAME) [signature] (SIGNATURE) [signature] (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54946

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		12:48
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA~~ 19-22608 KH 09-13-04	19-22608
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():	3.0	~~3.5~~ 3.0 KH 9/13/04 (FT / cm / NA)
BOTTOM DEPTH ():	3.5	~~4.0~~ 3.5 KH 9/13/04 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QBT3
SAMPLE TECH CODE:	SS	HA
FIELD QC TYPE:	NA	OK
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04

Tuff collected beneath the soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink to light grey fine grained cemented tuff. Tuff is non welded + contains phenocrysts of quartz + small lithic clasts. Matrix composed primarily of glass shards.

SAMPLE LOCATION DESC: UA

Location Description: AOC-11 (AOC 19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey field screening results: $\gamma = 0.258$ dpm/100 cm^2, $\beta = 6.49$ K dpm/100 cm^2

COLLECTED BY: (PRINTED NAME) Angela Ortelli (SIGNATURE) [signature] (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54966

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	QBT3
TIME COLLECTED (HH:MM):		12:48	SAMPLE TECH CODE:	SS	HA
PRS ID:	PRS: 19-001-99	~~19-22602~~ OK	FIELD QC TYPE:	NA	FD
LOCATION ID:	~~UA-GA 09-13-04~~	19-22608	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	↓
TOP DEPTH ():	3.0	3.0 (FT / cm / NA)	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH ():	3.5	3.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	R	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 RZ

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	ICE	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004

Tuff collected beneath soil/tuff interface.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: pink to light gray fine-grained cemented tuff. Tuff appears noncwelded w/ phenocrysts of quartz + lithic clasts. Matrix composed of glass shards

SAMPLE LOCATION DESC: UA

Location Description:

AOC-11 (~~AOC~~ C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results from field screening: $\gamma = 0.258$ dpm/100cm^2 $\beta = 6.49$ Kdpm/100^2

COLLECTED BY: (PRINTED NAME) Angelo Ortelli (SIGNATURE) Angelo Ortelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Merrell (SIGNATURE) Kate Merrell (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54951

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		13:02	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~UA-GR4~~ 09-13-04	19-22627	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown fine grained unconsolidated silty sand. Soil is slightly moist w/ a few roots and (~5%) cobbles + tuff fragments (1 to 2 cm).

SAMPLE LOCATION DESC: UA

Location Description: Aoc-30 (Aoc C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey: γ = NDA
β = 250 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54956

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		13:11
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA~~ 19-22627 KH 09-13-2004	19-22627
LOCATION TYPE:	GENERIC	OK 9/13/04
TOP DEPTH ():	2.0	~~3.0~~ 2.0 9/13/04 (FT / cm / NA)
BOTTOM DEPTH ():	2.5	~~4.0~~ 2.5 9/13/04 (FT / cm / NA)
FIELD MATRIX:	S	R

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	QBT3
SAMPLE TECH CODE:	SS	HA
FIELD QC TYPE:	NA	OK
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
2	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-04
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
8	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04

Tuff collected at the soil tuff interface. The soil/tuff contact is gradational.

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light grey fine grained ashy tuff. Tuff is non-welded + not cemented. fragments of more cemented whi tuff present in unconsolidated tuff materi

SAMPLE LOCATION DESC: UA

Location Description: AOC-30 (AOC C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD screening measurements: γ = 22 dpm/100cm^2 β = 159 dpm/100cm^2

COLLECTED BY: (PRINTED NAME) Angela Stelli (SIGNATURE) Angela Stelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Kerrell (SIGNATURE) Kate Kerrell (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54949

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		13:26
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UAGH~~ 09-13-04	19-22599
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	8290	KH 09-13-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	8290	KH 09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown medium to coarse grained sandy soil. Soil is moist w/ some roots + (~35%) coarse grained cobble + tuff fragments (0.5 cm to 0.5 inches).

SAMPLE LOCATION DESC: UA

Location Description: AOC-2 (AOC C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD results: γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Angela Jortalli (SIGNATURE) Angela Jortalli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 9/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54945

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		13:29
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA 09-13-04 (KK~~	19-22598
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
7	125 ML GLASS	ICE	8290	KH 09-13-2004
8	125 ML GLASS	ICE	8290	KH 09-13-2004

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown, fine to medium grained silty sand. Soil is moist and unconsolidated w/ homogenous matrix (fuw to no rock/pebbles)

SAMPLE LOCATION DESC: UA

Location Description: AOC-1 (AOC 19-001). Mesa Top.

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results from field screening: γ = NDA, β = NDA

COLLECTED BY: (PRINTED NAME) Angelo Ortelli (SIGNATURE) Angelo Ortelli (DATE) 9/13/04

REVIEWED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54947

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09-13-2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		13:45	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	UA	19-22620	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6-09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	ICE	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
7	125 ML GLASS	ICE	~~8290~~	KH 09-13-2004
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown fine-grained silty sand. Soil is slightly moist w/ roots + ~30% fragments of tuff + round cobbles (.5 cm to 1 inch).

SAMPLE LOCATION DESC: UA

Location Description: AOC-23 (AOC C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey: γ = NDA
β = 300 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54948

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1346	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~UA CAA 09-13-04~~	19-22607	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: fine grained light brown silty sand. Soil is slightly moist w/ some roots + organic matter, ~20 percent cobbles + tuff fragments (0.5 cm - ~~1~~ 1 inch)

SAMPLE LOCATION DESC: UA

Location Description: AOC-10 (AOC C-19-001)

KH 09-13-04

FIELD SCREENING/MEASUREMENT RESULTS:

RAD results: γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54967

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1346	SAMPLE TECH CODE:	SS	OK
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	FD
LOCATION ID:	~~UA-CA 09-13-04~~	19-22607	COMPOSITE TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	~~S~~ OK	SCREEN/PORT DESC (wells only):		NA
		KH 09-13-2004	ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: fine grained light brown silty sand. Soil is slightly moist w/ sand roots + organic matter. ~20 percent is

SAMPLE LOCATION DESC: UA cobbles + tuff fragments (0.5cm to 1.0 in)

Location Description:

AOC-10 (AOC C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey = γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

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Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54952

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09-13-2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		14:02	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~UA~~ CAA 09-13-04	19-22604	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	8290	KH 09-13-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	8290	KH 09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Brown fine to medium grained silty sand. Soil is slightly moist w/ ~5% 1-2 cm rounded pebbles. Some roots are also present.

SAMPLE LOCATION DESC: UA

Location Description: AOC-7 (AOC C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54954

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		1405
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA CAA~~ 09-13-04	19-22615
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004
8	125 ML GLASS	ICE	8290	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Soil is light-brown fine-grained silty sand. Soil is slightly moist, homogenous in grain size w/ some roots (1 to 2%). 1% to 2% of larger pebbles also present.

SAMPLE LOCATION DESC: UA

Location Description: Aoc-18 (Aoc C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey: γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54955

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004
TIME COLLECTED (HH:MM):		1423
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	~~UA~~ 09-13-04	19-22606
LOCATION TYPE:	GENERIC	OK
TOP DEPTH ():		0.0 (FT / cm / NA)
BOTTOM DEPTH ():		0.5 (FT / cm / NA)
FIELD MATRIX:	S	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	ALLH	OK
SAMPLE TECH CODE:	SS	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA X

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.09R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-04

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown fine grained silty sand. Soil is slightly moist, relatively homogenous, non consolidated and contains (~3%) 0.5 - 1.0 cm pebbles of tuff.

SAMPLE LOCATION DESC: UA

Location Description: AOC-9 (AOC 19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD survey results: γ = NDA
β = NDA

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/2004

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54953

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		09/13/2004	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		1427	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~UA GR 09-13-04~~	19-22628	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA X
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.09 R2

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
~~2~~	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	KH 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
~~7~~	~~125 ML GLASS~~	~~ICE~~	8290	KH 09-13-04
~~8~~	~~125 ML GLASS~~	~~ICE~~	8290	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: light brown fine to medium grained sandy silt. Soil is slightly moist contains numerous roots + tuff fragments (~35%) 0.5cm to 1.0cm in size.

SAMPLE LOCATION DESC: UA

Location Description: Aoc-31 (Aoc C-19-001)

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey: γ = NDA
β = 65 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-04-54957

EVENT ID: 3082

EVENT NAME: TA-19/Fixed Lab Analysis

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLE
DATE COLLECTED (MM/DD/YYYY):		14:33	EVAL CLASS:	ALLH	OK
TIME COLLECTED (HH:MM):		09-13-2004	SAMPLE TECH CODE:	SS	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	~~UA CAT~~ 09-13-04	19-22621	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():		0.0 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():		0.5 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA X	
FIELD MATRIX:	S	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.09 R2	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	1 L POLY	ICE	GS+TAL Metals	
2	~~5 G ENCORE~~	~~ICE~~	~~8260BENCORE~~	~~KH~~ 09-13-2004
3	5 G ENCORE	ICE	8260BENCORE	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8151A	
6	250 ML GLASS	ICE	8270C+8081A+8082	
7	~~125 ML GLASS~~	~~ICE~~	~~8290~~	KH 09-13-2004
8	~~125 ML GLASS~~	~~ICE~~	~~8290~~	

ADDITIONAL INFORMATION (optional): Special Instructions:

SAMPLE DESC: Light brown fine to medium grained silty sand. Sand is moist w/ numerous roots + cobbles (~50%) ranging in size from (0.5cm to ~~2 in~~ 1 inch).

SAMPLE LOCATION DESC: UA

Location Description: AOC-24 (AOC C-19-001)

KH 09-13-04 KH 09-13-04

FIELD SCREENING/MEASUREMENT RESULTS:

RAD Survey: γ = NDA
β = 50 dpm

COLLECTED BY: (PRINTED NAME) Kate Herrell (SIGNATURE) Kate Herrell (DATE) 09/13/04

REVIEWED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 09-13-04

Los Alamos National Laboratory
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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58706

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/29/05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1436	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23266		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-30-05	6' (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-30-05	~~6~~ 6.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO ✓ NA___
FIELD MATRIX:	R	PJH 4/7/05 OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: Severely weathered, slightly moist, pinkish orange, fine grains - Bandelier Tuff -

SAMPLE LOCATION DESC: 19-23266

Location Description: North Slope of TA-19 sample collected 2 ft below soil / tuff interface (6 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 03/29/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hoffman (SIGNATURE) [signature] (DATE) 3/29/05

Los Alamos National Laboratory
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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58684

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1304	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01002		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-30-05	2.5 (FT / cm / NA) 3.0	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-30-05	~~2.5~~ (FT / cm / NA) 4/7/05	WATER FLOWING :		YES___ NO___ NA ✓
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-01002

Location Description: Sample collected 2-ft. below soil/tuff interface (2.5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 3/30/05

Los Alamos National Laboratory
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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58685

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1310	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01002		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-30-05	4.5 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-30-05 bvk	~~4.5~~ 5.0 4/7/05 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-01002

Location Description: sample collected 4 ft below soil/tuff interface (4.5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hoinkis (SIGNATURE) [signature] (DATE) 3/30/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58686

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1323	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01016		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CLL 03-30-05	2.1 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CLL 03-30-05	~~2.4~~ 2.6 (FT / cm / NA) DLH 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	
3	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-01016

Location Description: sample collected 2ft below soil/tuff interface (2.1 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 3/30/05

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58708

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1323	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FD	
LOCATION ID:	~~UA~~ CAA 03-30-05 19-01016		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA	2.1 (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():	~~0.00~~	~~2.1~~ 2.6 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK bit 4/7/05	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	
3	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: CAA 03-30-05 ~~UA~~ 19-01016

Location Description:

sample collected 2-ft below soil/tuff interface (2.1 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 3/30/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58687

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1333	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01016		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ 03-30-05	4.1 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ 03-30-05	~~4.1~~ 4.6 (FT / cm / NA) DA 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	
3	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-01016

Location Description:
sample collected 4 ft below soil/tuff interface (4.1 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Higinbotham (SIGNATURE) [signature] (DATE) 3/30/05

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Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58682

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1405	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23321		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-30-05	4.5 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-30-05	~~4.5~~ 5.0 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA✓
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	
3	125 ML GLASS	ICE	8290	
	125 ML GLASS	ICE	8290	
5	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-23321

Location Description: sample collected 2 ft below soil/tuff interface (4.5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 3/30/05

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58683

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005
TIME COLLECTED (HH:MM):		1414
PRS ID:	PRS: 19-001-99	OK
LOCATION ID:	19-23321	
LOCATION TYPE:	GENERIC	
TOP DEPTH ():	~~0.00~~ CAA 03-30-05	6.5 (FT / cm / NA)
BOTTOM DEPTH ():	~~0.00~~ CAA 03-30-05	~~6.5~~ 7.0 (FT / cm / NA) DK 4/7/05
FIELD MATRIX:	R	OK

	AS PLANNED	AS COLLECTED
EVAL CLASS:	QBT3	OK
SAMPLE TECH CODE:	HA	
FIELD QC TYPE:	NA	
COMPOSITE TYPE:	NA	
FIELD PREP:	NA	
SAMPLE USAGE:	INV	

WATER FLOWING : YES___ NO___ NA ✓

SCREEN/PORT DESC (wells only): NA

ER SOP Followed: 6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	
3	125 ML GLASS	ICE	8290	
4	125 ML GLASS	ICE	8290	
5	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey to light brown, weathered tuff

SAMPLE LOCATION DESC: 19-23321

Location Description: sample collected 4-ft below soil/tuff interface (6.5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = ~~NDA~~ CAA 03-31-05 14.1 dpm

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hoppinstel (SIGNATURE) [signature] (DATE) 3/30/05

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58690

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1536	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22599		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-30-05	4 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-30-05	~~4~~ 4.5 (FT / cm / NA) bk 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	
3	125 ML GLASS	ICE	8151A	
	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8270C	
6	125 ML GLASS	ICE	8270C	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-22599

Location Description: sample collected 2 ft below soil/tuff interface (4 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Margaret Polly (SIGNATURE) Margaret Polly (DATE) 4-1-05

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58691

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1600	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22599		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAK 03-31-05	6 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAK 03-31-05	~~6~~ 6.5 (FT / cm / NA) DLH 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8082	
2	125 ML GLASS	ICE	8082	
3	125 ML GLASS	ICE	8151A	
4	125 ML GLASS	ICE	8151A	
5	125 ML GLASS	ICE	8270C	
6	125 ML GLASS	ICE	8270C	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-22599

Location Description: sample collected 4-ft below soil/tuff interface (6 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Margaret Polle (SIGNATURE) Margaret Polle (DATE) 4-1-05

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SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58688

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1608	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01028		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-30-05	2.1 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-30-05	~~2.1~~ 2.6 (FT / cm / NA) DH 4/7/05	WATER FLOWING :		YES___ NO___ NA ✓
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-01028

Location Description: sample collected 2-ft below soil/tuff interface (2.1 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 3/30/05

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58689

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03/30/2005	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1615	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-01028		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-30-05	4.1 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-30-05	~~4.1~~ 4.6 (FT / cm / NA) DH 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: fine-grained, grey, weathered tuff

SAMPLE LOCATION DESC: 19-01028

Location Description: Sample collected 4-ft below soil/tuff interface (4.1 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Russell Lyon (SIGNATURE) [signature] (DATE) 3/30/05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopkinsch (SIGNATURE) [signature] (DATE) 3/30/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58702

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1117	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22630		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-31-05	3.3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~3.5~~ 3.8 (FT cm / NA) DAA 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: weathered tuff, fine-grained, trace quartz phenocrysts (0.25 cm diameter), pinkish-orange

SAMPLE LOCATION DESC: 19-22630

Location Description: South Slope
sample collected 2-ft below soil/tuff interface (3.3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Margaret Polle (SIGNATURE) Marg. T. Polle (DATE)

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58703

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1153	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22630		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-31-05	5.3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-31-05	~~5.3~~ 5.8 (FT / cm / NA) DLK 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: weathered tuff, fine-grained, trace quartz phenocrysts, pinkish-orange 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22630

Location Description: South Slope
sample collected 4 ft below soil/tuff interface (5.3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Margaret Polly (SIGNATURE) Margaret Polly (DATE)

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58710

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1153	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FD	
LOCATION ID:	~~UA~~ CAA 03-31-05	19-22630	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-31-05	5.3 (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~5.3~~ 5.8 (FT / cm / NA) DH 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: weathered tuff, fine-grained, trace quartz phenocrysts, pinkish-orang 0.25 cm diameter

SAMPLE LOCATION DESC: ~~UA~~ CAA 03-31-05 19-22630

Location Description: South Slope
sample collected 4-ft below soil/tuff interface (5.3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Margaret Polley (SIGNATURE) Margaret Polley (DATE) 4-1-05

Los Alamos National Laboratory
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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58704

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1231	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22631		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-31-05	3.5 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-31-05	~~3.5~~ 4.0 (FT / cm / NA) DH 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: weathered tuff, fine-grained, trace quartz phenocrysts, pinkish-orange 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22631

Location Description: South Slope
sample collected 2 ft below soil/tuff interface (3.5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Margaret S. Polley (SIGNATURE) Margaret S Polley (DATE) _____

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58705

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1249	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22631		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-31-05	5.5 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-31-05	~~5.5~~ 6.0 (FT / cm / NA) DH 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: weathered tuff, fine-grained, trace quartz phenocrysts, pinkish-orange 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22631

Location Description: South slope
sample collected 4ft below soil/tuff interface (5.5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Margaret Polle (SIGNATURE) Margaret Polle (DATE) 4-1-05

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Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58694

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1428	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22608		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-31-05	4 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-31-05	~~4~~ 4.5 (FT / cm / NA) DH 9/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	
3	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-11

SAMPLE DESC: light grey, fine-grained tuff, trace quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22608

Location Description: mesa top
sample collected 2 ft below soil/tuff interface (4 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hotinkah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58695

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1451	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22608		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ ~~DH~~ 03-31-05	6 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ ~~DH~~ 03-31-05	~~6~~ 6.5 (FT / cm / NA) DH 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	
3	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-11

SAMPLE DESC: fine-grained, grey, trace quartz phenocrysts tuff
0.25 cm diameter

SAMPLE LOCATION DESC: 19-22608

Location Description: mesa top
sample collected 4 ft below soil/tuff interface (6 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58709

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1451	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	FD	
LOCATION ID:	~~UA~~ CAA 03-31-05	19-22608	COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ 03-31-05 CAA	6 (FT / cm / NA)	SAMPLE USAGE:	QC	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~6~~ 6.5 (FT / cm / NA) DAA 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	
3	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

ADC-11

SAMPLE DESC: fine-grained, grey tuff, trace quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: ~~UA~~ CAA 03-31-05 19-22608

Location Description: mesa top

sample collected 4-ft below soil/tuff interface (6 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hoginkel (SIGNATURE) Douglas C. Hoginkel (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58692

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1500	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22606		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-31-05	3.3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-31-05	~~3.3~~ 3.8 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA ✓
FIELD MATRIX:	R	4/7/05 OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	250 ML AMBER GLASS	ICE	8081A+8082	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-9

SAMPLE DESC: fine-grained, grey tuff, trace quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22606

Location Description: mesa top
sample collected 2 ft below soil/tuff interface (3.3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopkins (SIGNATURE) [illegible] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58693

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1508	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22606		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 04-01-05	5.3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 04-01-05	~~5.3~~ 5.3 (FT / cm / NA) at 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	250 ML AMBER GLASS	ICE	8081A+8082	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-9

SAMPLE DESC:

fine-grained, grey tuff, trace quartz (0.25 cm diameter) phenocrysts

SAMPLE LOCATION DESC: 19-22606

Location Description: mesa top
sample collected 4-ft below soil/tuff interface (5.3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58696

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1554	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22615		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-31-05	3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~3~~ 3.5 (FT / cm / NA)	WATER FLOWING :		YES___ NO___ NA ✓
FIELD MATRIX:	R	pit 4/7/05 OK	SCREEN/PORT DESC (wells only):		NA
			ER SOP Followed:		6.10

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-18

SAMPLE DESC: fine-grained, pinkish-grey tuff, trace quartz phenocrysts 0.25 cm ~~phenocry~~ diameter CAA 04-01-05

SAMPLE LOCATION DESC: 19-22615

Location Description: mesa top
sample collected 2-ft below soil/tuff interface (3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C Hopinkah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58697

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1607	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22615		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-31-05	5 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~5~~ 5.5 (FT / cm / NA) DH 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

ADC-18

SAMPLE DESC: fine-grained, pinkish-grey tuff, trace quartz phenocrysts (0.25 cm diameter)

SAMPLE LOCATION DESC: 19-22615

Location Description: mesa top
sample collected 4 ft below soil/tuff interface (5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopkins (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58700

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1638	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22628		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CH 03-31-05	3.3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CH 03-31-05	~~3.5~~ 3.8 (FT / cm / NA) VH 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-31

SAMPLE DESC: fine-grained, grey tuff, trace quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22628

Location Description: mesa top

sample collected 2 ft below soil/tuff interface (3.3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hoginkah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58701

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		03-31-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		03-31-05 to 1710	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22628		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ 03-31-05	5.3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ 03-31-05	~~5.3~~ 5.3 04 4/7/05 (FT / cm / NA)	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML GLASS	ICE	8270C	
2	125 ML GLASS	ICE	8270C	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

ADC-31

SAMPLE DESC:

fine-grained, grey tuff, trace quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22628

Location Description: mesa top

sample collected 4-ft below soil/tuff interface (5.3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58698

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):	CAA 04-01-05	~~03-31-05~~ 04-01-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		0929	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22627		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-31-05	3 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~3~~ 3.5 (FT / cm / NA) CAA 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-30

SAMPLE DESC: fine-grained, light grey tuff, quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22627

Location Description: mesa top

sample collected 2-ft below soil/tuff interface (3 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = 12.66 dpm

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hoginleah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58699

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		~~03-31-05~~ 04-01-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		0940	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-22627		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-31-05	5 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~5~~ 5.5 (FT / cm / NA) GH 4/7/05	WATER FLOWING :	YES___ NO___ NA ✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

AOC-30

SAMPLE DESC: fine-grained, grey tuff, quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: 19-22627

Location Description: mesa top
sample collected 4-ft below soil/tuff interface (5 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 4/1/05

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SAMPLE COLLECTION LOG

SAMPLE ID: RE19-05-58707

EVENT ID: 4752

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED (MM/DD/YYYY):		04-01-05	EVAL CLASS:	QBT3	OK
TIME COLLECTED (HH:MM):		1047	SAMPLE TECH CODE:	HA	
PRS ID:	PRS: 19-001-99	OK	FIELD QC TYPE:	NA	
LOCATION ID:	19-23266		COMPOSITE TYPE:	NA	
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	
TOP DEPTH ():	~~0.00~~ CAA 03-31-05	8 (FT / cm / NA)	SAMPLE USAGE:	INV	
BOTTOM DEPTH ():	~~0.00~~ CAA 03-31-05	~~8~~ 8.5 (FT / cm / NA) bvf 4/7/05	WATER FLOWING :	YES___ NO___ NA✓	
FIELD MATRIX:	R	OK	SCREEN/PORT DESC (wells only):	NA	
			ER SOP Followed:	6.10	

#	CONTAINER	PRESERVATIVE	ORDER	ANALYTICAL SPECIAL INSTRUCTIONS
1	125 ML POLY	ICE	METALS-GEL	

ADDITIONAL INFORMATION (optional): Special Instructions: Please remember to assign the correct top and bottom depths.

SAMPLE DESC: slightly moist, fine-grained, orangish-pink tuff, trace quartz phenocrysts 0.25 cm diameter

SAMPLE LOCATION DESC: 19-23266

Location Description: north drainage
sample collected 4 ft below soil/tuff interface (8 ft bgs)

FIELD SCREENING/MEASUREMENT RESULTS: α = NDA β/γ = NDA

COLLECTED BY: (PRINTED NAME) Carrie Ancell (SIGNATURE) Carrie Ancell (DATE) 04-01-05

REVIEWED BY: (PRINTED NAME) Douglas C. Hopinkah (SIGNATURE) [signature] (DATE) 4/1/05

Attachment C2

Chain-of-Custody Forms (Event #2)

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54957	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54957	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54957	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54957	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54957~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	Ice	FIELD	SMO	
RE19-04-54958	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54958~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
RE19-04-54958	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54958	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54958~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
~~RE19-04-54958~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54959	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54959~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
RE19-04-54959	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54959	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54959~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
~~RE19-04-54959~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54960	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54960~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
RE19-04-54960	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54960	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54960~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54960~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04

RELINQUISHED BY (printed name): Kate Herrell (signature):	**Date/Time:** 09/14/04 13:25	**RELINQUISHED BY** (printed name): (signature):	**Date/Time**
RECEIVED BY (printed name): (signature):	**Date/Time:** 9/14/04 13:25	**RECEIVED BY** (printed name): (signature):	**Date/Time**

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 308

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54961	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54961~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
RE19-04-54961	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54961	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54961~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
~~RE19-04-54961~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54962~~	~~1~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54962	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54962	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54962	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54962~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54963	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54963~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
RE19-04-54963	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54963	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54963~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54963~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09.14.04
~~RE19-04-54964~~	~~1~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54964	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54964	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54964	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/14/04 13:25	**RELINQUISHED BY** (printed name): (signature):	Date/Tim
RECEIVED BY (printed name): (signature):	Date/Time: 4/04 13125	**RECEIVED BY** (printed name): (signature):	Date/Tim

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3(

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-55000	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55000	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55000	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55001	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55001	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55001	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55002	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55002	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55002	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55002~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-55003	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55003	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55003~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-55003	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55003	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55003	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55003	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55003	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	

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not collecte[illegible] yet

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/13/04 1:30	RELINQUISHED BY (printed name): [illegible] (signature):	Date/Ti 9-15 9:1
RECEIVED BY (printed name): (signature): [illegible]	Date/Time: 9/13/04 1:30	RECEIVED BY (printed name): (signature):	Date/Ti 9-15- 9:10

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-55004	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55004	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55004~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-55004~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-55004	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55004	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55004	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55004	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55005~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-55005	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55005	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55005	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55006~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-55006	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55006	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55006	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55007~~	~~1~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-55007	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55007	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55007	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	

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not collect Yet

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 9/13/04 1:30	RELINQUISHED BY (printed name): (signature):	Date/T 9-15 9:1
RECEIVED BY (printed name): (signature):	Date/Time: 1/13/04 1:30	RECEIVED BY (printed name): (signature): Kate Herrell	Date/T 9-15 9:1

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54976~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	~~AEW~~
RE19-04-54976	2	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL. AEW	Ice	FIELD	SMO	
RE19-04-54976	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54976	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54976	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54976	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54976	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54976	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54977	1	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL. AEW	Ice	FIELD	SMO	
~~RE19-04-54977~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	~~AEW~~
RE19-04-54977	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54977	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54977	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54977	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54977	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54977	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54978	1	Soil	8260B~~ENCORE~~ 125 mL	~~5 G~~ ENCORE AEW	Ice	FIELD	SMO	
~~RE19-04-54978~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	~~AEW~~
RE19-04-54978	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54978	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54978	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54978	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54978	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54978	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54979~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54979~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54979~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54979~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not Collected
~~RE19-04-54979~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54979~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEW 9/9/04
~~RE19-04-54979~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54979~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	

RELINQUISHED BY (printed name): (signature):	Date/Time: 9/9/04 1640	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/9/04 1640	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54992~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEO
RE19-04-54992	2	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL AEO	Ice	FIELD	SMO	
RE19-04-54992	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54992	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54992	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54992	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54992	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54992	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54993	1	Soil	8260BENCORE	5 G ENCORE 125 mL AEO	Ice	FIELD	SMO	
~~RE19-04-54993~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEO
RE19-04-54993	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54993	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54993	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54993	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54993	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54993	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54994~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEO
RE19-04-54994	2	Soil	8260BENCORE	5 G ENCORE 125 mL AEO	Ice	FIELD	SMO	
RE19-04-54994	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54994	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54994	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54994	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54994	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54994	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54995~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not Collected - AEO 9/9/04
~~RE19-04-54995~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54995~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54995~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54995~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54995~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54995~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54995~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	

RELINQUISHED BY (printed name): (signature):	Date/Time: 9/9/04 1140	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/9/04 1640	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54996~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not Collected - AEO 9/9/04
~~RE19-04-54996~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54996~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54996~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54996~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54996~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54996~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54996~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54997	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54997	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54997	3	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL. AEO	Ice	FIELD	SMO	
~~RE19-04-54997~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEO
RE19-04-54997	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54997	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54997	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54997	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54998	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54998	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54998~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEO
RE19-04-54998	4	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL. AEO	Ice	FIELD	SMO	
RE19-04-54998	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54998	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54998	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54998	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54999	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54999	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54999	3	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL. AEO	Ice	FIELD	SMO	
~~RE19-04-54999~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEO
RE19-04-54999	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54999	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54999	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54999	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): (signature):	**Date/Time:** 9/9/04 1640	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 9/9/04 1640	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-55000	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	3	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL AEW	Ice	FIELD	SMO	
~~RE19-04-55000~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEW
RE19-04-55000	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55001	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	3	Soil	8260BENCORE	5 G ENCORE 125 mL AEW	Ice	FIELD	SMO	
~~RE19-04-55001~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	SMO	AEW
RE19-04-55001	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55002	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55002~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	AEW
RE19-04-55002	4	Soil	8260BENCORE	~~5 G ENCORE~~ 125 mL AEW	Ice	FIELD	SMO	
RE19-04-55002	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-55003~~	~~1~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-55003~~	~~2~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-55003~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-55003~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not Collected
~~RE19-04-55003~~	~~5~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-55003~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-55003~~	~~7~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	- AEW 9/9/04
~~RE19-04-55003~~	~~8~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	

RELINQUISHED BY (printed name): (signature):	Date/Time: 9/8/04 1647	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/16/04	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos N al Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

EVENT NAME: TA-19 Rinsates

FIELD CHAIN OF CUSTODY

COC ID: 155552 Event ID:3662

SAMPLE ID: RE19-04-55091 ER TEAM LEADER: Terry Rust DESTINATION: SMO

SAMPLE ORDER MATRIX: Soil FIELD TEAM LEADER: Katherine Herrell DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8260B	125 SEPTUM AMBER GLASS	Ice	Y		

RELINQUISHED BY (printed name): (signature):	Date/Time: 9/9/04 1640	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/9/04 1640	RECEIVED BY (printed name): (signature):	Date/Time:

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number):

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

The following samples do not require rad screening data for the reasons stated (list sample numbers):

RE19-04-54976
RE19-04-54977
RE19-04-54978
RE19-04-54992
RE19-04-54993
RE19-04-54994
RE19-04-54997
RE19-04-54998
RE19-04-54999
RE19-04-55000
RE19-04-55001
RE19-04-55002
RE19-04-55091

Reason:

Print Last Name_____ Signature [illegible] Date 9/9/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-55004	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55004	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55004	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55004	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55004	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55004	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55004	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55004	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55005	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55005	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55005	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55005	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55006	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55006	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55006	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55006	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-55007~~	~~1~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	Ice	FIELD	~~SMO~~	
RE19-04-55007	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	not collected yet
RE19-04-55007	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55007	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55007	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 9/13/04 1:30	RELINQUISHED BY (printed name): (signature):	Date/Time
RECEIVED BY (printed name): (signature):	Date/Time: 9/13/04 1:30	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

EVENT NAME: TA-19 TCLP samples

FIELD CHAIN OF CUSTODY

COC ID: 156052 Event ID:3672

SAMPLE ID: RE19-04-55097 ER TEAM LEADER: Terry Rust DESTINATION: SMO

SAMPLE ORDER MATRIX: Soil FIELD TEAM LEADER: Katherine Herrell DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
2	8260B-TCLP	125 SEPTUM AMBER GLASS	Ice	Y	investigation	
3	8270C-TCLP	500 ML GLASS	Ice	↓	↓	
1	METALS_TCLP	500 ML POLY	Ice	↓	↓	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/13/04 1:30	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED (printed name): (signature):	Date/Time 9/13/04	RECEIVED BY (printed name): (signature):	Date/Time:

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Environmental Restoration Project
Los Alamos, NM 87545

EVENT NAME: TA-19 TCLP samples

FIELD CHAIN OF CUSTODY

COC ID: 156062 Event ID:3672

SAMPLE ID: RE19-04-55098
SAMPLE ORDER MATRIX: Soil
ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell
DESTINATION: SMO
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
2	8260B-TCLP	125 SEPTUM AMBER GLASS	Ice	Y	investigation	
3	8270C-TCLP	500 ML GLASS	Ice	↓	↓	
1	METALS_TCLP	500 ML POLY	Ice	↓	↓	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/13/04 1:30	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/13/04 1145	RECEIVED BY (printed name): (signature):	Date/Time:

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number):

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

The following samples do not require rad screening data for the reasons stated (list sample numbers):

RE19-04-55098
RE19-04-55097
RE19-04-55004
RE19-04-55005
RE19-04-55003
RE19-04-55006
RE19-04-55093

Reason: see Sample collection logs for radiological field screening results

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Print Last Name Herrell Signature [signature] Date 09/13/2004

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19 Rinsates

COC ID: 155572 Event ID:3662

SAMPLE ID: RE19-04-55093
SAMPLE ORDER MATRIX: Soil
ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell
DESTINATION: SMO
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y/N	REASON	SPECIAL INSTRUCTIONS
1	8260B	125 SEPTUM AMBER GLASS	Ice	Y	FTB	

RELINQUISHED BY (printed name): Kate Herrell (signature):	Date/Time: 09/13/04 1:30	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/13/04 1130	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-55000	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55000	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55000	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55000	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55001	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55001	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55001	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55001	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55002	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55002	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55002	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55002	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55003	1	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55003	2	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55003	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55003	4	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-55003	5	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55003	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-55003	7	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-55003	8	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	

not collected yet

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/13/04 1:30	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/13/04 1:30	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19 Rinsates

COC ID: 155582 Event ID:3662

SAMPLE ID: RE19-04-55094
ER TEAM LEADER: Terry Rust
DESTINATION: SMO
SAMPLE ORDER MATRIX: Soil
FIELD TEAM LEADER: Katherine Herrell
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8260B	125 SEPTUM AMBER GLASS	Ice	Y	FTB	

KH 09-14-04

RELINQUISHED BY	Date/Time:	RELINQUISHED BY	Date/Time:
(printed name): Kate Herrell (signature): Kate Herrell	09/14/04 13:25 ~~09/13/04 1:30~~	(printed name): (signature):	
RECEIVED BY	**Date/Time:**	**RECEIVED BY**	**Date/Time:**
(printed name): (signature):	9/14/04 13:25	(printed name): (signature):	

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54961	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54961	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54961	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54961	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54962	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54962	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54962	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54963	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54963	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54963	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54964	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54964	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54964	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature):	Date/Time: 09/14/04 13:25	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECE[illegible] BY (print[illegible]me): (signature):	Date[illegible]: 9/1[illegible]04 13:25	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos N[illegible]al Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54957	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54957	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54957	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54957	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54957~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	Ice	FIELD	SMO	
RE19-04-54958	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54958	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54958	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54958	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54959	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54959	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54959	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54960	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54960	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54960	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/14/04 13:25	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/14/04 13:25	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

EVENT NAME: TA-19 Rinsates

FIELD CHAIN OF CUSTODY

COC ID: 155562 Event ID:3662

SAMPLE ID: RE19-04-55092
ER TEAM LEADER: Terry Rust
DESTINATION: SMO
SAMPLE ORDER MATRIX: Soil
FIELD TEAM LEADER: Katherine Herrell
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y/N	REASON	SPECIAL INSTRUCTIONS
1	8260B	125 SEPTUM AMBER GLASS	Ice	Y	FTB	

RELINQUISHED BY (printed name): Kate Herrell (signature):	Date/Time: 09/14/04 13:25	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/14/10 13:25	RECEIVED BY (printed name): (signature):	Date/Time:

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number):

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

The following samples do not require rad screening data for the reasons stated (list sample numbers):

RE19-04-54958
" " 54959
54960
54961
55094
55092

Reason: See Screening results on corresponding SCL's

Print Last Name Herrell Signature [signature] Date 09/14/04

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54996~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected 09-14-04
RE19-04-54996	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54996	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54996	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54996	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	09-14-04
~~RE19-04-54996~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54996~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected 09-14-04
RE19-04-54996	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54997~~	~~1~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54997~~	~~2~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54997~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54997~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54997~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54997~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54997~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54997~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54998~~	~~1~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54998~~	~~2~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54998~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54998~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54998~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54998~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54998~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54998~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54999~~	~~1~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54999~~	~~2~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54999~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54999~~	~~4~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54999~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54999~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54999~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54999~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	

RELINQUISHED BY (printed name): Kathe Herrell (signature):	**Date/Time:** 09/14/04 11:40	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 9 04 11:40	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54992~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54992~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54992~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54992~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54992~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54992~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54992~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54992~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54993~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54993~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54993~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54993~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54993~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54993~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54993~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54993~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54994~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54994~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54994~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54994~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54994~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54994~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54994~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54994~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54995~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	09-14-04 Not collected
~~RE19-04-54995~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	STET KH 09-14-04
RE19-04-54995	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54995	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54995	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	09-14-04
~~RE19-04-54995~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54995~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	09-14-04 Not collected
RE19-04-54995	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature):	**Date/Time:** 09/14/04 11:40	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 9/14/04 11:40	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54980~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Kit 09-14-04 Not collect
~~RE19-04-54980~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	STET
RE19-04-54980	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54980	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54980	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54980~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	09-14-04 Not collected
~~RE19-04-54980~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	09-14-04 Not collected
RE19-04-54980	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54981~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54981	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54981	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54981	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54981	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54981	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	NOT COLLECTED YET
RE19-04-54981	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54981	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	Kit 09-14-04
RE19-04-54982	1	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54982	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54982	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54982	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54982	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54982	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54982	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54982	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54983	1	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54983	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54983	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54983	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54983	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54983	6	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54983	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54983	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Katy Herrell (signature):	Date/Time: 09/14/04 11:40	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: /04 11:40	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54976~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54976~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54976~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54976~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54976~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54976~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54976~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54976~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54977~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54977~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54977~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54977~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54977~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54977~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54977~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54977~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54978~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54978~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~CANCELED~~	~~SMO~~	
~~RE19-04-54978~~	~~3~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54978~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54978~~	~~5~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54978~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54978~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54978~~	~~8~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~LAB SHIPPED~~	~~SMO~~	
~~RE19-04-54979~~	~~1~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09-14-04 Not collected
~~RE19-04-54979~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	STET KH 09-14-04
RE19-04-54979	3	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54979	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54979	5	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	KH 09-14-04
~~RE19-04-54979~~	~~6~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54979~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	KH 09-14-04 Not collected
RE19-04-54979	8	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature):	Date/Time: 09/14/04 11:40	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/14/04 11:40	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54969	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54969	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54969	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54969	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54969	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54969	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54969	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54969	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54970	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54970	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54970	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54970	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54970	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54970	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54970	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54970	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54971	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54971	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54971	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54971	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54971	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54971	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54971	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54971	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54972	1	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54972	2	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54973	1	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54973	2	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54974	1	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54974	2	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54975	1	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54975	2	Soil	8082	125 ML GLASS	Ice	FIELD	SMO	

Not Collected Yet
KH 09-14-04

RELINQUISHED BY (printed name): Kathy Herrell (signature): Kathy Herrell	Date/Time: 09/14/04 11:40	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: /04 11:40	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell
DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
~~RE19-04-54965~~	~~1~~	~~Soil~~	~~GS+TAL Metals~~	~~1 L POLY~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected 09-14-04
~~RE19-04-54965~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54965~~	~~3~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54965~~	~~4~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54965~~	~~5~~	~~Soil~~	~~8151A~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
~~RE19-04-54965~~	~~6~~	~~Soil~~	~~8270C+8081A+8082~~	~~250 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	
RE19-04-54965	7	Soil	~~8290~~ 8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54965	8	Soil	~~8290~~ 8082	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54966	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54966~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected 09-14-04
RE19-04-54966	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54966	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54966	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54966	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	09-14-04
~~RE19-04-54966~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54966~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	09-14-04 Not collected
RE19-04-54967	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54967~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	09-14-04 Not collected
RE19-04-54967	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54967	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54967	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54967	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	09-14-04
~~RE19-04-54967~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54967~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	09-14-04 Not collected
RE19-04-54968	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54968	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54968	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54968	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	NOT COLLECTED YET
RE19-04-54968	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54968	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	KH 09-14-04
RE19-04-54968	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54968	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	**Date/Time:** 09/14/04 11:40	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 09/14/04 11:40	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54961	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54961	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54961	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54961	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54961	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54962	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54962	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54962	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54962	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54963	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54963	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54963	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54963	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54964	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54964	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54964	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54964	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	

Not Collected Yet
KH 09-14-04

KH Not collected 09-14-04

KH 09-14-04

KH Not collected 09-14-04

Not collected

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/14/04 11:40	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/04 11:40	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54957	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54957~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not Collected 09-14-04
RE19-04-54957	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54957	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54957	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	09-14-04
~~RE19-04-54957~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not Collected
~~RE19-04-54957~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not Collected 09-14-04
RE19-04-54958	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54958	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54958	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54958	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54958	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	NOT COLLECTED YET
RE19-04-54958	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54959	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54959	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54959	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54959	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
RE19-04-54960	2	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54960	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54960	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	7	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54960	8	Soil	8290	125 ML GLASS	Ice	FIELD	SMO	

RELINQUISHED BY (printed name): Kate Herrell (signature):	Date/Time: 09/14/04 11:40	RELINQUISHED BY (printed name): (signature):	Date/Time
RECEIVED BY (printed name): (signature):	Date/Time: 9/14/04 11:40	RECEIVED BY (printed name): (signature):	Date/Time

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54953	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54953~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
RE19-04-54953	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54953	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54953	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54953	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54953~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
~~RE19-04-54953~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
RE19-04-54954	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54954~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54954	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	CAK 09-14-04
RE19-04-54954	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54954	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54954	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54954~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
~~RE19-04-54954~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
RE19-04-54955	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54955~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
RE19-04-54955	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54955	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54955	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54955	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54955~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
~~RE19-04-54955~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
RE19-04-54956	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54956~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54956	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	CAK 09-14-04
RE19-04-54956	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54956	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54956	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54956~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected
~~RE19-04-54956~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CAK 09-14-04 Not collected

RELINQUISHED BY (printed name): Kate Herrell (signature): [signature]	Date/Time: 09/14/04 11:40	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): [signature]	Date/Time: 9/14/04 11:40	RECEIVED BY (printed name): (signature):	Date/Time:

Los Alamos National Laboratory
Environmental Restoration Project
Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 3082

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54945	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54945~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
RE19-04-54945	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54945	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54945	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54945	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54945~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
~~RE19-04-54945~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
RE19-04-54946	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54946~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
RE19-04-54946	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54946	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54946	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54946	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54946~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
~~RE19-04-54946~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
RE19-04-54947	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54947~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
RE19-04-54947	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54947	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54947	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54947	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	CLK 09-14-04
~~RE19-04-54947~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
~~RE19-04-54947~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
RE19-04-54948	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54948~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
RE19-04-54948	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54948	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54948	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54948	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54948~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	CLK 09-14-04 Not collected
~~RE19-04-54948~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	**Date/Time:** 09/14/04 11:40	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 9/14/04 11:40	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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Los Alamos, NM 87545

SUMMARY
FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19/Fixed Lab Analysis

EVENT ID: 308

ER TEAM LEADER: Terry Rust
FIELD TEAM LEADER: Katherine Herrell

DEST. POC:

SAMPLE ID	Container ID	Sample Order	Order	Container Code	PRESERV.	Status	Destination	Special Instructions
RE19-04-54949	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54949~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54949	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54949	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54949	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54949	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54949~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54949~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54950	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54950~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54950	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54950	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54950	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54950	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54950~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54950~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54951	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54951~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54951	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54951	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54951	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54951	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54951~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54951~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54952	1	Soil	GS+TAL Metals	1 L POLY	Ice	FIELD	SMO	
~~RE19-04-54952~~	~~2~~	~~Soil~~	~~8260BENCORE~~	~~5 G ENCORE~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
RE19-04-54952	3	Soil	8260BENCORE	5 G ENCORE	Ice	FIELD	SMO	
RE19-04-54952	4	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54952	5	Soil	8151A	125 ML GLASS	Ice	FIELD	SMO	
RE19-04-54952	6	Soil	8270C+8081A+8082	250 ML GLASS	Ice	FIELD	SMO	
~~RE19-04-54952~~	~~7~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected
~~RE19-04-54952~~	~~8~~	~~Soil~~	~~8290~~	~~125 ML GLASS~~	~~Ice~~	~~FIELD~~	~~SMO~~	Not collected

RELINQUISHED BY (printed name): Kate Herrell (signature):	**Date/Time:** 09/14/04 11:40	**RELINQUISHED BY** (printed name): (signature):	**Date/Tim**
RECEIVED BY (printed name): (signature):	**Date/Time:** 9/14/04 11:40	**RECEIVED BY** (printed name): (signature):	**Date/Tim**

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FIELD CHAIN OF CUSTODY

EVENT NAME: TA-19 Rinsates

COC ID: 155592 Event ID:3662

SAMPLE ID: RE19-04-55095 ER TEAM LEADER: Terry Rust DESTINATION: SMO

SAMPLE ORDER MATRIX: Soil FIELD TEAM LEADER: Katherine Herrell DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8260B	125 SEPTUM AMBER GLASS	Ice	Y	FTB	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 09/14/04 1140	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 9/14/04 1114 8	RECEIVED BY (printed name): (signature):	Date/Time

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EVENT NAME: TA-19 Rinsates

FIELD CHAIN OF CUSTODY

COC ID: 155602 Event ID:3662

SAMPLE ID: RE19-04-55096
ER TEAM LEADER: Terry Rust
DESTINATION: SMO
SAMPLE ORDER MATRIX: Soil
FIELD TEAM LEADER: Katherine Herrell
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8260B	125 SEPTUM AMBER GLASS	Ice	Y	FTB	

RELINQUISHED BY (printed name): Kate Herrell (signature): Kate Herrell	Date/Time: 9/14/04 11:40	RELINQUISHED BY (printed name): (signature):	Date/Time
RECEIVED BY (printed name): (signature):	Date/Time: 9/14, 11:40	RECEIVED BY (printed name): (signature):	Date/Time

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with [illegible]CA activities at SWMU 19-001-99 (TA-72)

COC ID: 215882 **Event ID:** 4752

SAMPLE ID: RE19-05-58686 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		
3	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	**Date/Time:** 3/31/05 1400	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 3/31/05 1420	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215922 **Event ID:** 4752

SAMPLE ID: RE19-05-58706 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature)	**Date/Time:** 3/31/05 1U	**RELINQUISHED BY (printed name):** (signature):	**Date/Time:**
RECEIVED BY	**Date/Time:**	**RECEIVED BY (printed name):**	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with t[illegible]A activities at SWMU 19-001-99 (TA-72)

COC ID: 215862 **Event ID:**4752

SAMPLE ID: RE19-05-58684 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	**Date/Time:** 3/31/05 Hrs	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 3/31/05 14:20	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215872 Event ID:4752

SAMPLE ID: RE19-05-58685
ER TEAM LEADER: Terry Rust
DESTINATION: SMO
SAMPLE ORDER MATRIX: Soil
FIELD TEAM LEADER: Elmer Alcon
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	Date/Time: 3/31/05 1420	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed na (signature):	Date/Time: 3/31/05 14:20	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with t' A activities at SWMU 19-001-99 (TA-72)

COC ID: 216102 **Event ID:** 4752

SAMPLE ID: RE19-05-58708 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		
3	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	**Date/Time:** 3/30/05 1420	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 3/31/05 1420	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215892 Event ID:4752

SAMPLE ID: RE19-05-58687 ER TEAM LEADER: Terry Rust DESTINATION: SMO

SAMPLE ORDER MATRIX: Soil FIELD TEAM LEADER: Elmer Alcon DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		
3	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	Date/Time: 3/31/05 1420	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed na ': (signature)	Date/Time: 3/31/10 1412C	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with t[illegible] [illegible]A activities a[illegible] SWMU 19-001-99 (TA-72)

COC ID: 215842 **Event ID:** 4752

SAMPLE ID: RE19-05-58682 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8082	125 ML GLASS	Ice	Y		
2	8082	125 ML GLASS	Ice	Y		
3	8290	125 ML GLASS	Ice	Y		
4	8290	125 ML GLASS	Ice	Y		
5	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	**Date/Time:** 3/30/05 1420	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 3/31/05 1412	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215852 **Event ID:** 4752

SAMPLE ID: RE19-05-58683 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8082	125 ML GLASS	Ice	Y		
2	8082	125 ML GLASS	Ice	Y		
3	8290	125 ML GLASS	Ice	Y		
4	8290	125 ML GLASS	Ice	Y		
5	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	**Date/Time:** 3/31/05 1420	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED (printed name):	**Date/Tin** 3/31/05	**RECEIVED BY** (printed name):	**Date/Time:**

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Los Alamos, NM 87545

FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with t A activities at SWMU 19-001-99 (TA-72)

COC ID: 215902 **Event ID:** 4752

SAMPLE ID: RE19-05-58688 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	Date/Time: 3/31/05 1420	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 3/31/05 1412C	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215912 **Event ID:** 4752

SAMPLE ID: RE19-05-58689 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): (signature):	**Date/Time:** 3/30/05 1420	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed na (signature):	**Date/Time:** 3/30/05 1420	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the [illegible] activities at SWMU 19-001-99 (TA-72)

COC ID: 215932 Event ID:4752

SAMPLE ID: RE19-05-58707
ER TEAM LEADER: Terry Rust
DESTINATION: SMO
SAMPLE ORDER MATRIX: Soil
FIELD TEAM LEADER: Elmer Alcon
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Poller (signature): Margaret Poller	Date/Time: 4/1/05 1640	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): Augustine Poole	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 216012 Event ID:4752

SAMPLE ID: RE19-05-58699
ER TEAM LEADER: Terry Rust
DESTINATION: SMO
SAMPLE ORDER MATRIX: Soil
FIELD TEAM LEADER: Elmer Alcon
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	Date/Time: 4/1/05-1640	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): Augusta Rodier	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the activities at SWMU 19-001-99 (TA-72)

COC ID: 216002 **Event ID:**4752

SAMPLE ID: RE19-05-58698 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	Date/Time: 4/1/05 1640	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature):	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 216032 **Event ID:**4752

SAMPLE ID: RE19-05-58701 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polles (signature): Margaret Polles	**Date/Time:** 4/1/05 1640	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the activities at SWMU 19-001-99 (TA-72)

COC ID: 216022 **Event ID:** 4752

SAMPLE ID: RE19-05-58700 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05 1639	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature): [illegible]	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215992 **Event ID:**4752

SAMPLE ID: RE19-05-58697 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	Date/Time: 4/1/05 1635	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): Augustin Poder	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the [illegible] activities at SWMU 19-001-99 (TA-72)

COC ID: 215982 **Event ID:** 4752

SAMPLE ID: RE19-05-58696 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret S Polley	Date/Time: 4/1/05-1639	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): [illegible]	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

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Environmental Restoration Project
Los Alamos, NM 87545

FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215952 **Event ID:**4752

SAMPLE ID: RE19-05-58693 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8081A+8082	250 ML AMBER GLASS	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05-1639	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature): Augustin Pardi	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

Los Alamos Na(Laboratory
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Los Alamos, NM 87545

FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with th . activities at SWMU 19-001-99 (TA-72)

COC ID: 215942 **Event ID:**4752

SAMPLE ID: RE19-05-58692 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8081A+8082	250 ML AMBER GLASS	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	Date/Time: 4/1/05 1638	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): Augusta Padilla	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 216112 **Event ID:**4752

SAMPLE ID: RE19-05-58709 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		
3	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05 1638	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature): [illegible]	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with th[illegible] activities at SWMU 19-001-99 (TA-72)

COC ID: 216052 **Event ID:**4752

SAMPLE ID: RE19-05-58691 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8082	125 ML GLASS	Ice	Y		
2	8082	125 ML GLASS	Ice	Y		
3	8151A	125 ML GLASS	Ice	Y		
4	8151A	125 ML GLASS	Ice	Y		
5	8270C	125 ML GLASS	Ice	Y		
6	8270C	125 ML GLASS	Ice	Y		

RELINQUISHED BY (printed name): Margaret S. Polly (signature): Margaret Polly	**Date/Time:** 4/1/05 1645	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature): [illegible]	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 216062 Event ID:4752

SAMPLE ID: RE19-05-58702 ER TEAM LEADER: Terry Rust DESTINATION: SMO

SAMPLE ORDER MATRIX: Soil FIELD TEAM LEADER: Elmer Alcon DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	Date/Time: 4/1/05 1635	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): [illegible]	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the activities at SWMU 19-001-99 (TA-72)

COC ID: 216042 **Event ID:**4752

SAMPLE ID: RE19-05-58690 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8082	125 ML GLASS	Ice	Y		
2	8082	125 ML GLASS	Ice	Y		
3	8151A	125 ML GLASS	Ice	Y		
4	8151A	125 ML GLASS	Ice	Y		
5	8270C	125 ML GLASS	Ice	Y		
6	8270C	125 ML GLASS	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05-1615	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature): Augusta Pacelin	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 215972 **Event ID:**4752

SAMPLE ID: RE19-05-58695 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		
3	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05 1638	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature): [illegible]	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the activities at SWMU 19-001-99 (TA-72)

COC ID: 215962 **Event ID:** 4752

SAMPLE ID: RE19-05-58694 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	8270C	125 ML GLASS	Ice	Y		
2	8270C	125 ML GLASS	Ice	Y		
3	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05 1637	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature):	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 216092 **Event ID:**4752

SAMPLE ID: RE19-05-58705 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05-1637	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed na (signature):	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the activities at SWMU 19-001-99 (TA-72)

COC ID: 216082 **Event ID:**4752

SAMPLE ID: RE19-05-58704 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY	Date/Time:	RELINQUISHED BY	Date/Time:
(printed name): Margaret Polley (signature): Margaret Polly	4/1/05 1636	(printed name): (signature):	
RECEIVED BY	**Date/Time:**	**RECEIVED BY**	**Date/Time:**
(printed name): (signature): Agnette Pacle	4/1/05 1645	(printed name): (signature):	

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the ACA activities at SWMU 19-001-99 (TA-72)

COC ID: 216122 **Event ID:** 4752

SAMPLE ID: RE19-05-58710 **ER TEAM LEADER:** Terry Rust **DESTINATION:** SMO

SAMPLE ORDER MATRIX: Soil **FIELD TEAM LEADER:** Elmer Alcon **DEST. POC:**

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	**Date/Time:** 4/1/05 1636	**RELINQUISHED BY** (printed name): (signature):	**Date/Time:**
RECEIVED BY (printed name): (signature): Augustin Padron	**Date/Time:** 4/1/05 1645	**RECEIVED BY** (printed name): (signature):	**Date/Time:**

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FIELD CHAIN OF CUSTODY

EVENT NAME: Additional Surface Sampling Associated with the activities at SWMU 19-001-99 (TA-72)

COC ID: 216072 Event ID:4752

SAMPLE ID: RE19-05-58703
ER TEAM LEADER: Terry Rust
DESTINATION: SMO
SAMPLE ORDER MATRIX: Soil
FIELD TEAM LEADER: Elmer Alcon
DEST. POC:

ANALYSES REQUESTED

CONT. ID	ORDER	CONTAINER DESCRIPTION	PRESERVATIVE	COLLECTED Y / N	REASON	SPECIAL INSTRUCTIONS
1	METALS-GEL	125 ML POLY	Ice	Y		

RELINQUISHED BY (printed name): Margaret Polley (signature): Margaret Polley	Date/Time: 4/1/05 1635	RELINQUISHED BY (printed name): (signature):	Date/Time:
RECEIVED BY (printed name): (signature): Augusta Padilla	Date/Time: 4/1/05 1645	RECEIVED BY (printed name): (signature):	Date/Time:

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number):

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

The following samples do not require rad screening data for the reasons stated (list sample numbers): RE19-05-58690

-58691	-58709	-58698
-58702	-58692	-58699
-58703	-58693	-58707
-58710	-58696	
-58704	-58697	
-58705	-58700	
-58694	-58701	
-58695	-~~58~~	

04-01-05

Reason: Rad surveyed by HSR-1. See SCLs for results.

Print Last Name Ancell Signature Carrie Ancell Date 04-01-05

Attachment C3

Electronic Database
(CD included with this document)

URI	SEQ_NUM	REQUEST_NUM	SAMPLE_ID	LAB_REPORT_N	EXCAV_FLAG	COMPOS_TYPE_C	SAMPLE_TECH_C	SAMPLE_USG_CD	FIELD_PREP	PRS	PRS_ORDER	LOCATION_ID	BEGIN_DEPTH	END_DEPTH	DEPTH_UNITS	FIELD_MATRIX_CD	MATRIX	MEDIA_CODE	RFI_CLASS	ANALYTE_CODE	ANALYTE_NAME	PERCENT_MOIST	IDL	MDL	MDA	QUANT_LMT	DLC	DILUTION_FACT	TEXT_RESULT	SAMPLE_VALUE	UNCERTAINTY	REPORTING_UNITS	CONVERTED_SAMPLE_VAL	CONVERTED_UNCERTAINTY	REPORTING_	FLM_QUAL	REASON_CD	LAB_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	FIELD_QC_TYPE	SAMPLE_TYPE_C	ANALYTICAL_SU	ANL_METH_CD	LAB_CODE	LAB_NAME	ANALYSIS_DATE	SHIPPING_DATE	COLLECTION_DATE
33394492	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	106-44-5	]	0		0.003		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394612	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	106-44-5	]	0		0.003		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394332	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	106-46-7	e[1,4-]	0		0.0025		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394432	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	106-46-7	e[1,4-]	0		0.0025		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394472	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	106-46-7	e[1,4-]	0		0.0016		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394592	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	106-46-7	e[1,4-]	0		0.0016		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394292	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	107-06-2	1,2-]	0		0.0029		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394392	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	107-06-2	1,2-]	0		0.0029		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394322	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	108-90-7	Chlorobenzene	0		0.0032		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394422	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	108-90-7	Chlorobenzene	0		0.0032		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394462	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	110-86-1	Pyridine	0		0.025		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394582	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	110-86-1	Pyridine	0		0.025		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394562	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	118-74-1	ene	0		0.0033		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394682	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	118-74-1	ene	0		0.0033		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394572	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	121-14-2	4-]	0		0.0035		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394692	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	121-14-2	4-]	0		0.0035		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394312	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	127-18-4	ne	0		0.0033		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394412	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	127-18-4	ne	0		0.0033		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394282	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	56-23-5	Tetrachloride	0		0.0029		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394382	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	56-23-5	Tetrachloride	0		0.0029		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394272	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	67-66-3	Chloroform	0		0.0036		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394372	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	67-66-3	Chloroform	0		0.0036		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394502	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	67-72-1	ne	0		0.0022		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394622	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	67-72-1	ne	0		0.0022		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394442	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	71-43-2	Benzene	0		0.0025		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394452	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	71-43-2	Benzene	0		0.0025		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394242	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	75-01-4	Vinyl Chloride	0		0.0055		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394342	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	75-01-4	Vinyl Chloride	0		0.0055		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394252	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	75-35-4	1,1-]	0		0.0041		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394352	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	75-35-4	1,1-]	0		0.0041		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394262	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	78-93-3	Butanone[2-]	0		0.023		0.05		10		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394362	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	78-93-3	Butanone[2-]	0		0.023		0.05		10		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394302	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	79-01-6	Trichloroethene	0		0.0036		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394402	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	79-01-6	Trichloroethene	0		0.0036		0.01		10		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	VOC_TCLP	846:8260B_TCL	GEL	Engineering	21-Sep-04	14-Sep-04	10-Sep-04
33394522	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	87-68-3	diene	0		0.0016		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394642	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	87-68-3	diene	0		0.0016		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394552	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	87-86-5	nol	0		0.025		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394672	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	87-86-5	nol	0		0.025		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394532	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	88-06-2	2,4,6-]	0		0.002		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394652	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	88-06-2	2,4,6-]	0		0.002		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394482	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	95-48-7	]	0		0.0023		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394602	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	95-48-7	]	0		0.0023		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394542	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	95-95-4	2,4,5-]	0		0.0049		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394662	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	95-95-4	2,4,5-]	0		0.0049		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394512	1	2304S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	ORGANIC	98-95-3	Nitrobenzene	0		0.0032		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33394632	1	2304S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	ORGANIC	98-95-3	Nitrobenzene	0		0.0032		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SVOC_TCLP	846:8270C_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33287602	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH		AG	Silver	0		0.0008		0.01		1		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287682	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH		AG	Silver	0		0.0008		0.01		1		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287532	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH		AS	Arsenic	0		0.018		0.03		1		0.03		MG/L	30		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287612	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH		AS	Arsenic	0		0.018		0.03		1		0.03		MG/L	30		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287542	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH		BA	Barium	0		0.0018		0.02		1		0.2		MG/L	200		UG/L	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287622	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH		BA	Barium	0		0.0018		0.02		1		0.33		MG/L	330		UG/L	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287552	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH		CD	Cadmium	0		0.0009		0.01		1		0.022		MG/L	22		UG/L	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287632	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH		CD	Cadmium	0		0.0009		0.01		1		0.01		MG/L	10		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287562	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH		CR	Chromium	0		0.01		0.03		1		0.021		MG/L	21		UG/L	U	I4a	B	U	J	U		I4a	I1	I4a		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287642	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH		CR	Chromium	0		0.01		0.03		1		0.025		MG/L	25		UG/L	U	I4a	B	U	J	U		I4a	I1	I4a		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287582	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH	INORGANIC	HG	Mercury	0		0.00047		0.002		1		0.00061		MG/L	0.61		UG/L	U	I4a	B	U	J	U		I4a	I1	I4a		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	METAL_TCLP	846:7470A_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33287662	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH	INORGANIC	HG	Mercury	0		0.00047		0.002		1		0.00055		MG/L	0.55		UG/L	U	I4a	B	U	J	U		I4a	I1	I4a		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	METAL_TCLP	846:7470A_TCL	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33287572	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH		PB	Lead	0		0.0007		0.02		1		0.17		MG/L	170		UG/L	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287652	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH		PB	Lead	0		0.0007		0.02		1		0.0091		MG/L	9.1		UG/L	J	I1	B	J	J			I1	I1			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287592	1	2305S	RE19-04-55097		N	NA	SS	WST	Not Applicable		0	19-01266	0	0.5	FT	S	SO	ALLH		SE	Selenium	0		0.01		0.05		1		0.05		MG/L	50		UG/L	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04
33287672	1	2305S	RE19-04-55098		N	NA	SS	WST	Not Applicable		0	19-01268	0	0.5	FT	S	SO	ALLH		SE	Selenium	0		0.01		0.05		1		0.01		MG/L	10		UG/L	U	I4a	B	U	J	U		I4a	I1	I4a		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS		846:6020_TCLP	GEL	Engineering	09-Oct-04	14-Sep-04	10-Sep-04

URI	SEQ_NUM	REQUEST_NUM	SAMPLE_ID	LAB_REPORT_N	EXCAV_FLAG	COMPOS_TYPE_C	SAMPLE_TECH_C	SAMPLE_USG_CD	FIELD_PREP	PRS	PRS_ORDER	LOCATION_ID	BEGIN_DEPTH	END_DEPTH	DEPTH_UNITS	FIELD_MATRIX_CD	MATRIX	MEDIA_CODE	RFI_CLASS	ANALYTE_CODE	ANALYTE_NAME	PERCENT_MOIST	IDL	MDL	MDA	QUANT_LMT	DLC	DILUTION_FACT	TEXT_RESULT	SAMPLE_VALUE	UNCERTAINTY	REPORTING_UNITS	STD_SAMPLE_VALUE	STD_UNCERTAINTY	REPORTING	FU4_QUAL	REASON_CODE	LAB_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	FLD_QC_TYPE_C	SAMPLE_TYPE_C	ANALYTICAL_SU	ANL_METH_CO	LAB_CODE	LAB_NAME	ANALYSIS_DATE	SHIPPING_DATE	COLLECTION_DATE
33381182	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	100-01-6	Nitroaniline[4-]	2.2		150		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381102	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	100-02-7	Nitrophenol[4-]	2.2		680		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380482	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	100-51-6	Benzyl Alcohol	2.2		680		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381242	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	101-55-3	phenylether[4-]	2.2		140		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381222	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	103-33-3	Azobenzene	2.2		110		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380662	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	105-67-9	2,4-]	2.2		680		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380582	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	106-44-5	]	2.2		140		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380462	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	106-46-7	e[1,4-]	2.2		64		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380782	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	106-47-8	]	2.2		680		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380522	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	108-60-1	chloropropane)[	2.2		45		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380382	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	108-95-2	Phenol	2.2		52		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380342	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	110-86-1	Pyridine	2.2		680		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380402	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	111-44-4	chloroethyl)ethe	2.2		150		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380682	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	111-91-1	chloroethoxy)m	2.2		51		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381452	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	117-81-7	ethylhexyl)phtha	2.2		31		170		1		7500		UG/KG	7.5		MG/KG	R	SV19	E	NQ	R	R	R	NQ	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	CS	SVOC	SW-846:8270C	GEL	Engineering	05-Oct-04	14-Sep-04	13-Sep-04
33381482	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	117-84-0	octylphthalate	2.2		120		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381622	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	118-74-1	ene	2.2		82		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381302	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	120-12-7	Anthracene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380742	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	120-82-1	e[1,2,4-]	2.2		52		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380702	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	120-83-2	2,4-]	2.2		85		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381642	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	121-14-2	4-]	2.2		100		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381202	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	122-39-4	Diphenylamine	2.2		91		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381362	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	129-00-0	Pyrene	2.2		68		140		4		128		UG/KG	0.128		MG/KG	R	SV19	JD	NQ	R	R	R	NQ	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380982	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	131-11-3	Phthalate	2.2		75		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381062	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	132-64-9	Dibenzofuran	2.2		70		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381602	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	191-24-2	ylene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381562	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	193-39-5	cd)pyrene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381502	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	205-99-2	thene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381342	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	206-44-0	Fluoranthene	2.2		68		140		4		175		UG/KG	0.175		MG/KG	R	SV19	D	NQ	R	R	R	NQ	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381522	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	207-08-9	thene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381002	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	208-96-8	Acenaphthylene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381442	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	218-01-9	Chrysene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381542	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	50-32-8	Benzo(a)pyrene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381042	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	51-28-5	4-]	2.2		680		2700		4		2730		UG/KG	2.73		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381162	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	534-52-1	methylphenol[4,	2.2		680		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33381582	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	53-70-3	racene	2.2		68		140		4		136		UG/KG	0.136		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04
33380442	1	2307S	RE19-04-54953		N	NA	SS	INV	Not Applicable		0	19-22628	0	0.5	FT	S	SO	ALLH	ORGANIC	541-73-1	e[1,3-]	2.2		46		1400		4		1360		UG/KG	1.36		MG/KG	R	SV19	U	U	R	R	R	U_LAB	SV19	SV19	SV19	ROUTINE03	ROUTINE03	ROUTINE03	ROUTINE03	NA	DL	SVOC	SW-846:8270C	GEL	Engineering	06-Oct-04	14-Sep-04	13-Sep-04

URI	SEQ_NUM	REQUEST_NUM	SAMPLE_ID	LAB_REPORT_N	EXCAV_FLAG	COMPOS_TYPE_C	SAMPLE_TECH_C	SAMPLE_USG_CO	FIELD_PREP	PRS	PRS_ORDER	LOCATION_ID	BEGIN_DEPTH	END_DEPTH	DEPTH_UNITS	FIELD_MATRIX_CO	MATRIX	MEDIA_CODE	RFI_CLASS	ANALYTE_CODE	ANALYTE_NAME	PERCENT_MOIST	IDL	MDL	MDA	QUANT_LMT	DLC	DILUTION_FACT	TEXT_RESULT	SAMPLE_VALUE	UNCERTAINTY	REPORTING_UN	STD_SAMPLE_VA	STD_UNCERTAIN	REPORTING_	FUI_QUAL	REASON_CO	LAB_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	QC_TYPE_C	SAMPLE_TYPE_C	ANALYTICAL_SU	ANL_METH_CO	LAB_CODE	LAB_NAME	ANALYSIS_DATE	SHIPPING_DATE	COLLECTION_DATE
33244942	1	2306S	RE19-04-55093		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-41-4	Ethylbenzene	0.6		0.38		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33245562	1	2309S	RE19-04-55095		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-41-4	Ethylbenzene	0		0.38		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246182	1	2309S	RE19-04-55096		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-41-4	Ethylbenzene	0		0.38		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246802	1	2318S	RE19-04-55092		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-41-4	Ethylbenzene	0		0.38		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	28-Sep-04	15-Sep-04	09-Sep-04
33247422	1	2318S	RE19-04-55094		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-41-4	Ethylbenzene	0.57		0.38		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	29-Sep-04	15-Sep-04	10-Sep-04
33276372	1	2275S	RE19-04-55091		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-41-4	Ethylbenzene	0		0.38		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	20-Sep-04	10-Sep-04	08-Sep-04
33244972	1	2306S	RE19-04-55093		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-42-5	Styrene	0.6		0.39		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33245592	1	2309S	RE19-04-55095		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-42-5	Styrene	0		0.39		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246212	1	2309S	RE19-04-55096		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-42-5	Styrene	0		0.39		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246832	1	2318S	RE19-04-55092		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-42-5	Styrene	0		0.39		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	28-Sep-04	15-Sep-04	09-Sep-04
33247452	1	2318S	RE19-04-55094		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-42-5	Styrene	0.57		0.39		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	29-Sep-04	15-Sep-04	10-Sep-04
33276402	1	2275S	RE19-04-55091		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	100-42-5	Styrene	0		0.39		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	20-Sep-04	10-Sep-04	08-Sep-04
33244822	1	2306S	RE19-04-55093		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-01-5	e[cis-1,3-]	0.6		0.43		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33245442	1	2309S	RE19-04-55095		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-01-5	e[cis-1,3-]	0		0.43		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246062	1	2309S	RE19-04-55096		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-01-5	e[cis-1,3-]	0		0.43		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246682	1	2318S	RE19-04-55092		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-01-5	e[cis-1,3-]	0		0.43		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	28-Sep-04	15-Sep-04	09-Sep-04
33247302	1	2318S	RE19-04-55094		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-01-5	e[cis-1,3-]	0.57		0.43		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	29-Sep-04	15-Sep-04	10-Sep-04
33276252	1	2275S	RE19-04-55091		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-01-5	e[cis-1,3-]	0		0.43		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	20-Sep-04	10-Sep-04	08-Sep-04
33244852	1	2306S	RE19-04-55093		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-02-6	e[trans-1,3-]	0.6		0.25		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33245472	1	2309S	RE19-04-55095		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-02-6	e[trans-1,3-]	0		0.25		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246092	1	2309S	RE19-04-55096		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-02-6	e[trans-1,3-]	0		0.25		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246712	1	2318S	RE19-04-55092		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-02-6	e[trans-1,3-]	0		0.25		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	28-Sep-04	15-Sep-04	09-Sep-04
33247332	1	2318S	RE19-04-55094		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-02-6	e[trans-1,3-]	0.57		0.25		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	29-Sep-04	15-Sep-04	10-Sep-04
33276282	1	2275S	RE19-04-55091		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	10061-02-6	e[trans-1,3-]	0		0.25		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	20-Sep-04	10-Sep-04	08-Sep-04
33245032	1	2306S	RE19-04-55093		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	103-65-1	1-]	0.6		0.36		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	10-Sep-04
33245652	1	2309S	RE19-04-55095		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	103-65-1	1-]	0		0.36		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246272	1	2309S	RE19-04-55096		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	103-65-1	1-]	0		0.36		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	23-Sep-04	14-Sep-04	13-Sep-04
33246892	1	2318S	RE19-04-55092		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	103-65-1	1-]	0		0.36		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	28-Sep-04	15-Sep-04	09-Sep-04
33247512	1	2318S	RE19-04-55094		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	103-65-1	1-]	0.57		0.36		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	29-Sep-04	15-Sep-04	10-Sep-04
33276462	1	2275S	RE19-04-55091		N	NA	DC	QC	Not Applicable		0	NA	0	0	FT	S	SO	NA	ORGANIC	103-65-1	1-]	0		0.36		1		1		1		UG/KG	0.001		MG/KG			U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			FTB	CS	VOC	SW-846:8260B	GEL	Engineering	20-Sep-04	10-Sep-04	08-Sep-04
[illegible]																																																											

SAMPLE_ID	NALYTE_NAM	NALYTICAL_SU	URI	SEQ_NUM	REQUEST_NUM	B_REPORT_N	EXCAV_FLAG	MPOS_TYPE_C	MPLE_TECH_C	MPLE_USG_CD	FIELD_PREP	PRS	PRS_ORDER	LOCATION_ID	BEGIN_DEPTH	END_DEPTH	DEPTH_UNITS	D_MATRIX_CO	MATRIX	MEDIA_CODE	RFI_CLASS	NALYTE_COD	RCENT_MOIST	IDL	MDL	MDA	QUANT_LMT	DLC	ILUTION_FACT	TEXT_RESULT	SAMPLE_VALU	UNCERTAINTY	EPORTING_UN	D_SAMPLE_VA	D_UNCERTAIN	REPORTING_	FU4_QUAL	I_REASON_CO	LAB_QUALIFIE	NL_QUALIFIER	NL_QUALIFIER	NL_QUALIFIER	NL_QUALIFIER	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	D_QC_TYPE_C	MPLE_TYPE_C	NYL_METH_CO	LAB_CODE	LAB_NAME	NALYSIS_DAT	HIPPING_DAT	OLLECTION_DAT
RE19-04-54958	Bromomethane	VOC	33426512	1	2319S		N	NA	SS	INV	Not Applicable		0	19-01002	0	0.5	FT	S	SO	ALLH	ORGANIC	74-83-9	6.8		0.54		1.1		1		1.1		UG/KG	0.0011		MG/KG	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SW-846:8260B	GEL	Engineering	24-Sep-04	15-Sep-04	09-Sep-04
RE19-04-54958	Chloromethane	VOC	33426492	1	2319S		N	NA	SS	INV	Not Applicable		0	19-01002	0	0.5	FT	S	SO	ALLH	ORGANIC	74-87-3	6.8		0.4		1.1		1		1.1		UG/KG	0.0011		MG/KG	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SW-846:8260B	GEL	Engineering	24-Sep-04	15-Sep-04	09-Sep-04
RE19-04-54958	Chloroethane	VOC	33426522	1	2319S		N	NA	SS	INV	Not Applicable		0	19-01002	0	0.5	FT	S	SO	ALLH	ORGANIC	75-00-3	6.8		0.87		1.1		1		1.1		UG/KG	0.0011		MG/KG	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SW-846:8260B	GEL	Engineering	24-Sep-04	15-Sep-04	09-Sep-04
RE19-04-54958	Vinyl Chloride	VOC	33426582	1	2319S		N	NA	SS	INV	Not Applicable		0	19-01002	0	0.5	FT	S	SO	ALLH	ORGANIC	75-01-4	6.8		0.6		1.1		1		1.1		UG/KG	0.0011		MG/KG	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SW-846:8260B	GEL	Engineering	24-Sep-04	15-Sep-04	09-Sep-04
RE19-04-54958	1,1-]	VOC	33426542	1	2319S		N	NA	SS	INV	Not Applicable		0	19-01002	0	0.5	FT	S	SO	ALLH	ORGANIC	75-35-4	6.8		0.54		1.1		1		1.1		UG/KG	0.0011		MG/KG	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SW-846:8260B	GEL	Engineering	24-Sep-04	15-Sep-04	09-Sep-04
RE19-04-54958	ethane	VOC	33426532	1	2319S		N	NA	SS	INV	Not Applicable		0	19-01002	0	0.5	FT	S	SO	ALLH	ORGANIC	75-69-4	6.8		0.54		1.1		1		1.1		UG/KG	0.0011		MG/KG	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SW-846:8260B	GEL	Engineering	24-Sep-04	15-Sep-04	09-Sep-04
RE19-04-54958	methane	VOC	33426482	1	2319S		N	NA	SS	INV	Not Applicable		0	19-01002	0	0.5	FT	S	SO	ALLH	ORGANIC	75-71-8	6.8		0.89		1.1		1		1.1		UG/KG	0.0011		MG/KG	U	U_LAB	U	U	U			U_LAB	U_LAB			ROUTINE03	ROUTINE03			NA	CS	SW-846:8260B	GEL	Engineering	24-Sep-04	15-Sep-04	09-Sep-04

URI	SEQ_NUM	REQUEST_NUM	SAMPLE_ID	LAB_REPORT_N	EXCAV_FLAG	COMPOS_TYPE_C	SAMPLE_TECH_C	SAMPLE_USG_CD	FIELD_PREP	PRS	PRS_ORDER	LOCATION_ID	BEGIN_DEPTH	END_DEPTH	DEPTH_UNITS	FIELD_MATRIX_CD	MATRIX	MEDIA_CODE	RFI_CLASS	ANALYTE_CODE	ANALYTE_NAME	PERCENT_MOIST	IDL	MDL	MDA	QUANT_LMT	DLC	DILUTION_FACT	TEXT_RESULT	SAMPLE_VALUE	UNCERTAINTY	REPORTING_UNITS	STD_SAMPLE_VAL	STD_UNCERTAINTY	REPORTING	FUM_QUAL	REASON_CD	LAB_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	ANL_QUALIFIER	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	QUALIFIER_RE	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	SET_TYPE_C	FIELD_QC_TYPE	SAMPLE_TYPE_C	ANALYTICAL_SUITE	ANLYT_METH_CD	LAB_CODE	LAB_NAME	ANALYSIS_DATE	SHIPPING_DATE	COLLECTION_DATE
33434082	1	2320S	RE19-04-54961		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01013	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.096		0.046	1		1.32	0.086	PCI/G	1.32	0.086	PCI/G	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	11-Oct-04	15-Sep-04	09-Sep-04
33291352	1	2308S	RE19-04-54966		N	NA	HA	QC	Not Applicable	19-001-99	0	19-22608	3	3.5	FT	R	SO	QBT3	RAD	BI-214	Bismuth-214	0			0.072		0.034	1		1.1	0.068	PCI/G	1.1	0.068	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		FD	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33433562	1	2320S	RE19-04-54959		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01007	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.055		0.027	1		1.43	0.038	PCI/G	1.43	0.038	PCI/G	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	15-Sep-04	09-Sep-04
33433822	1	2320S	RE19-04-54960		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01016	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.11		0.052	1		1.44	0.11	PCI/G	1.44	0.11	PCI/G	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	15-Sep-04	09-Sep-04
33250262	1	2274S	RE19-04-54976		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23264	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.071		0.034	1		1.39	0.088	PCI/G	1.39	0.088	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33291612	1	2308S	RE19-04-54967		N	NA	SS	QC	Not Applicable	19-001-99	0	19-22607	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.13		0.06	1		1.54	0.12	PCI/G	1.54	0.12	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		FD	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33250522	1	2274S	RE19-04-54977		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23265	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.077		0.037	1		1.28	0.085	PCI/G	1.28	0.085	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33250782	1	2274S	RE19-04-54978		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23266	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.072		0.035	1		1.24	0.076	PCI/G	1.24	0.076	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33291872	1	2308S	RE19-04-54979		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23267	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.079		0.038	1		1.44	0.093	PCI/G	1.44	0.093	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33292132	1	2308S	RE19-04-54980		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23268	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.069		0.033	1		1.27	0.075	PCI/G	1.27	0.075	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33251042	1	2274S	RE19-04-54992		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23264	3.5	4	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.08		0.038	1		1.48	0.09	PCI/G	1.48	0.09	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33251302	1	2274S	RE19-04-54993		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23265	3.5	4	FT	R	SO	QBT3	RAD	BI-214	Bismuth-214	0			0.09		0.043	1		1.7	0.11	PCI/G	1.7	0.11	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33251562	1	2274S	RE19-04-54994		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23266	3.5	4	FT	R	SO	QBT3	RAD	BI-214	Bismuth-214	0			0.078		0.037	1		1.71	0.1	PCI/G	1.71	0.1	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33292392	1	2308S	RE19-04-54995		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23267	3.5	4	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.08		0.038	1		1.54	0.067	PCI/G	1.54	0.067	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33292652	1	2308S	RE19-04-54996		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23268	2.5	3	FT	R	SO	QBT4	RAD	BI-214	Bismuth-214	0			0.061		0.029	1		1.49	0.051	PCI/G	1.49	0.051	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33251822	1	2274S	RE19-04-54997		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22629	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.11		0.054	1		1.33	0.1	PCI/G	1.33	0.1	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33291092	1	2308S	RE19-04-54964		N	NA	SS	QC	Not Applicable	19-001-99	0	19-23267	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.075		0.036	1		1.6	0.095	PCI/G	1.6	0.095	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		FD	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33287712	1	2308S	RE19-04-54945		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22598	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.07		0.034	1		1.07	0.073	PCI/G	1.07	0.073	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33287972	1	2308S	RE19-04-54946		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22608	3	3.5	FT	R	SO	QBT3	RAD	BI-214	Bismuth-214	0			0.074		0.035	1		1.24	0.072	PCI/G	1.24	0.072	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33288232	1	2308S	RE19-04-54947		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22620	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.076		0.036	1		1.15	0.082	PCI/G	1.15	0.082	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33288492	1	2308S	RE19-04-54948		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22607	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.076		0.037	1		1.31	0.074	PCI/G	1.31	0.074	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33288752	1	2308S	RE19-04-54949		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22599	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.11		0.05	1		0.972	0.087	PCI/G	0.972	0.087	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33289012	1	2308S	RE19-04-54950		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22608	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.066		0.031	1		1.12	0.066	PCI/G	1.12	0.066	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33289272	1	2308S	RE19-04-54951		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22627	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.074		0.035	1		1.05	0.071	PCI/G	1.05	0.071	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33289532	1	2308S	RE19-04-54952		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22604	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.073		0.035	1		1.1	0.072	PCI/G	1.1	0.072	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33289792	1	2308S	RE19-04-54953		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22628	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.064		0.03	1		1.04	0.05	PCI/G	1.04	0.05	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33290832	1	2308S	RE19-04-54957		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22621	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.1		0.048	1		1.27	0.074	PCI/G	1.27	0.074	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33290052	1	2308S	RE19-04-54954		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22615	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.075		0.036	1		1.02	0.067	PCI/G	1.02	0.067	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33290312	1	2308S	RE19-04-54955		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22606	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.068		0.032	1		0.872	0.051	PCI/G	0.872	0.051	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33290572	1	2308S	RE19-04-54956		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22627	2	2.5	FT	R	SO	QBT3	RAD	BI-214	Bismuth-214	0			0.074		0.035	1		1.09	0.074	PCI/G	1.09	0.074	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33433302	1	2320S	RE19-04-54958		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01002	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.068		0.033	1		1.32	0.075	PCI/G	1.32	0.075	PCI/G	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	15-Sep-04	09-Sep-04
33434342	1	2320S	RE19-04-54963		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01028	0	0.5	FT	S	SO	ALLH	RAD	BI-214	Bismuth-214	0			0.092		0.044	1		1.39	0.06	PCI/G	1.39	0.06	PCI/G	NQ	NQ		NQ	NQ			NQ	NQ			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	11-Oct-04	15-Sep-04	10-Sep-04
33252082	1	2274S	RE19-04-54998		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22629	1.5	2	FT	R	SO	QBT3	RAD	BI-214	Bismuth-214	0			0.08		0.038	1		1.99	0.11	PCI/G	1.99	0.11	PCI/G	NQ	NQ		NQ	NQ	NQ		NQ	NQ	NQ		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04

33289762	1	2308S	RE19-04-54952		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22604	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.045		0.02	1		0.00549	0.012	PCI/G	0.00549	0.012	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33290022	1	2308S	RE19-04-54953		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22628	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.04		0.018	1		0.0139	0.0099	PCI/G	0.0139	0.0099	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33291062	1	2308S	RE19-04-54957		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22621	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.055		0.024	1		-0.00173	0.015	PCI/G	-0.00173	0.015	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33290542	1	2308S	RE19-04-54955		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22606	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.034		0.015	1		-0.00825	0.0094	PCI/G	-0.00825	0.0094	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33290802	1	2308S	RE19-04-54956		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22627	2	2.5	FT	R	SO	QBT3	RAD	Y-88	Yttrium-88	0		0.041		0.018	1		0.00356	0.01	PCI/G	0.00356	0.01	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33434052	1	2320S	RE19-04-54960		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01016	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.065		0.03	1		0.0147	0.019	PCI/G	0.0147	0.019	PCI/G	U	RS	U	U	U			RS	RS			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	15-Sep-04	09-Sep-04
33434312	1	2320S	RE19-04-54961		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01013	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.052		0.023	1		0.00948	0.015	PCI/G	0.00948	0.015	PCI/G	U	RS	U	U	U			RS	RS			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	11-Oct-04	15-Sep-04	09-Sep-04
33434572	1	2320S	RE19-04-54963		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01028	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.057		0.026	1		0.00282	0.015	PCI/G	0.00282	0.015	PCI/G	U	RS	U	U	U			RS	RS			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	11-Oct-04	15-Sep-04	10-Sep-04
33433532	1	2320S	RE19-04-54958		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01002	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.042		0.019	1		0.0101	0.011	PCI/G	0.0101	0.011	PCI/G	U	RS	U	U	U			RS	RS			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	15-Sep-04	09-Sep-04
33433792	1	2320S	RE19-04-54959		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01007	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.029		0.014	1		0.00211	0.0083	PCI/G	0.00211	0.0083	PCI/G	U	RS	U	U	U			RS	RS			ROUTINE03	ROUTINE03			NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	15-Sep-04	09-Sep-04
33291582	1	2308S	RE19-04-54966		N	NA	HA	QC	Not Applicable	19-001-99	0	19-22608	3	3.5	FT	R	SO	QBT3	RAD	Y-88	Yttrium-88	0		0.043		0.019	1		0.0193	0.01	PCI/G	0.0193	0.01	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		FD	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33291842	1	2308S	RE19-04-54967		N	NA	SS	QC	Not Applicable	19-001-99	0	19-22607	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.081		0.036	1		0.0211	0.023	PCI/G	0.0211	0.023	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		FD	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33250492	1	2274S	RE19-04-54976		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23264	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.049		0.022	1		0.00275	0.015	PCI/G	0.00275	0.015	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33292102	1	2308S	RE19-04-54979		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23267	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.041		0.018	1		-0.017	0.012	PCI/G	-0.017	0.012	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33250752	1	2274S	RE19-04-54977		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23265	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.043		0.02	1		0.00174	0.014	PCI/G	0.00174	0.014	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33251012	1	2274S	RE19-04-54978		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23266	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.04		0.018	1		0.00836	0.012	PCI/G	0.00836	0.012	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33292362	1	2308S	RE19-04-54980		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23268	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.037		0.016	1		-0.00432	0.011	PCI/G	-0.00432	0.011	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33251272	1	2274S	RE19-04-54992		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23264	3.5	4	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.042		0.018	1		-0.00946	0.012	PCI/G	-0.00946	0.012	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	01-Oct-04	10-Sep-04	08-Sep-04
33251532	1	2274S	RE19-04-54993		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23265	3.5	4	FT	R	SO	QBT3	RAD	Y-88	Yttrium-88	0		0.051		0.023	1		0.0201	0.02	PCI/G	0.0201	0.02	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33251792	1	2274S	RE19-04-54994		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23266	3.5	4	FT	R	SO	QBT3	RAD	Y-88	Yttrium-88	0		0.038		0.016	1		-0.0141	0.011	PCI/G	-0.0141	0.011	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33292622	1	2308S	RE19-04-54995		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23267	3.5	4	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.047		0.021	1		0.012	0.012	PCI/G	0.012	0.012	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33292882	1	2308S	RE19-04-54996		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23268	2.5	3	FT	R	SO	QBT4	RAD	Y-88	Yttrium-88	0		0.03		0.014	1		-0.0133	0.0093	PCI/G	-0.0133	0.0093	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	13-Oct-04	14-Sep-04	13-Sep-04
33252052	1	2274S	RE19-04-54997		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22629	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.057		0.025	1		0.000348	0.015	PCI/G	0.000348	0.015	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33252312	1	2274S	RE19-04-54998		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22629	1.5	2	FT	R	SO	QBT3	RAD	Y-88	Yttrium-88	0		0.057		0.026	1		0.0155	0.015	PCI/G	0.0155	0.015	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33261012	1	2274S	RE19-04-55000		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22630	1.25	1.75	FT	R	SO	QBT3	RAD	Y-88	Yttrium-88	0		0.06		0.026	1		-0.00461	0.017	PCI/G	-0.00461	0.017	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33261272	1	2274S	RE19-04-55001		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22631	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.026		0.012	1		0.00124	0.0073	PCI/G	0.00124	0.0073	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33252572	1	2274S	RE19-04-54999		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22630	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.049		0.022	1		0.0177	0.013	PCI/G	0.0177	0.013	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	04-Oct-04	10-Sep-04	08-Sep-04
33261532	1	2274S	RE19-04-55002		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22631	1.5	2	FT	R	SO	QBT3	RAD	Y-88	Yttrium-88	0		0.04		0.019	1		0.0231	0.01	PCI/G	0.0231	0.01	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	14-Sep-04	10-Sep-04
33316042	1	2303S	RE19-04-55004		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23319	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.037		0.017	1		0.0148	0.0095	PCI/G	0.0148	0.0095	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	14-Sep-04	10-Sep-04
33316302	1	2303S	RE19-04-55005		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23320	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.037		0.017	1		0.0135	0.0076	PCI/G	0.0135	0.0076	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	14-Sep-04	10-Sep-04
33316562	1	2303S	RE19-04-55006		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23321	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.034		0.016	1		0.011	0.0087	PCI/G	0.011	0.0087	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	14-Sep-04	10-Sep-04
33315782	1	2303S	RE19-04-55003		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23318	0	0.5	FT	S	SO	ALLH	RAD	Y-88	Yttrium-88	0		0.037		0.017	1		-0.00853	0.011	PCI/G	-0.00853	0.011	PCI/G	U	RS	U	U	U	U		RS	RS	RS		ROUTINE03	ROUTINE03	ROUTINE03		NA	CS	GAMMA_SPEC	EPA:901.1	GEL	Engineering	12-Oct-04	14-Sep-04	10-Sep-04

33316292	1	2303S	RE19-04-55005		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23320	0
33316552	1	2303S	RE19-04-55006		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23321	0
33315772	1	2303S	RE19-04-55003		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23318	0
33296092	1	2308S	RE19-04-54964		N	NA	SS	QC	Not Applicable	19-001-99	0	19-23267	0
33293562	1	2308S	RE19-04-54947		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22620	0
33293102	1	2308S	RE19-04-54945		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22598	0
34655532	1	3060S	RE19-05-58705		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22631	5.5
34647342	1	3057S	RE19-05-58706		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23266	6
34655762	1	3060S	RE19-05-58707		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23266	8
33293332	1	2308S	RE19-04-54946		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22608	3
34647572	1	3057S	RE19-05-58708		N	NA	HA	QC	Not Applicable	19-001-99	0	19-01016	2.1
33294252	1	2308S	RE19-04-54950		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22608	0
34656222	1	3060S	RE19-05-58710		N	NA	HA	QC	Not Applicable	19-001-99	0	19-22630	5.3
34655992	1	3060S	RE19-05-58709		N	NA	HA	QC	Not Applicable	19-001-99	0	19-22608	6
33293792	1	2308S	RE19-04-54948		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22607	0
33294022	1	2308S	RE19-04-54949		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22599	0
33295172	1	2308S	RE19-04-54954		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22615	0
33294712	1	2308S	RE19-04-54952		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22604	0
33294482	1	2308S	RE19-04-54951		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22627	0
33295862	1	2308S	RE19-04-54957		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22621	0
33294942	1	2308S	RE19-04-54953		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22628	0
33295402	1	2308S	RE19-04-54955		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22606	0
33295632	1	2308S	RE19-04-54956		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22627	2
33434792	1	2320S	RE19-04-54958		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01002	0
33435482	1	2320S	RE19-04-54961		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01013	0
33296552	1	2308S	RE19-04-54967		N	NA	SS	QC	Not Applicable	19-001-99	0	19-22607	0
33435712	1	2320S	RE19-04-54963		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01028	0
34655302	1	3060S	RE19-05-58704		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22631	3.5
33435022	1	2320S	RE19-04-54959		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01007	0
33435252	1	2320S	RE19-04-54960		N	NA	SS	INV	Not Applicable	19-001-99	0	19-01016	0
33296322	1	2308S	RE19-04-54966		N	NA	HA	QC	Not Applicable	19-001-99	0	19-22608	3
33270062	1	2274S	RE19-04-54976		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23264	0
33270292	1	2274S	RE19-04-54977		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23265	0
33270522	1	2274S	RE19-04-54978		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23266	0
33297012	1	2308S	RE19-04-54980		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23268	0
33270752	1	2274S	RE19-04-54992		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23264	3.5
33270982	1	2274S	RE19-04-54993		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23265	3.5
33271212	1	2274S	RE19-04-54994		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23266	3.5
33296782	1	2308S	RE19-04-54979		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23267	0
33297472	1	2308S	RE19-04-54996		N	NA	HA	INV	Not Applicable	19-001-99	0	19-23268	2.5
33271442	1	2274S	RE19-04-54997		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22629	0
33297242	1	2308S	RE19-04-54995		N	NA	SS	INV	Not Applicable	19-001-99	0	19-23267	3.5
33271902	1	2274S	RE19-04-54999		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22630	0
33272132	1	2274S	RE19-04-55000		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22630	1.25
33272362	1	2274S	RE19-04-55001		N	NA	SS	INV	Not Applicable	19-001-99	0	19-22631	0
33271672	1	2274S	RE19-04-54998		N	NA	HA	INV	Not Applicable	19-001-99	0	19-22629	1.5
[illegible]													

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19-001-99	RE19-05-58708
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Appendix D

Photographs

Figure D-1. Aerial view of CU 19-001-99 (pre-1956), view to the west

Figure D-2. Surface soil sample collection and preparation at CU 19-001-99; radiological control technician providing oversight during sample collection and handling (August 19, 2004)

Figure D-3. Surface soil sample collection and preparation at CU 19-001-99 (August 19, 2004)

Figure D-4. subsurface soil sample collection using a hand auger at Consolidated Unit 19-001-99 (September 08, 2004)

Figure D-5. Subsurface soil sample collection using a hand auger at Consolidated Unit 19-001-99 (September 08, 2004)

Figure D-6. Field screening sample preparation at CU 19-001-99 (August 19, 2004)

Figure D-7. Example of samples prepared for field screening at CU 19-001-99 (August 19, 2004)

Figure D-8. Spotter directing crane-assisted transport of sampling team to north slope of CU 19-001-99, view to the northeast (September 10, 2004)

Figure D-9. Spotter directing crane-assisted transport of sampling team to north slope of CU 19-001-99, view to the northeast (September 09, 2004).

Figure D-10. Soil removal operations on north slope of CU 19-001-99 (September 10, 2004)

Figure D-11. Spotter directing crane-assisted transport of erosion control materials to north slope of CU 19-001-99, view to the northwest (September 10, 2004)

Figure D-12. North slope stabilization, erosion control measures in place and sampling team harnessed, secured, and ready for transport to mesa top at Consolidated Unit 19-001-99, view to the northwest (September 10, 2004)

Appendix E

Risk Assessment

EXECUTIVE SUMMARY

This appendix presents the analysis and results of the human health and ecological risk assessments performed in support of the remedy at Consolidated Unit (CU) 19-001-99 at the former Technical Area (TA) 19 (the former East Gate Laboratory) at Los Alamos National Laboratory. CU 19-001-99 is located in the TA-72 land parcel east of the Los Alamos County airport. The site is situated on Los Alamos Mesa and is bounded by Pueblo Canyon to the north and a side canyon of Pueblo Canyon to the east/southeast. CU 19-001-99 is comprised of Solid Waste Management Unit (SWMU) 19-001 (septic system), SWMU 19-002 (surface disposal area), SWMU 19-003 (sewer drainline and outfall), and Area of Concern C-19-001 (potential soil contamination beneath former laboratory buildings).

The focus of the CU 19-001-99 remedy was to (1) remove battery debris remaining from historical site operations and a limited amount of soil potentially contaminated by/during historical operations; (2) define the nature and extent of the potential contamination of soil at the site; and (3) determine whether additional removal activities, additional characterization activities, or no further corrective action is appropriate for the site. The results of the risk analyses presented here were used for the determination of no further corrective action for CU 19-001-99.

Both the human health and ecological risk assessments presented in this appendix indicate that residual concentrations of chemicals of potential concern in soil and tuff at CU 19-001-99 do not pose a potential unacceptable risk to either human health or the environment.

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E-1.0 INTRODUCTION

This appendix presents the analysis and results of the human health and ecological risk assessments performed in support of the remedy at Consolidated Unit (CU) 19-001-99 at the former Technical Area (TA) 19 (the former East Gate Laboratory) at Los Alamos National Laboratory (LANL or the Laboratory). CU 19-001-99 is located in the TA-72 land parcel east of the Los Alamos County airport. The site is situated on Los Alamos Mesa and is bounded by Pueblo Canyon to the north, a side canyon of Pueblo Canyon to the east/southeast, and on the west by the Los Alamos County airport and East Gate industrial park (see Figure 1.1-1 of the main text of this report).

CU 19-001-99 is comprised of Solid Waste Management Unit (SWMU) 19-001 (septic system), SWMU 19-002 (surface disposal area), SWMU 19-003 (sewer drainline and outfall), and Area of Concern (AOC) C-19-001 (potential soil contamination beneath former laboratory buildings). With the exception of an inactive gas line discovered during the remedy implementation, all former structures and support facilities (e.g., septic tanks) were removed before the remedy, as described in section E-1.1. Use of the property was discontinued in 1974. Currently, CU 19-001-99 is undeveloped and includes access to, and a portion of, a public recreational hiking trail ("Camp Hamilton Trail").

The focus of the CU 19-001-99 remedy was (1) the removal of battery debris remaining from historical site operations and a limited amount of soil contaminated by/during historical operations, and (2) definition of the nature and extent of potential contamination of soil and tuff at the site. The results of the risk analyses presented here were used to determine whether additional characterization or removal activities are warranted at the site.

The main features of the risk analyses are as follows:

Description of historical operations at the site, site features, and historical releases and contamination sources (sections E-1.1 through E-1.3)

- Development of a conceptual site model (CSM) for both human and ecological receptors (section E-2.1.2)
- Compilation of fixed laboratory analytical data for soil and tuff collected during the remedy (see section 4.2.3 of the main text of this report and section E.2.2)
- Comparison of site data (metal and radiological chemicals) to background (see section 4.2.3 of the main text of this report), including graphical and statistical analysis of the data (section E.2.2.1)
- Comparison of site data above background (metal and radiological chemicals) or detected organic chemicals to human health and ecological screening levels (sections E-3.0 and E-4.0, respectively)
- Uncertainty analyses relevant to the screening risk results (section E-3.2 and E-4.3)
- Conclusions of the screening risk assessments (section E-6.0).

Potential adverse effects to both human and ecological receptors were evaluated for the residual contamination in surface and subsurface soil and tuff at CU 19-001-99. The human health and ecological screening assessments were performed according to the following documents:

- EPA (U.S. Environmental Protection Agency), November 2004. "EPA Region 6 Human Health Medium-Specific Screening Levels," U.S. Environmental Protection Agency document, Washington, D.C. (EPA 2004, 87478)
- LANL (Los Alamos National Laboratory), December 2004. "Screening Level Ecological Risk Assessment Methods," Revision 2, Los Alamos National Laboratory document LA-UR-04-8246, Los Alamos, New Mexico. (LANL 2004, 87630)
- LANL (Los Alamos National Laboratory), May 2005. "Derivation and Use of Radionuclide Screening Action Levels," Revision 1, Los Alamos National Laboratory document LA-UR-05-1849, Los Alamos, New Mexico. (LANL 2005, 88493)
- NMED (New Mexico Environment Department), 2004. "Technical Background Document for Development of Soil Screening Levels, Revision 2.0," New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2004, 85615)

E-1.1 Site Background

Operations were conducted at CU 19-001-99 from 1944 to 1974. The former East Gate Laboratory was constructed in 1944 to serve as an isolated location for experimental work using small radioactive sources. Documented site operations included irradiation experiments using sealed lanthanum sources and two scintillation studies involving the use of aromatic compounds. In 1947, the site consisted of a storage hutment and laboratory building used for spontaneous fission experiments and storing radioactive source material. Additional construction occurred in the 1950s and eventually the site consisted of a laboratory (including a sewer drainline and outfall); battery, guard, retreat, and shelter buildings; latrine; and septic tank. In 1956, several buildings, including the battery building, guard house, and latrine, were decommissioned and removed. The remaining structures were transferred to the Zia Company in 1957 and 1962. The 1962 transfer was of the retreat building to the Zia Company, which was assigned to the U.S. Department of Energy-Los Alamos Area Office and used for civil defense purposes. The retreat building was later leased to the Los Alamos radio club, which used the site until 1974. The retreat building's septic system operated from 1957 to 1974. All remaining aboveground structures were removed in 1974. In 1995, remaining building and battery debris were removed from the site. The retreat building's septic system, including associated piping, was removed in 1997, completing all removal activities up to the current remedy. (Figure 1.1-1 in the main text of this report shows the locations of the former structures and facilities at CU 19-001-99.) An inactive underground gas line remains at CU 19-001-99.

SWMU 19-001, Septic System

This septic system handled sanitary waste from Building TA-19-5, known as the retreat building, from approximately 1957 to 1974 and no hazardous or radioactive contamination is suspected from the system. The septic system consisted of a storage tank, outfall from the tank, and associated piping. The septic tank and associated piping were removed in 1997 (LANL 1997, 71468). Potential residual contamination in soil and tuff from the septic system and piping was investigated as part of this remedy.

SWMU 19-002, Surface Disposal Area

The surface disposal area (approximately 10 feet [ft] by 100 ft [3 meters (m) by 30 m]) is on the northern slope of the site where disposal of building debris from decommissioned structures and numerous old batteries occurred. Material in the disposal area, which included building and battery debris, was removed in 1995 (LANL 1996, 05269). Additional battery debris and a limited amount of soil were removed from two locations in the former surface disposal area as part of this remedy. Potential residual contamination in soil and tuff from the surface disposal operations was also investigated as part of this remedy.

SWMU 19-003, Sewer Drainline and Outfall

This sewer system handled sanitary waste from the laboratory building (TA-19-1) and is assumed to have been in operation during the same years as the laboratory building (1944 to 1974). Sanitary waste was discharged through the drainline to an outfall on the northern slope into Pueblo Canyon. The sewer drainline was removed in 1997. Potential residual contamination in soil and tuff from the sewer drainline and outfall was investigated as part of this remedy.

AOC C-19-001, Potential Soil Contamination beneath Former Buildings

The AOC includes potential contamination of soils and tuff beneath the former laboratory buildings at the site. None of the former laboratory building or structures remains at the site, with the exception of an inactive underground gas line. Potential residual contamination in soil and tuff from the former structures and laboratory operations were investigated as part of this remedy.

E-1.2 Site Description

CU 19-001-99 is situated on the Los Alamos Mesa of the Pajarito Plateau at an elevation of 6910 ft (2106 m) above mean sea level. The site is bounded by Pueblo Canyon to the north, a small side canyon of Pueblo Canyon to the east/southeast, and the Los Alamos County airport and East Gate industrial park to the west. The topography on the top of the mesa is relatively flat and dips gently to the east but drops steeply (40% slope or greater) into the surrounding canyons. The topography at CU 19-001-99 is shown on all of the sampling location and results figures in the main text of this report (see Figure 2.4-1 as an example).

The Pajarito Plateau is drained by several west-to-east oriented canyons, and surface water flows eastward toward the Rio Grande. The average annual rainfall on this portion of the Pajarito Plateau is 18.3 inches (46.5 centimeters), of which at least a third is received from the convective thunderstorms that commonly occur during the months of July and August (LANL 2002, 73876). Drainages in both Pueblo Canyon and the side canyon to the east/southeast are generally dry and exhibit ephemeral flow only after intense rainfall events.

Beneath CU 19-001-99, the water table elevation is approximately 1,000 ft (305 m) below ground surface (bgs) from the mesa top. The region beneath the ground surface and above the regional aquifer is called the vadose (unsaturated) zone. The source of moisture in the vadose zone is precipitation, most of which is removed as runoff, evaporation, and transpiration (LANL 1997, 63131). The subsurface movement of the remaining moisture (often referred to as recharge) is predominantly vertical in direction and is influenced by the properties and conditions of the vadose zone.

The geologic property of the Bandelier Tuff that most influences fluid flow in the unsaturated zone is the degree of welding. Welded tuffs tend to have less matrix porosity and more fractures than nonwelded

tuffs. Fractures in welded tuff may include relatively close-spaced cooling joints as well as tectonic fractures. Although nonwelded tuffs also have fractures, they are generally less abundant than in welded tuffs. At CU 19-001-99, the mesa caprock is exposed in several tuff outcroppings. The tuff appears highly welded, but shows little-to-no signs of weathering or fractures.

The movement of meteoric water and the potential migration of contaminants from the surface to the aquifer is very limited because of the considerable thickness of the vadose zone and the minimal amount of precipitation at the site.

Surface soils on the mesa top are generally thin (less than approximately 2.0 ft [0.6 m]) and support vegetative cover. Deeper soils (up to approximately 5 ft [1.5 m]) can exist along the slopes in flat, “benched” areas where deposition from the mesa top accumulates. Tuff outcrops dominate the steep mesa slopes and little-to-no vegetation is present on the upper slope reaches. Soil development (and vegetative covering) progressively increases downslope.

The surface soils are predominantly silty sands formed by the degradation and weathering of the underlying tuff. Subsurface conditions at the site are defined by the Tshirege Member of the Bandelier Tuff (Qbt), which consists of multiple layers of ash-flow tuffs approximately 300 ft to 600 ft (91m to 183 m) thick.

CU 19-001-99 is moderately disturbed. CU 19-001-99 is located within the ecological transition zone (also referred to as “ecotone”) of the piñon-juniper woodlands and ponderosa pine woodlands. Thus, the overstory contains piñon, juniper, and ponderosa pine. Scrub oak, mixed grasses, and forbs are the prominent understory species at the site. At some locations within the consolidated unit, thin surface soils or exposed tuff lack vegetative cover. The vegetation classes present at the site can be described as “ponderosa pine,” “piñon-juniper,” and “bare ground.” A map of the habitat/vegetation at the site is not provided because the site is small in area with the same habitat/vegetation across the entire site; additionally, the habitat/vegetation is actually a mosaic of many vegetation classes which cannot be represented on a map. Note that the vegetation can be viewed in the site photographs provided in Appendix D.

No threatened and endangered (T&E) species are expected to use the site; this was confirmed by the Laboratory’s Ecology Group as part of the premobilization activities for the remedy (see Attachment E1). Also, no T&E species were observed during site visits made by an ecologist during the remedy activities. No evidence (e.g., soil mounding) that deeper soils at the site are used by small, burrowing mammals was observed. Other terrestrial wildlife receptors may use the site, including larger mammals and birds. Heavy weekday road traffic along State Road 502 and industrial activity at facilities along the western border of the site limit use of the site by larger, more mobile receptors (e.g., fox and elk).

E-1.3 Historical Releases and Contamination Sources

Potential releases related to historical activities at the site include the following:

- Releases to surface and subsurface soil and tuff related to the septic systems at the site, including SWMU 19-001 (septic system) and SWMU 19-003 (sewer drainline and outfall)
- Releases to surface and subsurface soil and tuff related to the surface disposal of building and battery debris at SWMU 19-002
- Releases to surface and subsurface soil and tuff beneath the buildings at the site (AOC C-19-001) related to laboratory operations

E-2.0 REMEDY SOIL SAMPLING

This section details the possible sources of contamination at CU 19-001-99; summarizes the historical analytical data and the approach used to determine the remedy sampling, based on potential exposure to human or ecological receptors and the CSM of transport and exposure; and summarizes the remedy analytical data from soil and tuff collected at the site, including the determination of chemicals of potential concern (COPCs).

E-2.1 Historical Analytical Data

Historical analytical data for soil and tuff samples were used to determine the sampling for the remedy. The historical data are presented in section 2.5 of the main text of this report (see Tables 2.5-1 through 2.5-8). Table 2.5-2 summarizes the COPCs in the historical samples collected from the site. A total of 12 inorganic chemicals were identified as COPCs. Nine metals in soil (antimony, cadmium, copper, lead, manganese, mercury, silver, thallium, and zinc); 5 metals in tuff (antimony, arsenic, barium, selenium, and zinc); 2 radionuclides, cesium-137 (soil and tuff) and europium-152 (soil); and 26 organic chemicals (20 in soil and 21 in tuff).

E-2.1.1 Exposure Pathways

The information summarized in this section is detailed in the NMED-approved work plan (LANL 2004, 85521). The COPCs identified in the historical data collected at CU 19-001-99 were evaluated in the NMED-approved work plan (LANL 2004, 85521) by location to determine where additional soil removal or further site characterization was warranted for the remedy. Historical sampling locations were subdivided into the following three groups based on site topography:

1. Flat mesa top (within AOC C-19-001)
2. Upper, steeply graded mesa slopes
3. Lower, moderately graded mesa slopes

The applicable exposure and transport pathways for each of the three location groups are summarized below.

Mesa Top Locations – Direct contact with laboratory buildings, septic systems, and their associated activities. Mesa surface defined by thin (0–2 ft [0–0.6 m]) capping of unconsolidated soil, outcroppings of densely welded tuff, and widely dispersed clusters of trees and bushes. The flat mesa top is easily accessible to both human and ecological receptors.

Upper Mesa Slope Locations – Direct contact with debris piles. Upper mesa slopes defined by exposed cliffs of densely welded tuff. Little-to-no soil or vegetation is present, occurring only in drainages and small ledges formed by slight breaks in slope. Because of the very steep gradient of the cliff faces, the upper mesa slopes are inaccessible to human and most ecological receptors (birds may use these areas to some extent).

Lower Mesa Slope Locations – Direct contact with debris piles. Lower mesa slopes are defined by soil and tuff outcroppings with sparse vegetation. Human and ecological receptor accessibility and potential use varies. As a result of the extreme slope angles and degraded surface of the slopes, use by ecological receptors is expected to increase as the slope gradient decreases (and soil and vegetation increases).

In summary, based on the historical data evaluation in the NMED-approved work plan (LANL 2004, 85521), the following actions were recommended for each location group:

Mesa Top Locations – Conduct additional site characterization sampling to define nature and extent of potential contamination.

Upper Mesa Slope Locations – Perform a soil removal at historical sampling locations 19-01266 and 19-01268 (battery debris was also removed from these locations). For all other upper mesa slope locations, collect additional samples downgradient to define the nature and extent of potential contamination.

Lower Mesa Slope Locations – Collect additional samples downgradient to define the nature and extent of potential contamination.

E-2.1.2 Conceptual Site Model

The primary mechanisms of contaminant release at CU 19-001-99 are related to the historical laboratory operations at the site, specifically sanitary septic systems that served the site facilities and surface disposal operations at the site (see section E-1.3). Surface and subsurface soil and tuff are the only media containing residual contamination at the site.

Downward migration of contaminants in the vadose zone is limited by a lack of hydrostatic pressure. The lack of saturated conditions in the area restrict both horizontal and vertical migration. No perched alluvial aquifers have been identified in the area of CU 19-001-99, nor are there springs or seeps nearby that would indicate the presence of perched alluvial aquifers. Therefore, a complete pathway to the groundwater, including the regional aquifer, which is located approximately 1,000 ft (305 m) bgs from the mesa top, is unlikely.

The potential pathways for human exposure to surface soil and tuff are dermal contact, inhalation of vapors and particulates, and incidental soil ingestion. Pathways from subsurface contamination to potential human receptors would be complete only if contaminated soil or tuff were excavated and brought to the surface. The potential pathways would then be similar to those of a surface soil release (i.e., dermal contact, inhalation of vapors or fugitive dust, and incidental soil ingestion). The current land use is recreational and the future land use may be residential. Therefore, the site was evaluated using a residential scenario to complete corrective action.

For ecological receptors, pathways from subsurface contamination to potential surface-dwelling animals would be complete only if contaminated soil or tuff were excavated and brought to the surface. The potential pathways would then be similar to those of a surface soil release (i.e., inhalation of vapors or fugitive dust, incidental ingestion of soil, uptake by plants, and food web transport). Pathways from subsurface releases may be complete for plants.

Weathering of tuff is the only viable natural process that may result in the exposure of receptors to COPCs in tuff; because of the slow rate of weathering expected for tuff, exposure to COPCs in tuff is negligible, though included in this assessment. This assessment assumes that a reasonable depth of exposure is 0 to 5 ft (0 to 1.5 m). All soil and tuff samples from the surface (0 to 0.5 ft [0 to 0.3 m]) and subsurface (up to 8.5 ft [2.6 m]) were included in the assessment of potential risk to both human and ecological receptors.

The potential exposure pathways for the human health and ecological receptors are provided in a CSM diagram (Figure E-2.1-1). Assessment endpoints for each ecological receptor addressed whether COPC

concentrations (measurement endpoints) exceeded screening levels determined to be protective of receptor reproduction, growth, and survival (LANL 2004, 87386; LANL 2004, 87630).

E-2.2 Remedy Analytical Data – COPC Determination

Sampling was preceded by field-screening of the following chemicals, as summarized in section 4.2 (Table 4.2-2) of the main text of this report: lead; polyaromatic hydrocarbons (as indicated by benzo(a)pyrene); and polychlorinated biphenyls (PCBs, as indicated by Aroclor 1254). The analytical results from the remedy sampling are summarized in section 4.2.3 of the main text of this report (see also Tables 4.2-4 through 4.2-7). The inorganic chemicals and radionuclides were screened against background values (BVs) and fallout values (FVs) for soil and tuff. All inorganic chemicals and radionuclides with one or more detection above the appropriate BV or FV were retained as COPCs, with the exception of aluminum, which is within the range of background, as discussed in the following section. Also, all detected organic chemicals were retained as COPCs. Total dioxin/furan compounds that were detected were not evaluated in the risk screening analyses because no toxicity information is available for total dioxins/furans to conduct screening comparisons. Instead the dioxin/furan congeners were evaluated using EPA's toxicity equivalency procedure (EPA 2003, 87658). The results of the final COPC determination are summarized in Table E-2.2-1.

E-2.2.1 Graphical and Statistical Analyses of COPCs

Graphical Analyses

For each inorganic COPC, box plots of site and background data were created to visually compare the distributions and for a qualitative determination of whether the data sets are similar or distinct. Figures E.2.2-1 through E.2.2-13 present box plots of all inorganic chemicals with detections above BVs. Based on the box plot comparisons, aluminum is eliminated as a COPC at CU 19-001-99 because the site concentrations are within the range of background. All other inorganic chemicals identified as COPCs at CU 19-001-99 were evaluated in the screening risk assessments.

Statistical Analyses

A representative concentration was calculated for each COPC. This representative concentration is the exposure-point concentration used in the screening risk assessments. The exposure-point concentration used in the analysis for CU 19-001-99 is the 95% upper confidence limit (UCL) of the arithmetic mean for each COPC. The 95% UCL concentrations of each COPC in soil and tuff were calculated as described in EPA guidance (EPA 2002, 73790).

Tests were performed using EPA ProUCL (Lockheed Martin 2002, 73767) to select the type of statistical distribution and related parameters that describe each data set. These tests determine whether a normal, lognormal, or nonparametric distribution can be used to describe the data sets and ensure that the assumptions inherent in the UCL calculations are valid.

ProUCL computes a (1-α) 100% UCL of the population mean using a variety of methods. The following procedures were used in the derivation of 95% UCL exposure-point concentrations (depending on the distribution test results):

- Chebyshev (Mean, Std.) procedure based on the sample arithmetic mean and standard deviation—nonparametric distributions
- H-UCL procedure—lognormal distributions

The Chebyshev (1-α)100% UCL of the population mean is calculated using the following equation (nonparametric distributions):

$$UCL = \overline{x} + \sqrt{((1/\alpha)-1)s_x} / \sqrt{n}$$

,

where

x = Sample mean

s_x = Sample standard deviation

n = Number of samples

α − 1 = Confidence coefficient.

Since this method requires no distributional assumptions about the data, this is considered a nonparametric procedure and may be used as an estimate of the UCL of the population mean when data are neither normal nor lognormal, especially when the standard deviation (or its estimate) approach and exceed 1.5 (Lockheed Martin 2002, 73767).

For skewed data sets, there is no one way to compute a UCL of the population mean. For lognormal distributions, the skew of the data is a function of the standard deviation, recommendations for the computation of the UCL of the population mean based upon the standard deviation are provided in the ProUCL output. The recommendations for the soil and tuff data collected from CU 19-001-99 were to calculate the UCL using either Chebyshev (Mean, Std.) for nonparameteric distributions or H-UCL for lognormal distributions (Lockheed Martin 2002, 73762).

The H-UCL is calculated using the following equation:

$$UCL = \exp(\overline{x} + 0.5s_x^2 + s_x H_{1-\alpha} / \sqrt{(n-1)})$$

,

where

$H_{1-\alpha}$ = H-statistic for the given confidence level.

Results of the distribution testing of the combined soil and tuff data at CU 19-001-99 are shown in Table E-2.2-2. All statistical calculations, including distribution testing, were performed using ProUCL (Lockheed Martin 2002, 73767). One-half of each reported U-qualified concentration was substituted as the concentration of the COPC for all statistical calculations (EPA 1989, 08021).

Results of the analysis indicate that none of the COPCs at CU 19-001-99 are normally distributed. All COPCs, with the exception of arsenic, beryllium, chromium, manganese, and uranium-235, have concentrations that do not reflect either a normal or lognormal distribution, therefore, the 95% UCL of the

mean concentrations of these COPCs in the combined tuff and soil were calculated using the Chebyshev Mean, Std.) procedure (Table E-2.2-2).

E-3.0 HUMAN HEALTH RISK SCREENING ASSESSMENT

A human health risk screening assessment was conducted to determine if COPC concentrations at CU 19-001-99 might pose a potential unacceptable risk to human receptors. The assessment assumes current and future residential land use to support corrective action decisions at CU 19-001-99.

E-3.1 Screening Evaluation

The human health risk screening assessment is a comparison of COPC concentrations with soil screening levels (SSLs) for chemicals and screening action levels (SALs) for radionuclides. The comparison was based on the 95% UCL of the mean concentration of each COPC at CU 19-001-99. If a chemical was a COPC for either soil or tuff surface or subsurface, it was assumed to be a COPC for the entire site.

The SSLs used in the screening evaluation reflect a residential exposure scenario, assuming exposure for 24 hours/day for 350 days/year (NMED 2004, 85615; EPA 2004, 87478). The SSL comparison is presented separately for noncarcinogenic and carcinogenic chemicals. The SSLs for noncarcinogens are based on a hazard quotient (HQ) of 1.0; SSLs for carcinogens are based on a target cancer risk of 10^{-5} (NMED 2004, 85615). The 95% UCL concentration of each COPC was compared to its corresponding SSL for carcinogens (Table E-3.1-2), and 0.1 of the SSL for noncarcinogens (Table E-3.1-3). The potential risk to dioxin/furan congeners was based on the SSL for 2,3,7,8-tetrachlorodibenzodioxin (TCDD)—the exposure point concentration for each congener was adjusted for TCDD-like toxicity by applying a toxicity equivalency factor (TEF; see Table E-3.1-4) according to EPA (2003, 87658). The screening comparison is of the sum of the exposure point concentrations for all dioxin/furan COPCs to the SSL for TCDD.

The SALs are derived according to LANL (2005, 88493) using the RESRAD computer code version 6.21. The SALs for radionuclides used in the screening evaluation are based on a residential exposure and an annual dose of 15 mrem.

No carcinogens had a 95% UCL concentration above their respective SSLs (Table E-3.1-2). The cumulative cancer risk for the entire site was 9E-06.

One noncarcinogen (manganese) had a 95% UCL concentration greater than one-tenth its respective SSL (Table E-3.1-3), but less than the SSL. The ratio of each COPC exposure calculated as the 95% UCL concentration divided by the respective SSL is the HQ, the sum of which is the hazard index (HI). The HI was less than 1.0 (0.4). This indicates that a human health hazard is not expected from exposure to co-located noncarcinogenic COPCs.

The 95% UCL for uranium-235, which was the only radionuclide detected above background, did not exceed the SAL (Table E-3.1-3). The ratio of the uranium-235 UCL to the SAL is approximately 0.02 or approximately 0.2 mrem/yr. This dose is less than the target dose limit of 15 mrem/yr and indicates that there is no potential unacceptable dose to human health from exposure to radionuclides.

E-3.2 Uncertainty Analysis

The analysis presented in this human health risk screening assessment is subject to varying degrees and kinds of uncertainty, as detailed in this section. Aspects of data evaluation and COPC identification, exposure assessment, toxicity assessment, and the additive approach all contribute to uncertainties in the risk assessment process.

E-3.2.1 Data Evaluation and COPC Identification Process

A primary uncertainty associated with the COPC identification process is the possibility that a chemical may be inappropriately identified as a COPC. It is unlikely that inorganic chemicals were inappropriately excluded as COPCs because the only detected inorganic chemicals excluded were those determined to be below the BV or within the range of background.

It is unlikely that organic chemicals were inappropriately excluded as COPCs because all detected organic chemicals were retained for analysis.

Uncertainties associated with the inorganic and organic chemical data include sampling errors, laboratory analysis errors, and data analysis errors. For CU 19-001-99, these uncertainties are expected to have little effect on the results even though many detected concentrations of organic COPCs were qualified J, indicating that the values were less than estimated quantitation limits and could only be estimated.

E-3.2.2 Exposure Assessment

Three main uncertainties were identified in the exposure assessment process, which provide for a conservative (overestimation) of potential risk from COPCs in soil and tuff at CU 19-001-99 to human receptors.

1. **Identification of Receptors**. The human health risk screening evaluation is a conservative comparison of the 95% UCL concentration with SSLs based upon a residential land-use scenario. To the degree that actual activity patterns are not represented by those activities assumed by the residential land-use scenario, uncertainties are introduced in the assessment and the evaluation presented here overestimates potential risk. If, however, future land use becomes residential, the assessment appropriately addresses potential human health risks.

2. **Exposure Pathway Assumptions**. A number of assumptions are made relative to exposure pathways, including input parameters, whether or not a given pathway is complete; the contaminated media to which an individual may be exposed; and intake rates for different routes of exposure. In the absence of site-specific data, the exposure assumptions used were consistent with default values (NMED 2004, 85615). When several upper-bound values (as are found in NMED 2004, 85615) are combined to estimate exposure for any one pathway, the resulting risk can exceed the 99th percentile of “expected risk” and therefore exceed the range of risk that may be reasonably expected. Also, the assumption that residual concentrations of chemicals in the tuff are available and cause exposure in the same manner as if they were in soil overestimates the potential risk to receptors.

3. **Derivation of Exposure Point Concentrations**. Some uncertainty is introduced in the concentration aggregation of data for estimating the representative COPC concentrations (95% UCLs) at the site. Risk from a single location or area with relatively high COPC concentrations may be “diluted” by using a representative, site-wide value. However, the use of the 95% UCL is intended to provide a protective, upper-bound (e.g., conservative) average of the

COPC concentration at the site, which is more likely to lead to an overestimation of the concentration representative of average exposure to a COPC across the entire site.

E-3.2.3 Toxicity Assessment

The primary uncertainty associated with the SSLs is related to the derivation of toxicity values used in their calculation. Toxicity values (reference doses [RfDs] and slope factors [SFs]) were used to derive the SALs used in this risk screening assessment (NMED 2004, 85615). Uncertainties were identified in the following three areas with respect to the toxicity values, as discussed in this section: extrapolation from animals to humans, extrapolation from one route of exposure to another route of exposure, and individual variability in the human population.

1. **Extrapolation from Animals to Humans**. The SFs and RfDs are often determined based on extrapolation from animal data to humans, which may result in uncertainties in toxicity values because differences exist in chemical absorption, metabolism, excretion, and toxic responses between animals and humans. Differences in body weight, surface area, and pharmacokinetic relationships between animals and humans are taken into account to address these uncertainties in the dose-response relationship; however, conservatism is usually incorporated in each of these steps, resulting in the overestimation of potential risk.

2. **Extrapolation from One Route of Exposure to Another Route of Exposure.** The SFs and RfDs often contain extrapolations from one route of exposure to another that result in additional conservatisms in the risk calculations. For example, an extrapolation from the oral route to the inhalation and/or the dermal route was used in this assessment (NMED 2004, 85615) and differences between the two exposure pathways contribute to the uncertainty in the estimation of potential risk at this site.

3. **Individual Variability in the Human Population.** For noncarcinogenic effects, the degree of variability in human physical characteristics is important both in determining the risks that can be expected at low exposures and in defining the no-observed-adverse-effect level (NOAEL). The NOAEL uncertainty factor approach incorporates a 10-fold factor to reflect individual variability within the human population that can contribute to uncertainty in the risk assessment; this factor of 10 is generally considered to result in a conservative estimate of risk to noncarcinogenic COPCs.

E-3.2.4 Additive Approach

For noncarcinogens, the effects of exposure to multiple chemicals are generally unknown and possible interactions could be synergistic or antagonistic, resulting in either an overestimation or underestimation of the potential risk. Additionally, RfDs used in the risk calculations typically are not based on the same endpoints with respect to severity, effects, or target organs. Therefore, the potential for noncarcinogenic effects can be overestimated for individual COPCs that act by different mechanisms and on different target organs but are addressed additively.

E-3.3 Results of Human Health Screening Analysis

Overall, the uncertainties associated with the evaluation of human health risks to residual concentrations of COPCs in the soil and tuff at CU 19-001-99 based on a residential scenario overestimate potential risk to human receptors.

Concentrations of carcinogenic COPCs were less than their respective SSLs. The incremental excess cancer risk was 9E-06, which is below the NMED target cancer risk level of 10^{-5} (NMED 2004, 85615).

The noncarcinogenic HI value was 0.4, which does not exceed the NMED target level of an HI of 1.0 (NMED 2004, 85615).

Radionuclide activity was less than SALs. The corresponding dose was 0.2 mrem/yr, which is less then the allowable dose limit of 15 mrem/year (DOE 2000, 67489).

In conclusion, concentrations of COPCs in soil and tuff at CU 19-001-99 do not pose a potential unacceptable risk to human health under a residential scenario.

E-4.0 ECOLOGICAL RISK SCREENING ASSESSMENT

An ecological risk screening assessment was used to determine whether residual COPC concentrations at CU 19-001-99 might result in potential unacceptable risk to ecological receptors. The framework for the ecological screening assessment is provided in the ecological checklist completed for this site (Attachment E1). The ecological checklist summarizes the source and mechanisms of releases at the site, including the primary impacted media and on- and off-site transport pathways that must be considered in the assessment for the ecological receptors that are identified for the site.

Potentially complete pathways for exposure of terrestrial receptors to COPCs exist at the site. The potential risk to these COPCs was evaluated quantitatively in this risk screening assessment for the following ecological receptors, representing several feeding guilds and trophic levels:

- Plants
- Soil-dwelling invertebrates (represented by the earthworm)
- Deer mouse (mammalian omnivore)
- Montane shrew (mammalian insectivore)
- Desert cottontail (mammalian herbivore)
- Fox (mammalian carnivore)
- American robin (avian insectivore, omnivore, and herbivore)
- American kestrel (avian insectivore and carnivore); surrogate for avian T&E species

Of the terrestrial receptors being evaluated, only the montane shrew is not expected to be of concern for CU 19-001-99 because it requires free water for survival—surface water does not exist at the site and has been eliminated from consideration as a potential exposure medium for ecological receptors. However, because the shrew represents the insectivorous feeding guild for mammals, which is not specifically represented by any of the other terrestrial receptors, the shrew was evaluated in this risk screening assessment.

E-4.1 Screening Evaluation

The ecological screening evaluation identifies chemicals of potential ecological concern (COPECs) and is based on the comparison of representative COPC concentrations (95% UCL of the mean) at the site to ecological screening levels (ESLs). This comparison is summarized in the calculation of HQs for each COPC and screening receptor.

The HQ is defined as the ratio of the representative contaminant concentration in the exposure medium being investigated to the dose that has been determined to be potentially acceptable to a given ecological receptor. The higher the contaminant levels relative to the ESLs, the higher the potential risk to receptors; conversely, the higher the ESLs relative to the contaminant levels, the lower the potential risk to receptors. The analysis begins with a comparison of the lowest (final) ESL for a given COPC to the exposure point concentration (Table E-4.1-1). HQs greater than 0.3 are identified as COPECs requiring additional evaluation (LANL 2004, 87630). COPECs are then carried forward in the analysis and receptor-specific ESLs are compared to the exposure point concentrations. The HI is the sum of HQs; an HI greater than 1.0 is considered an indication of potential adverse impacts to a given receptor from exposure to multiple chemicals at a site. Additionally, chemicals without associated ESLs are retained as COPECs and require further evaluation. The HQ/HI analysis is a conservative indication of potential adverse effects and is designed to minimize the potential of overlooking possible COPECs at the site.

The calculation of representative COPEC concentrations is summarized in section E-3.1. ESLs were obtained from LANL's ECORISK database version 2.1 (LANL 2004, 87386), as presented in Table E-4.1-2. As with the human health assessment, the potential risk to dioxin/furan congeners was based on the ESL for TCDD—the exposure point concentration for each congener/receptor was adjusted for TCDD-like toxicity by applying a TEF (see Table E-3.1-4) and according to EPA (2003, 87658). The screening comparison is of the sum of the exposure point concentrations for all dioxin/furan congeners to the ESL for TCDD.

E-4.2 HQ Summary

Of the COPCs identified for CU 19-001-99, five could not be quantitatively evaluated for potential ecological risk (isophorone, dinoseb, MCPA, MCPP, and T[2,4,5-]) because ESLs are not available for these chemicals and are retained as COPECs. Sixteen COPCs were eliminated from further evaluation because the minimum ESL analysis (Table E-4.1-1) indicated that HQs for all receptors were less than 0.3 (LANL 2004, 87630). A total of 17 COPCs were identified as COPECs, requiring further evaluation because one or more HQ exceeded 0.3—eleven inorganics, 2 SVOCs, 3 pesticides, TCDD (sum of individual dioxin/furan congeners), and 1 Aroclor. As presented in Table E-4.2-1, HI values for the terrestrial receptors range from 3.91E-01 to 9.11E+01.

The following were key considerations in identifying COPECs and evaluating the potential risk to ecological receptors at CU 19-001-99:

1. A number of the HQs for inorganic COPECs have ESLs below the soil and tuff BVs such that the HQs generated do not reflect potential risk.
2. 95% UCL concentrations determined for a majority of the inorganic COPECs are within the range of the background concentrations for soil and tuff, indicating that exposure of receptors to the representative site concentrations of inorganic chemicals is similar to background.
3. The only detected concentrations above background are in tuff for the following COPECS: arsenic, barium, chromium, cobalt, and silver.

Given these considerations, the HQ/HI analysis was performed again as follows (Table E-4.2-2):

- COPECs with 95% UCL concentrations within the range of background concentrations for soil and tuff (arsenic, cadmium, chromium, and manganese) were removed.
- COPECs for which the only detections above BVs were in tuff and, thus, unavailable to ecological receptors, were removed (arsenic, barium, chromium, cobalt, and silver).
- COPECs with ESLs below the associated soil and tuff BVs (various receptor/COPEC combinations, "NC") were removed.

As a result, four inorganic COPECs were retained for further analysis—copper, lead, selenium, and zinc.

The following COPECs had one or more receptor with an HQ greater than 0.3: copper, lead, selenium, zinc, bis(2-ethylhexyl)phthalate, di-n-butylphthalate, DDD[4,4'-], DDE[4,4'-], dieldrin, and Aroclor-1254. Additionally, TCDD equivalency (the summation of the individual dioxin/furan congeners) was greater than 0.3 for the montane shrew. As presented in Table E-4.2-2, HI values for the terrestrial receptors range from 1.89E-01 to 7.16E+00.

E-4.3 Uncertainty Analysis

This section provides an evaluation of the ecological risk screening assessment results, in the context of assumptions used in the screening process, to determine whether or not the results are ecologically meaningful, whether they indicate actual risk to ecological receptors, and if additional analysis is required.

According to the HI analysis, all terrestrial receptors, except the desert cottontail and red fox, had HI values greater than 1.0. EPA guidance is to manage the ecological risk to populations rather than to individuals, with the exception of T&E species (EPA 1999, 70086). One approach to assessing potential effects on populations at CU 19-001-99 is to estimate the spatial extent of the areas inhabited by the local wildlife populations that overlap with the site.

The population area for each receptor is based on the individual receptor home range and its dispersal distance (Bowman et al. 2002, 73475). Bowman et al. (2002, 73475) estimate that the median dispersal distance for mammals is seven times the linear dimension of the home range (i.e., the square root of the home range area). If only the dispersal distances for the mammals with home ranges within the range of the screening receptors are used, the median dispersal distance becomes 3.6 times the square root of the home range (R^2=0.91; Bowman et al. 2002, 73475). If it is assumed that the receptors can disperse the same distance in any direction, the population area is circular and the dispersal distance is the radius of the circle. Therefore, the population area for each receptor can be derived by $\pi(3.6\sqrt{HR})^2$ or approximately 40HR.

The area of CU 19-001-99 is estimated as 1.5 hectares (ha). The population area use factor (PAUF) is estimated by dividing the site area of 1.5 ha by the population area of the receptor. The resulting value is then multiplied by the receptor HI to determine if there is a potential impact on the population. HI values for the plant and earthworm are not adjusted by PAUFs because these receptors do not have home ranges from which PAUFs can be calculated.

Based on the PAUF assessment, the population adjusted HI values for the wildlife receptors, except the deer mouse, are less than 1.0 (Table E-4.2-3), indicating that potential risk is not expected at CU 19-001-99. The PAUF-adjusted HI for the deer mouse is equivalent to 1.0 (1.1), which also indicates no potential risk to the deer mouse at CU 19-001-99.

The Mexican spotted owl, which is a T&E species and represented by the kestrel as 100% carnivore, must be evaluated based on individual area use rather than the population. The individual home range for the Mexican spotted owl is approximately 366 ha (EPA 1993, 59109) and the individual area use factor (AUF) is derived by dividing the site area (1.5 ha) by the 366 ha resulting in an AUF for the Mexican spotted owl of 0.004. The AUF is multiplied by the HI for the kestrel 100% carnivore (1.34), which results in an AUF modified HI of 0.005 (Table E-4.2-3). This HI indicates there is no potential risk to the Mexican spotted owl from CU 19-001-99.

The HI calculated for plants was also equivalent to 1.0 (1.22). The vegetation at the site appears healthy, is lacking any signs of stress and the vegetative community is comparable to the community in the area surrounding TA-19. Therefore, there is no potential risk to plants at CU 19-001-99.

The following five COPECs do not have ESLs for any receptors: isophorone, dinoseb, MCPA, MCPP, and T[2,4,5-]. A brief discussion of each of these COPECs follows.

Isophorone: Isophorone was detected in one of 46 samples from CU 19-001-99 in tuff only. The concentration was an estimated value of 0.16 mg/kg and is below the lowest quantitation limit of 0.334 mg/kg for this chemical. Given the low frequency of detection, the trace level concentration, and the detection only in tuff, isophoprone is not a COPEC at CU 19-001-99.

Dinoseb: Dinoseb was detected in two of 40 samples from CU 19-001-99, both of which were estimated values (0.0022 mg/kg and 0.0038 mg/kg) below the lowest quantitation limit of 0.0048 mg/kg. Given the low frequency of detection and the trace level concentrations, dinoseb is not a COPEC at CU 19-001-99.

MCPA: MCPA was detected in one of 40 samples from CU 19-001-99. The concentration of this detection was an estimated value of 0.52 mg/kg, below the lowest quantitation limit of 0.958 mg/kg for this chemical. Given the low frequency of detection and the trace level concentration, MCPA is not a COPEC at CU 19-001-99.

MCPP: MCPP was detected in one of 40 samples from CU 19-001-99. The concentration of this detection was 1.2 mg/kg, slightly above the lowest quantitation limit of 0.958 mg/kg for this chemical. Given the low frequency of detection and the low concentration, MCPP is not a COPEC at CU 19-001-99.

T[2,4,5-]: T[2,4,5-] was detected in one of 40 samples from CU 19-001-99. The concentration of this detection was 0.0054 mg/kg, slightly above the lowest quantitation limit of 0.0048 mg/kg for this chemical. Given the low frequency of detection and the low concentration, T[2,4,5-] is not a COPEC at CU 19-001-99.

E-5.0 RESULTS OF ECOLOGICAL SCREENING ANALYSIS

Overall, the uncertainties associated with the evaluation of ecological risks to residual concentrations of COPCs in the soil and tuff at CU 19-001-99 overestimate potential risk to ecological receptors. HI values adjusted for population area use were all less than 1.0, except for the deer mouse which has an HI equivalent to 1.0 (1.1). The HI for the Mexican spotted owl adjusted for individual area use was also less than 1.0 (0.005). The COPECs without ESLS were detected infrequently at the site (between 2.2% and 5% of the samples) and at low concentrations and are not COPECs.

E-6.0 CONCLUSIONS

Both the human health and ecological screening assessments presented in this appendix provide sufficient evidence to conclude that residual concentrations of COPCs and COPECs in soil and tuff at CU 19-001-99 do not pose potential unacceptable risk or dose to either human health or the environment.

E-7.0 REFERENCES

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author, publication date, and ER ID number. This information is also included in text citations. ER ID numbers are assigned by the ENV-ERS Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in theENV-ERS reference set titled "Reference Set for OU 1071."

Copies of the reference sets are maintained at the NMED Hazardous Waste Bureau; the DOE Los Alamos Site Office; the U.S. Environmental Protection Agency, Region 6; and at ENV-ERS. The sets were developed to ensure that the administrative authority has all material needed to review this document, and they are updated periodically as needed. Documents previously submitted to the administrative authority are not included.

Bowman J. A., G. Jaeger, and L. Fahrig, 2002. "Dispersal Distance of Mammals Is Proportional to Home Range Size," Ecology, Vol. 83, pp. 2049–2055. (Bowman et al. 2002, 73475)

DOE (U.S. Department of Energy), June 2000, "Procedure for the Release of Residual Radioactive Material from Real Property," Los Alamos National Laboratory memorandum to D. Glenn (DOE Area Manager) from C. Soden (ESH Division Director), Los Alamos, New Mexico. (DOE 2000, 67489)

EPA (U.S. Environmental Protection Agency), July 1989. "Risk Assessment Guidance for Superfund, Vol.I, Human Health Evaluation Manual (Part A)," Interim Final, EPA 540/89/002, Office of Emergency and Remedial Response, Washington, D. C. (EPA 1989, 08021)

EPA (U.S. Environmental Protection Agency), 1993. "Wildlife Exposure Factors Handbook, Volume I," EPA/600/R-93/187, Office of Research and Development, Washington, DC. (EPA 1993, 59109)

EPA (U.S. Environmental Protection Agency), 1999. "Issuance of Final Guidance: Ecological Risk Assessment and Risk Management Principles for Superfund Sites," OSWER Directive 9285.7-28, available at http://www.epa.gov/superfund/programs/risk/ecorisk/final99.pdf (EPA 1999, 70086)

EPA (U.S. Environmental Protection Agency), December 2002. "Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites," OSWER Directive 9285.6-10, Office of Emergency and Remedial Response, Washington, D.C. (EPA 2002, 73790)

EPA (U.S. Environmental Protection Agency), December 2003. "Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds National Academy Sciences (NAS) Review Draft: Part II: Health Assessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds, Chapter 9: Toxicity Equivalence Factors (TEF) for Dioxin and Related Compounds," EPA 600-P00-001Cb, National Center for Environmental Assessment, Office of Research and Development, Washington DC (EPA 2003, 87658)

EPA (U.S. Environmental Protection Agency), November 2004. “EPA Region 6 Human Health Medium-Specific Screening Levels,” U.S. Environmental Protection Agency document, Washington, D.C. (EPA 2004, 87478)

LANL (Los Alamos National Laboratory), February 1996. “Voluntary Corrective Action Completion Report for PRS 19-002, Surface Disposal Area Former TA-19,” Los Alamos National Laboratory document LA-UR-96-433, Los Alamos, New Mexico. (LANL 1996, 05269)

LANL (Los Alamos National Laboratory), March 1997. “Performance Assessment and Composite Analysis for Los Alamos National Laboratory Material Disposal Area G,” Los Alamos National Laboratory document LA-UR-97-85, Los Alamos, New Mexico. (LANL 1997, 63131)

LANL (Los Alamos National Laboratory), September 1997. “RFI Report for TA-19, PRSs 19-001, 19-003, and C-19-001,” Los Alamos National Laboratory document LA-UR-97-3791, Los Alamos, New Mexico. (LANL 1997, 71468)

LANL (Los Alamos National Laboratory), September 1998. “Inorganic and Radionuclide Background Data for Soils, Canyon Sediments, and Bandelier Tuff at Los Alamos National Laboratory,” Los Alamos National Laboratory document LA UR-98-4847, Los Alamos, New Mexico. (LANL 1998, 59730)

LANL (Los Alamos National Laboratory), September 2002. “Environmental Surveillance at Los Alamos during 2001,” Los Alamos National Laboratory report LA-13979-ENV, Los Alamos, New Mexico. (LANL 2002, 73876)

LANL (Los Alamos National Laboratory), January 2004. “Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory),” Los Alamos National Laboratory document LA-UR-04-0199, Los Alamos, New Mexico. (LANL 2004, 85521)

LANL (Los Alamos National Laboratory), September 2004. “ECORISK Database Release 2.1,” Risk Reduction and Environmental Stewardship - Remediation Services Records Processing Facility, Los Alamos National Laboratory, Los Alamos, New Mexico. (LANL 2004, 87386)

LANL (Los Alamos National Laboratory), December 2004. “Screening Level Ecological Risk Assessment Methods,” Rev. 2, Los Alamos National Laboratory document LA-UR-04-8246, Los Alamos, New Mexico. (LANL 2004, 87630)

LANL (Los Alamos National Laboratory), May 2005. “Derivation and Use of Radionuclide Screening Action Levels, Revision 1,” Los Alamos National Laboratory document LA-UR-05-1849, Los Alamos, New Mexico. (LANL 2005, 88493)

Lockheed Martin, April 2002. “ProUCL User’s Guide,” prepared for U.S. Environmental Protection Agency. (Lockheed Martin 2002, 73767)

NMED (New Mexico Environment Department), 2004. “Technical Background Document for Development of Soil Screening Levels, Revision 2.0,” New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2004, 85615)

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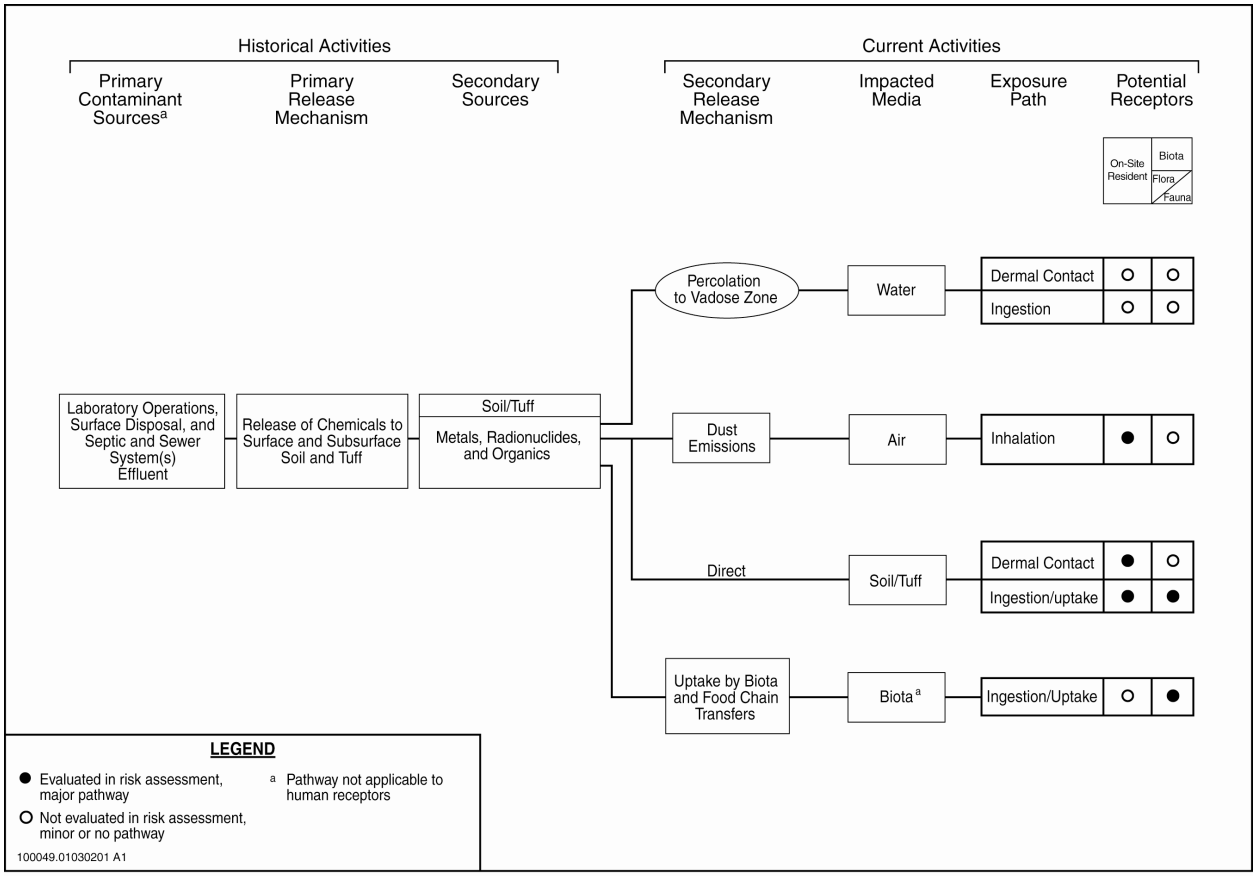

Figure E.2.1-1. Conceptual site model flow diagram for CU 19-001-99

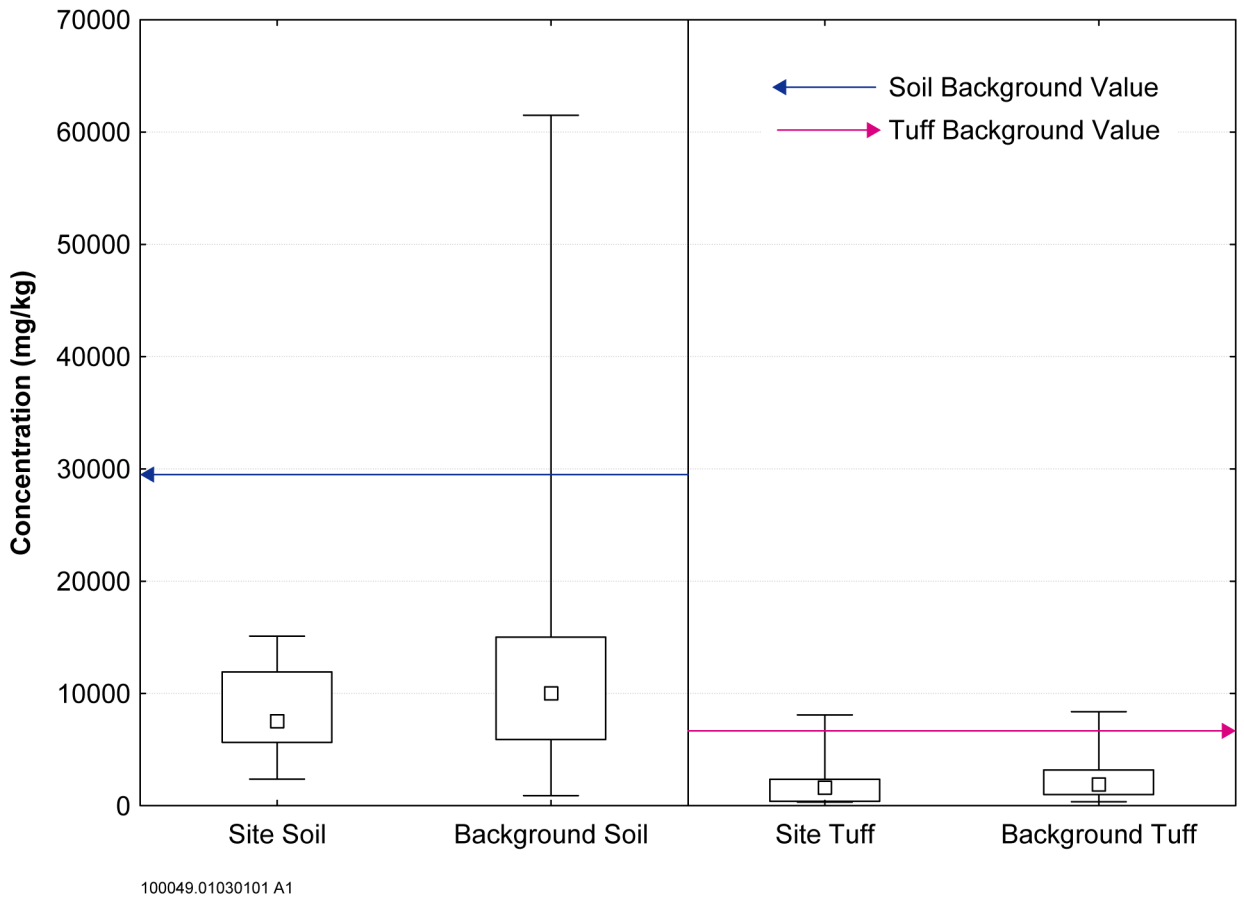

Figure E.2.2-1. Box-and-whisker background comparison for aluminum in soil and tuff

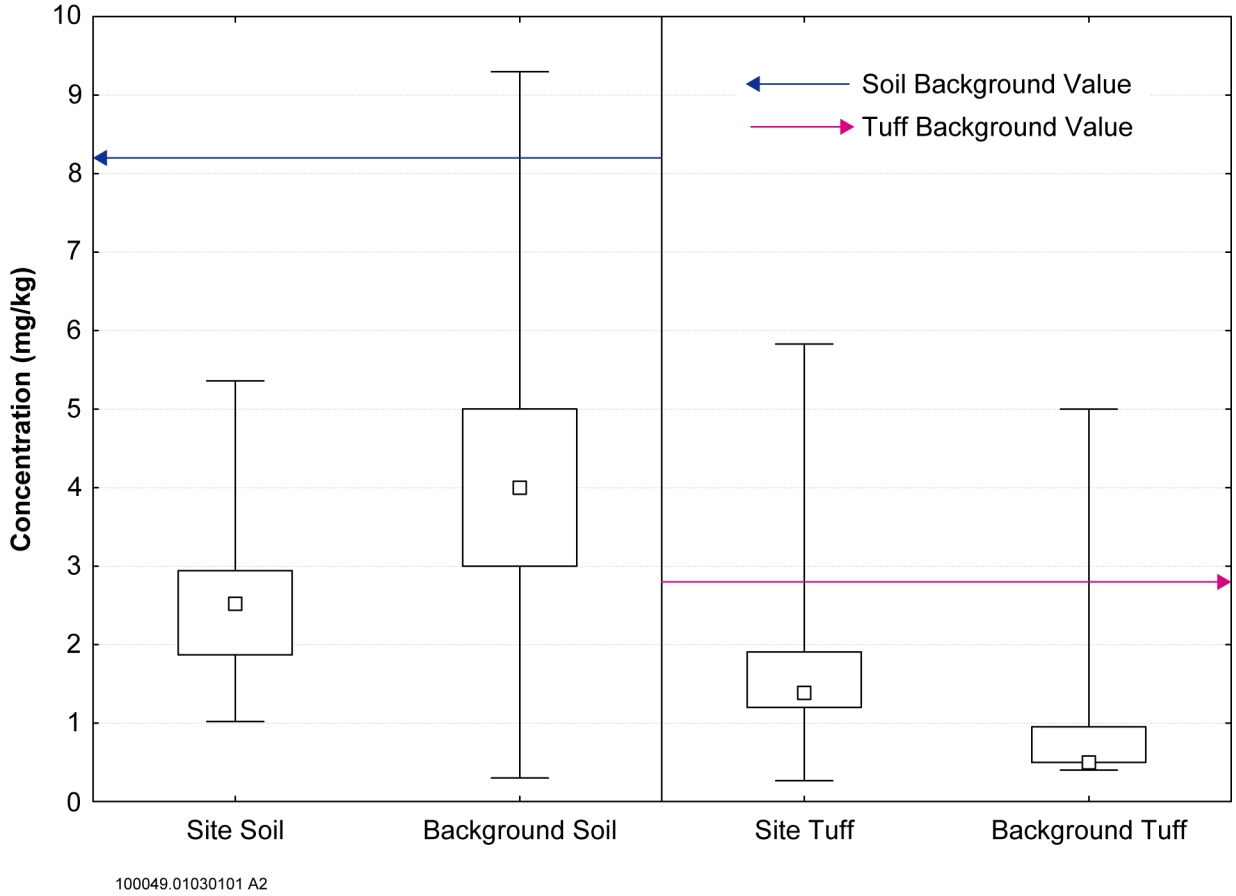

Figure E.2.2-2. Box-and-whisker background comparison for arsenic in soil and tuff

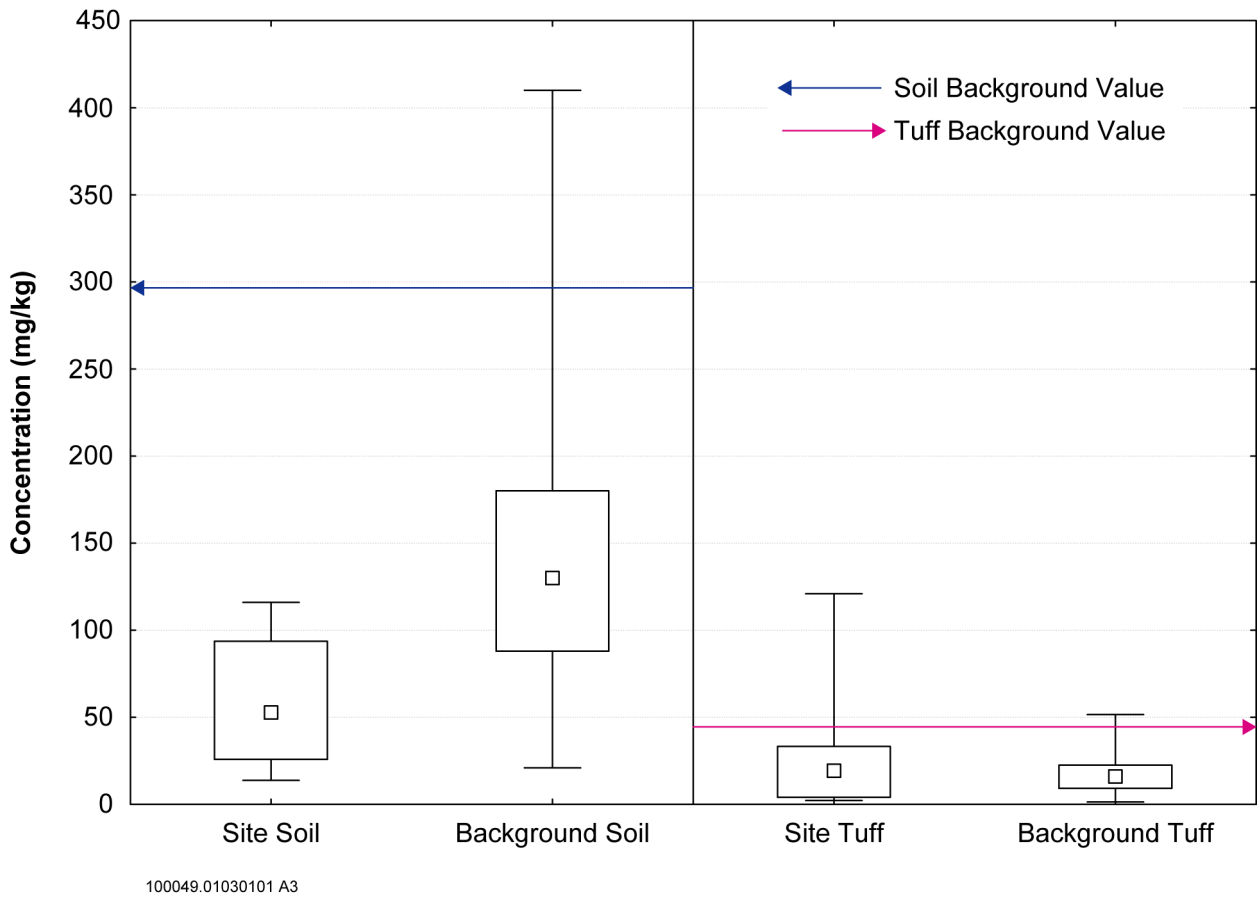

Figure E.2.2-3. Box-and-whisker background comparison for barium in soil and tuff

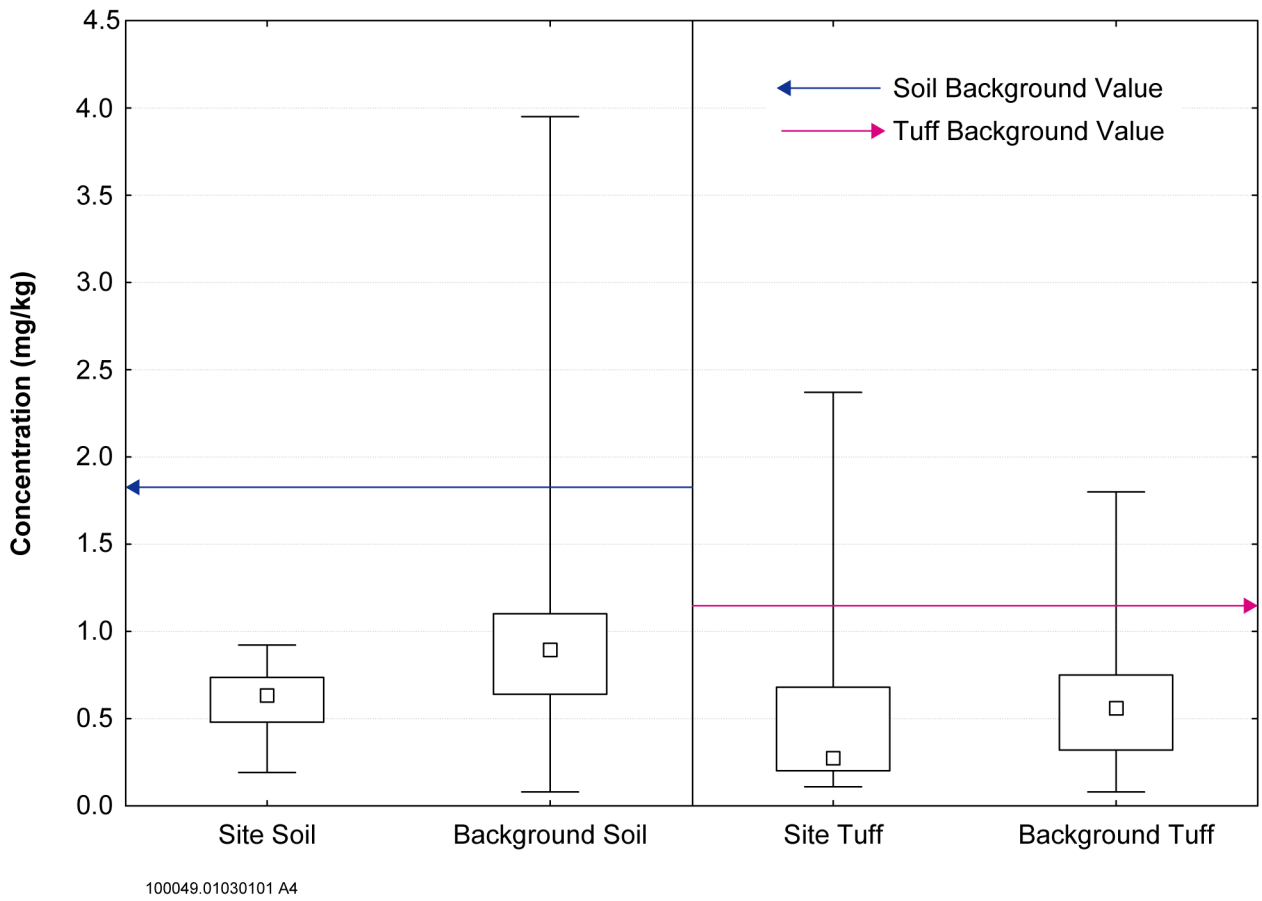

Figure E.2.2-4. Box-and-whisker background comparison for beryllium in soil and tuff

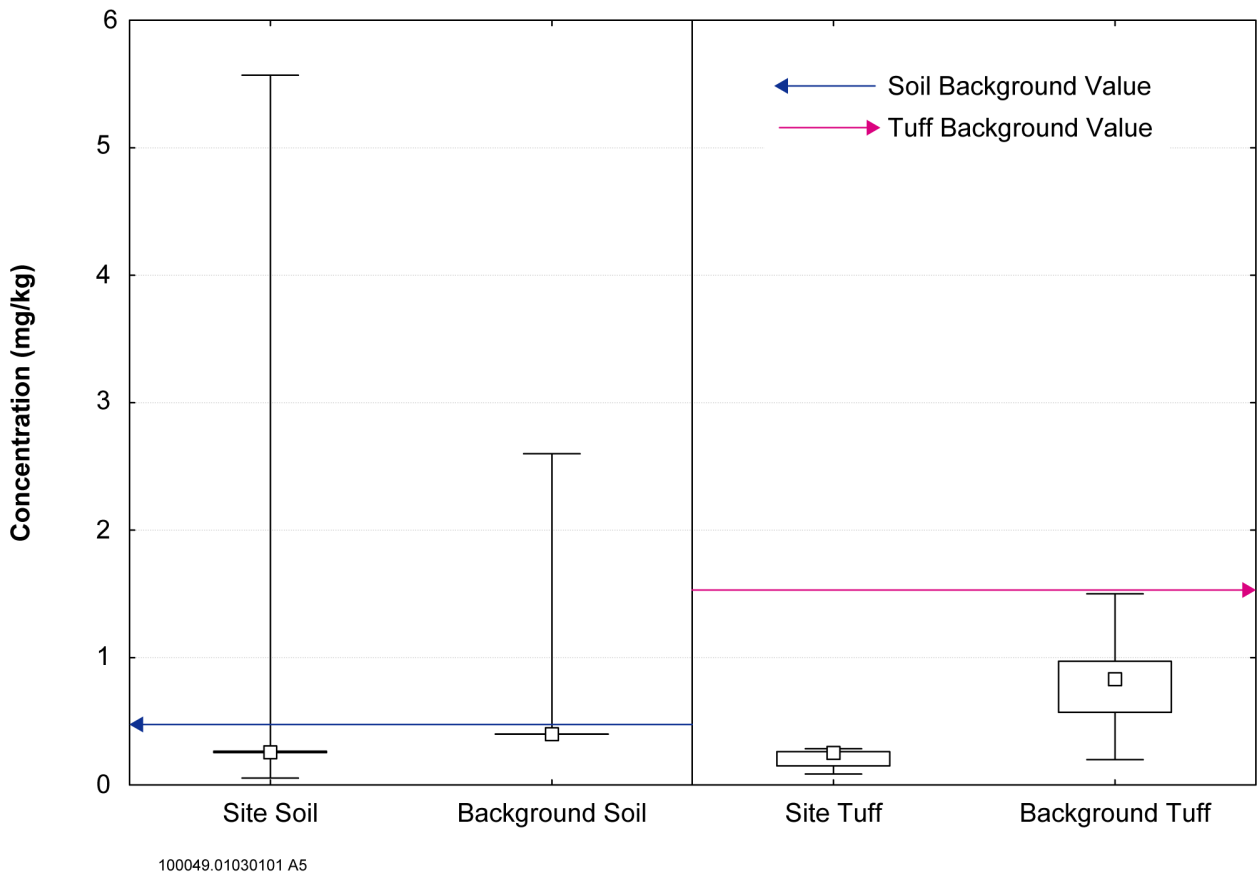

Figure E.2.2-5. Box-and-whisker background comparison for cadmium in soil and tuff

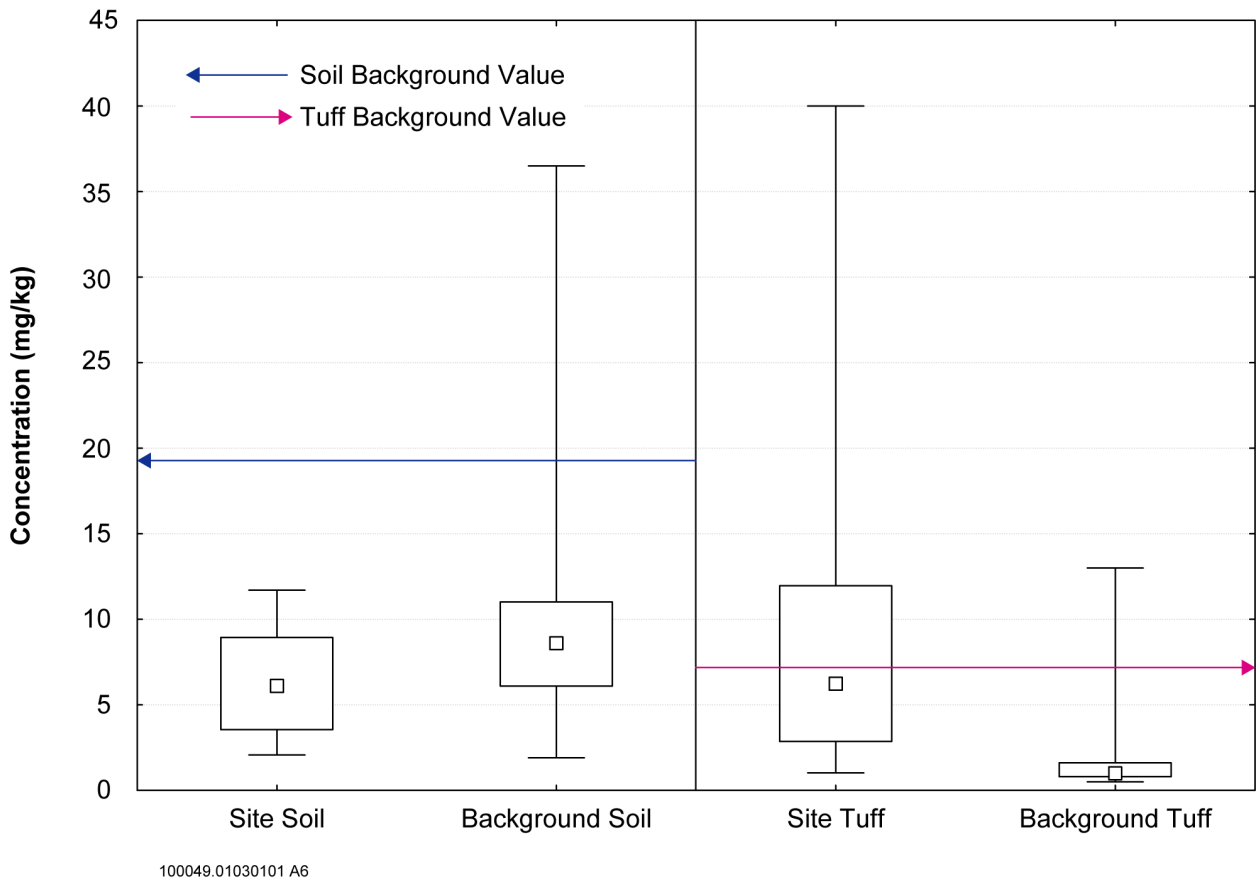

Figure E.2.2-6. Box-and-whisker background comparison for chromium in soil and tuff

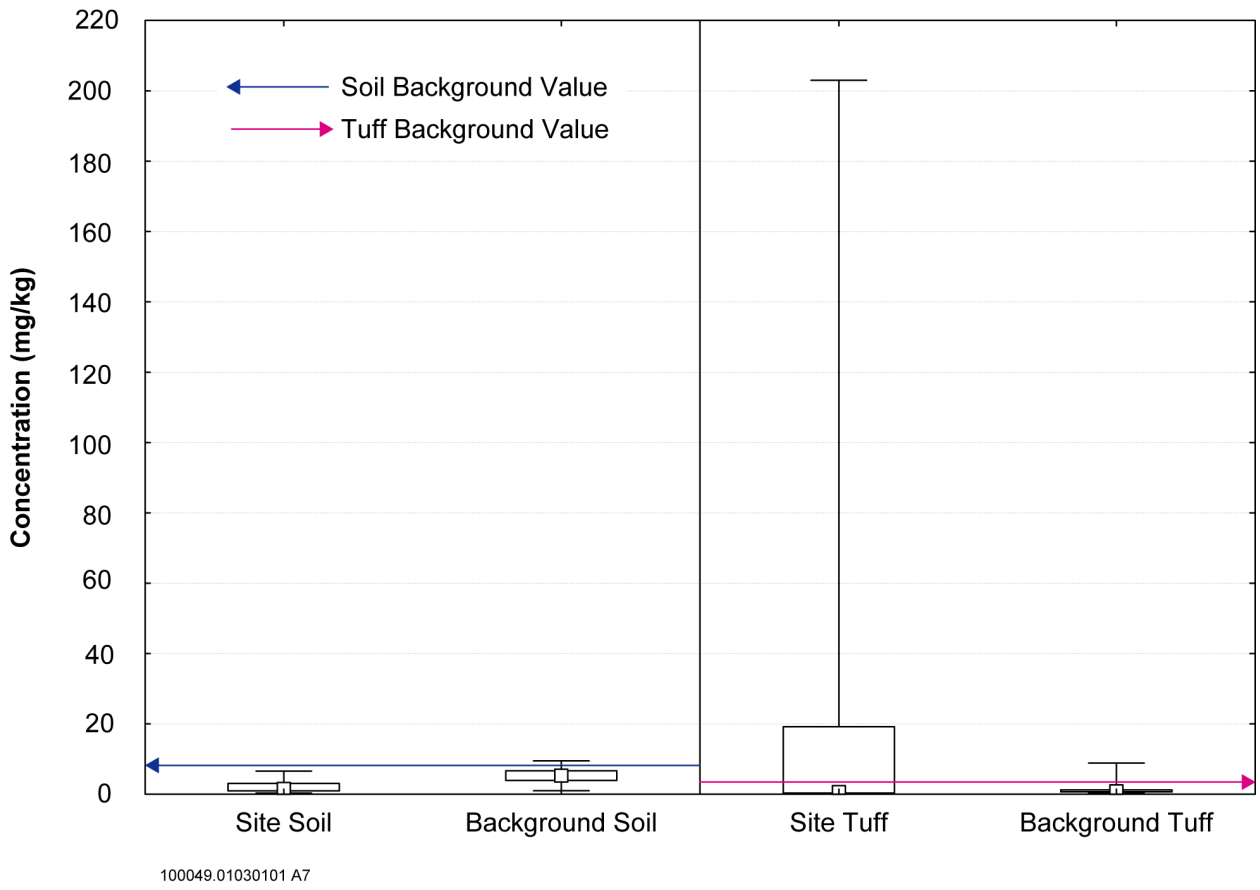

Figure E.2.2-7. Box-and-whisker background comparison for cobalt in soil and tuff

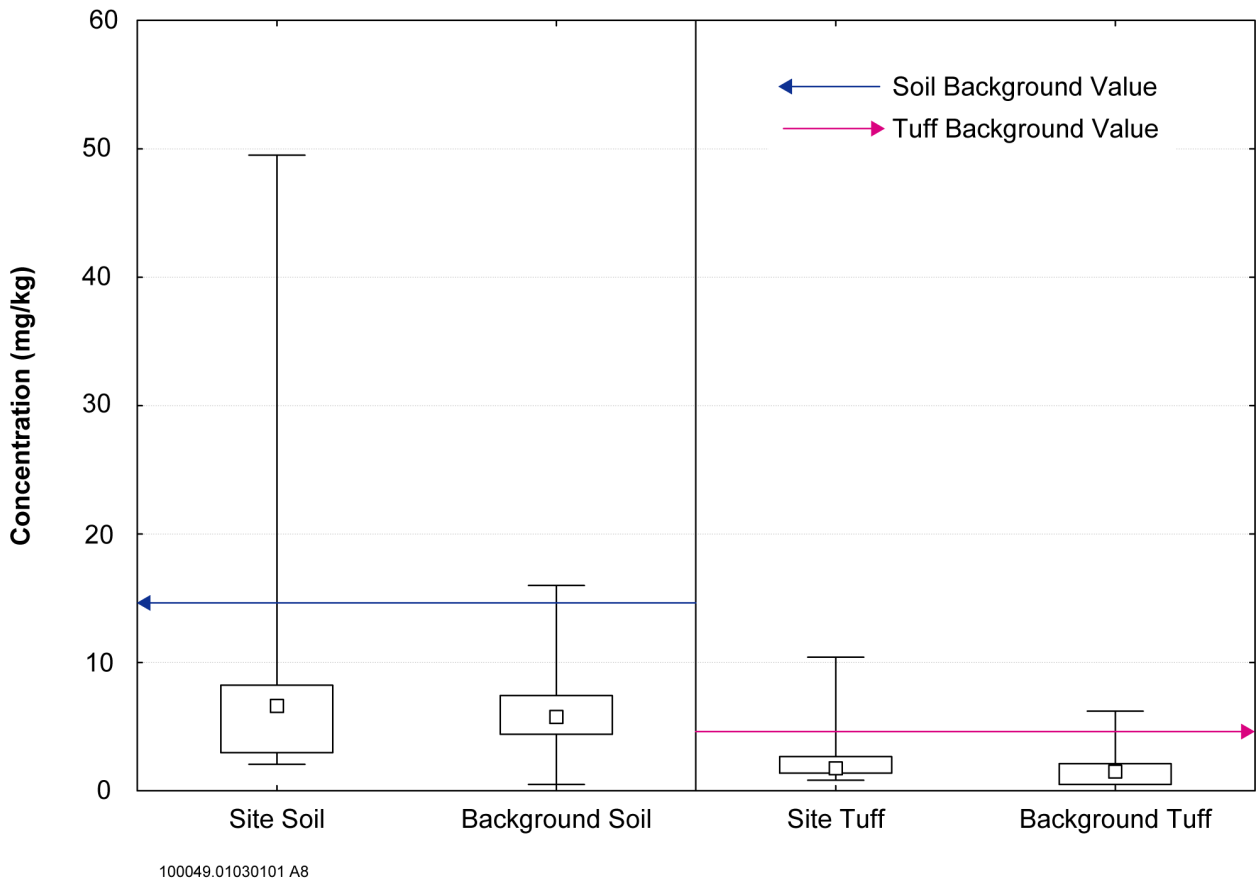

Figure E.2.2-8. Box-and-whisker background comparison for copper in soil and tuff

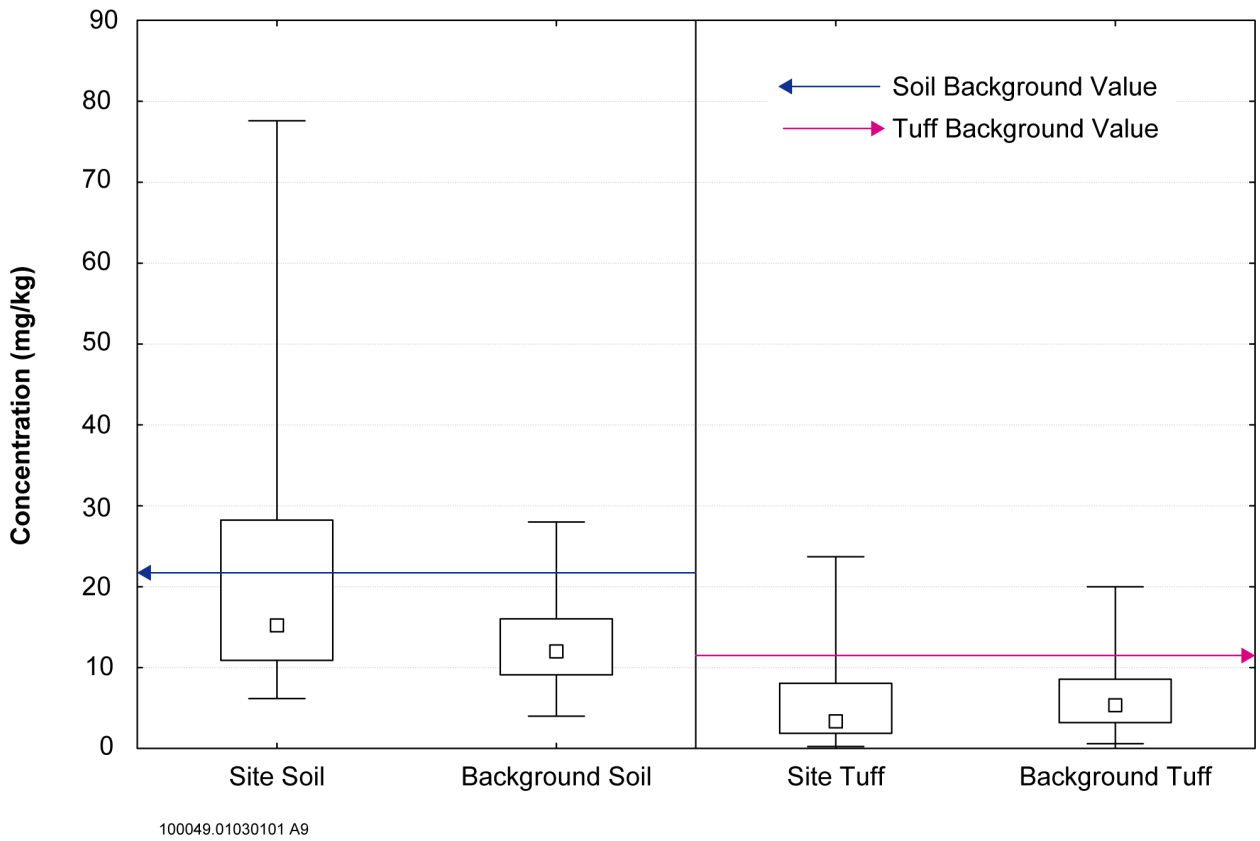

Figure E.2.2-9. Box-and-whisker background comparison for lead in soil and tuff

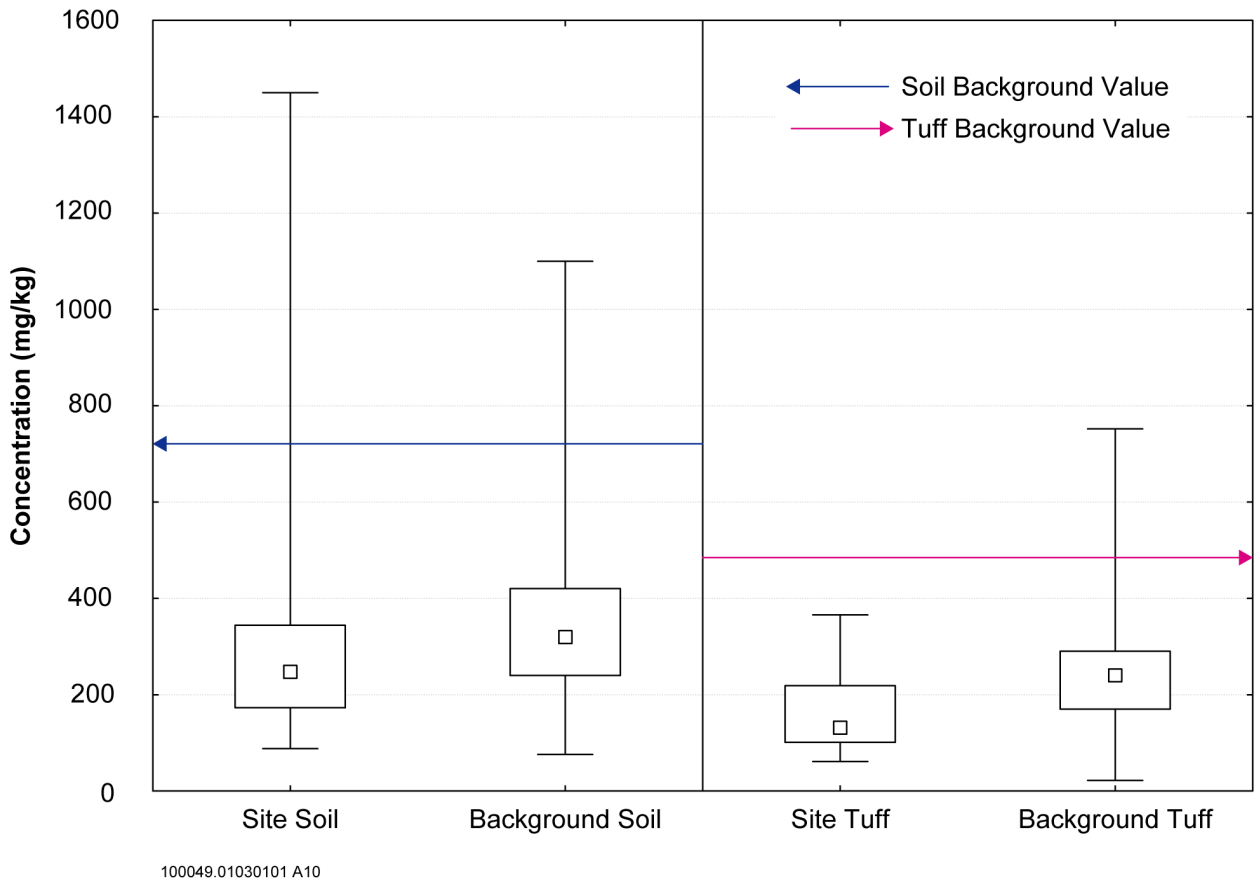

Figure E.2.2-10. Box-and-whisker background comparison for manganese in soil and tuff

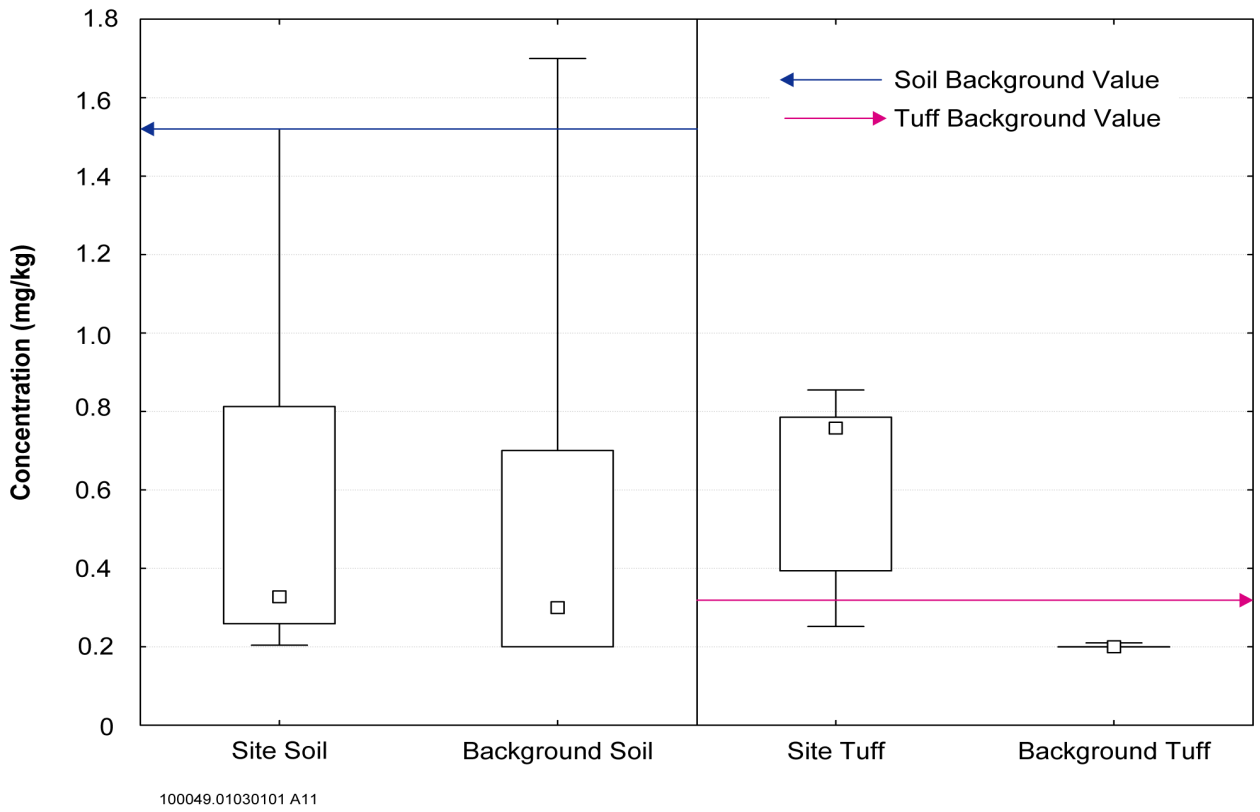

Figure E.2.2-11. Box-and-whisker background comparison for selenium in soil and tuff

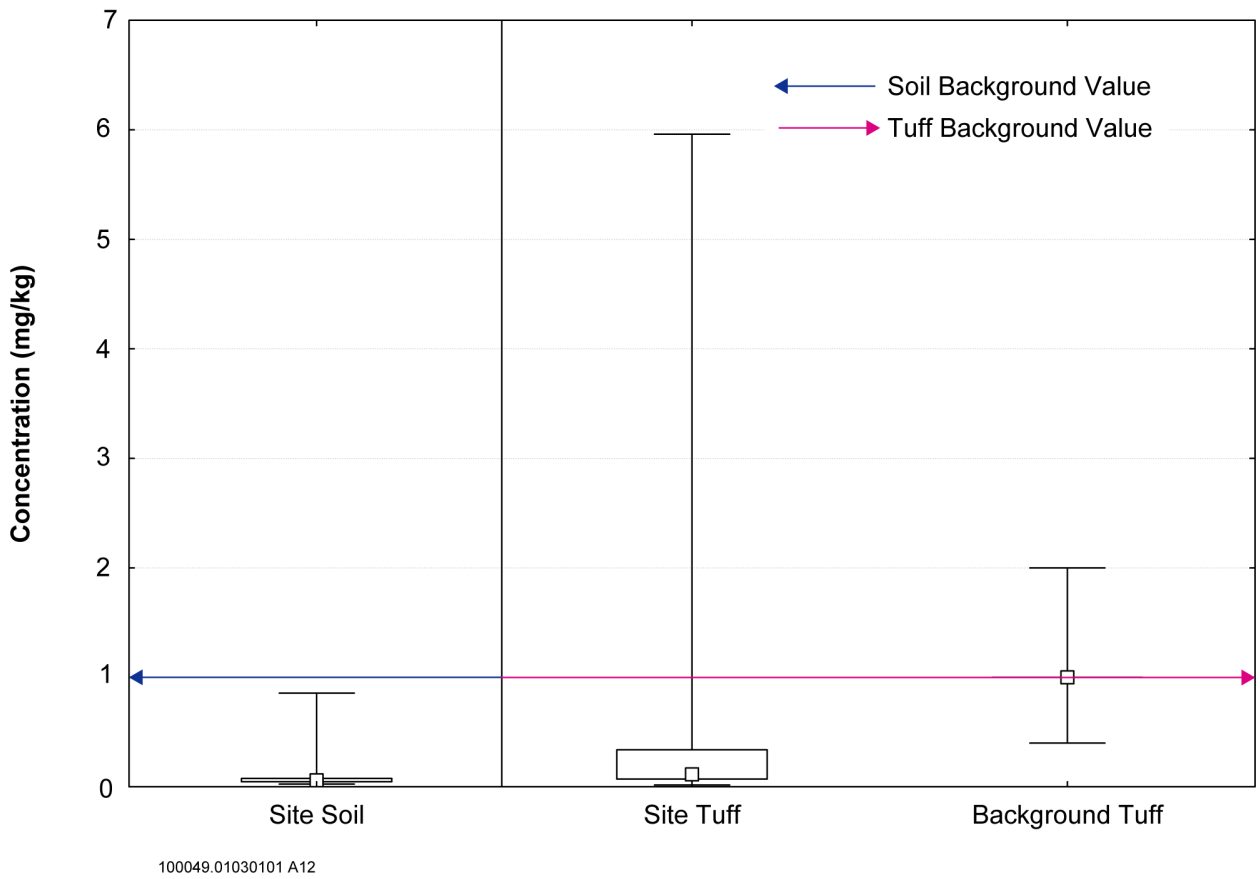

Figure E.2.2-12. Box-and-whisker background comparison for silver in soil and tuff

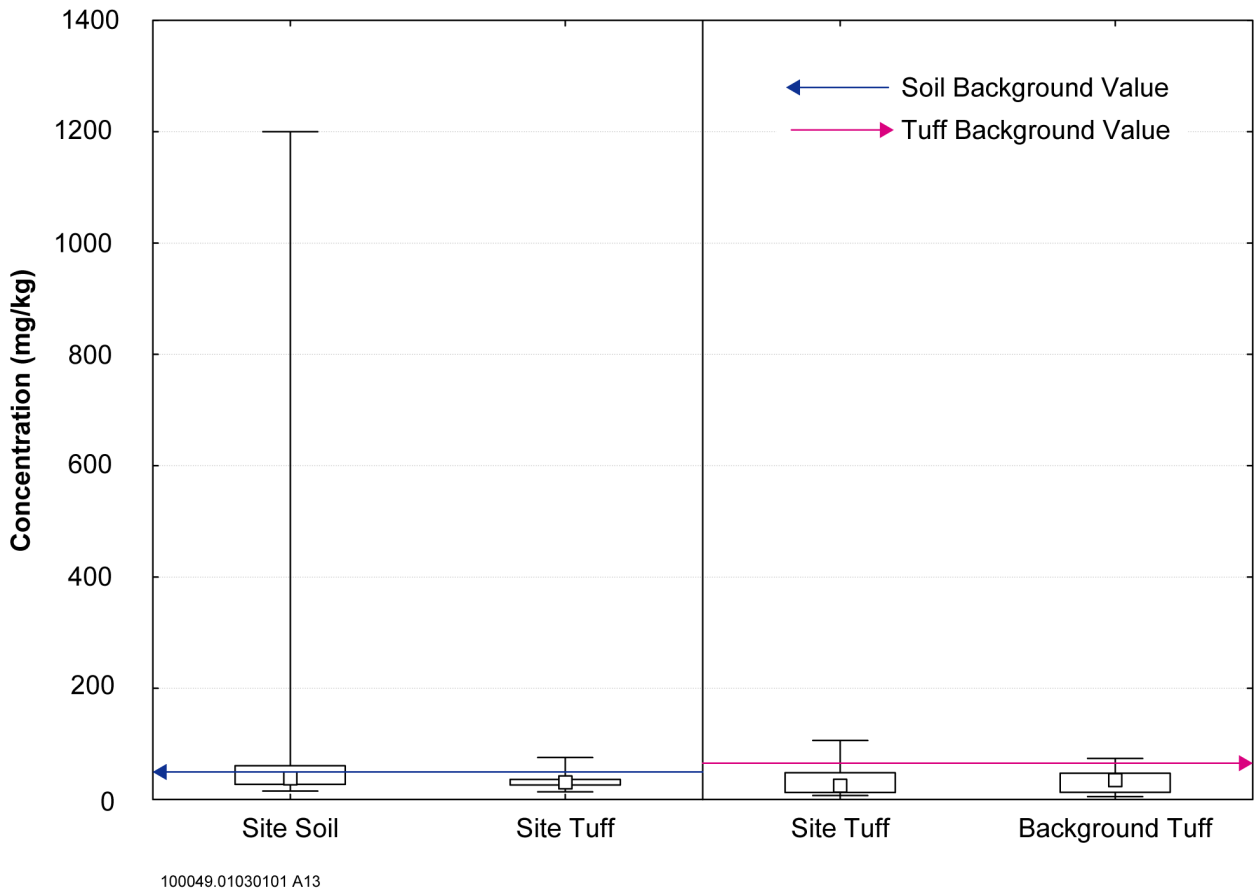

Figure E.2.2-13. Box-and-whisker background comparison for zinc in soil and tuff

Table E-2.2-1
CU 19-001-99 COPCs

Analyte	Explanation[a]
Inorganic Chemicals	
Arsenic	Maximum concentration for tuff exceeded LANL Background Values
Barium	Maximum concentration for tuff exceeded LANL Background Values
Beryllium	Maximum concentration for tuff exceeded LANL Background Values
Cadmium	Maximum concentration for soil exceeded LANL Background Values
Chromium	Maximum concentration for tuff exceeded LANL Background Values
Cobalt	Maximum concentration for tuff exceeded LANL Background Values
Copper	Maximum concentrations for soil and tuff exceeded LANL Background Values
Lead	Maximum concentrations for soil and tuff exceeded LANL Background Values
Manganese	Maximum concentration for soil exceeded LANL Background Values
Selenium	Maximum concentrations for soil and tuff exceeded LANL Background Values
Silver	Maximum concentration for tuff exceeded LANL Background Values
Zinc	Maximum concentrations for soil and tuff exceeded LANL Background Values
Semivolatile Organic Compounds	
Benzo(a)pyrene	Chemical was detected
Benzo(b)fluoranthene	Chemical was detected
Benzo(g,h,i)perylene	Chemical was detected
Benzoic Acid	Chemical was detected
Bis(2-ethylhexyl)phthalate	Chemical was detected
Chrysene	Chemical was detected
Di-n-butylphthalate	Chemical was detected
Fluoranthene	Chemical was detected
Indeno(1,2,3-cd)pyrene	Chemical was detected
Isophorone	Chemical was detected
Phenanthrene	Chemical was detected
Pyrene	Chemical was detected
Volatile Organic Compounds	
Acetone	Chemical was detected
Toluene	Chemical was detected
Pesticides	
DDD[4,4'-]	Chemical was detected
DDE[4,4'-]	Chemical was detected
DDT[4,4'-]	Chemical was detected
Dieldrin	Chemical was detected
Dinoseb	Chemical was detected

Table E-2.2-1 (continued)

Analyte	Explanation[a]
Herbicides	
MCPA	Chemical was detected
MCPP	Chemical was detected
T[2,4,5-]	Chemical was detected
Dioxins/Furans	
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Chemical was detected
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Chemical was detected
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Chemical was detected
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Chemical was detected
Polychlorinated Biphenyls	
Aroclor-1242	Chemical was detected
Aroclor-1254	Chemical was detected
Aroclor-1260	Chemical was detected
Radionuclides	
Uranium-235	Maximum measured activity for tuff exceeded fallout values

[a] LANL (1998, 59730)

COPC = Chemical of potential concern
CU = Consolidated unit
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
LANL = Los Alamos National Laboratory
MCPA = Methyl chlorophenoxy acetic acid
MCPP = 2-(2-Methyl-4-chlorophenoxy)propionic acid
T = Trichlorophenoxyacetic acid

Table E-2.2-2
CU 19-001-99 COPC Statistics

COPC	Number of Analyses	Frequency of Detection (%)	Distribution Type	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Mean Concentration (mg/kg)	Standard Deviation (mg/kg)	95% UCL (mg/kg)	95% UCL Method
Inorganic Chemicals									
Arsenic	58	94.8	Lognormal	0.27[a]	5.83	2.15	1.13	2.60	H-UCL
Barium	58	100	Nonparametric	2.28	121	42.17	35.18	62.3	Chebyshev
Beryllium	58	100	Lognormal	0.11	2.37	0.56	0.38	0.68	H-UCL
Cadmium	58	25.9	Nonparametric	0.05	5.57	0.35	0.71	0.76	Chebyshev
Chromium	58	100	Lognormal	1.02	40	8.07	7.93	9.77	H-UCL
Cobalt	58	94.8	Nonparametric	0.09	203	14.15	41.03	37.6	Chebyshev
Copper	58	100	Nonparametric	0.83	49.5	6.03	8.88	11.1	Chebyshev
Lead	58	98.3	Nonparametric	0.25	77.6	13.79	14.17	21.9	Chebyshev
Manganese	58	100	Lognormal	61.5	1450	240.98	211.26	273	H-UCL
Selenium	58	31	Nonparametric	0.20	1.52	0.61	0.34	0.80	Chebyshev
Silver	58	84.5	Nonparametric	0.02	5.96	0.37	0.98	0.93	Chebyshev
Zinc	58	100	Nonparametric	7.37	1200	116.43	254.77	262	Chebyshev
Semivolatile Organic Compounds									
Benzo(a)pyrene	46	10.9	Nonparametric	0.017[a]	0.187[a]	0.03	0.03	0.044	Chebyshev
Benzo(b)fluoranthene	46	23.9	Nonparametric	0.017[a]	0.258	0.04	0.05	0.068	Chebyshev
Benzo(g,h,i)perylene	46	6.5	Nonparametric	0.017[a]	0.187[a]	0.02	0.03	0.041	Chebyshev
Benzoic Acid	46	4.3	Nonparametric	0.277	3.75[a]	0.44	0.53	0.784	Chebyshev
Bis(2-ethylhexyl)phthalate	46	13	Nonparametric	0.03[a]	7.34	0.36	1.09	1.06	Chebyshev
Chrysene	46	23.9	Nonparametric	0.017[a]	0.296	0.04	0.05	0.069	Chebyshev
Di-n-butylphthalate	46	2.2	Nonparametric	0.036	1.87[a]	0.22	0.26	0.391	Chebyshev
Fluoranthene	46	26.1	Nonparametric	0.017[a]	0.46	0.05	0.08	0.105	Chebyshev

Table E-2.2-2 (continued)

COPC	Number of Analyses	Frequency of Detection (%)	Distribution Type	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Mean Concentration (mg/kg)	Standard Deviation (mg/kg)	95% UCL (mg/kg)	95% UCL Method
Indeno(1,2,3-cd)pyrene	46	8.7	Nonparametric	0.017[a]	0.187[a]	0.02	0.03	0.041	Chebyshev
Isophorone	46	2.2	Nonparametric	0.161	1.87[a]	0.22	0.26	0.393	Chebyshev
Phenanthrene	46	21.7	Nonparametric	0.023[a]	0.374[a]	0.05	0.06	0.088	Chebyshev
Pyrene	46	28.3	Nonparametric	0.013	0.572	0.05	0.10	0.113	Chebyshev
Volatile Organic Compounds									
Acetone	38	2.6	Nonparametric	0.003[a]	0.01	0.003	0.001	0.004	Chebyshev
Toluene	38	34.2	Nonparametric	0.0005	0.002	0.0007	0.0003	0.001	Chebyshev
Pesticides									
DDD[4,4'-]	40	2.5	Nonparametric	0.0004	0.077[a]	0.006	0.017	0.017	Chebyshev
DDE[4,4'-]	40	12.5	Nonparametric	0.0003	0.077[a]	0.006	0.017	0.017	Chebyshev
DDT[4,4'-]	40	12.5	Nonparametric	0.0006	0.077[a]	0.006	0.017	0.017	Chebyshev
Dieldrin	40	2.5	Nonparametric	0.0007[a]	0.077[a]	0.006	0.017	0.017	Chebyshev
Herbicides									
Dinoseb	40	5	Nonparametric	0.002	0.014[a]	0.004	0.003	0.006	Chebyshev
MCPA	40	2.5	Nonparametric	0.479[a]	2.74[a]	0.885	0.56	1.27	Chebyshev
MCPP	40	2.5	Nonparametric	0.479[a]	2.74[a]	0.90	0.56	1.29	Chebyshev
T[2,4,5-]	40	2.5	Nonparametric	0.002[a]	0.014[a]	0.004	0.003	0.006	Chebyshev
Dioxins/Furans[b]									
Heptachlorodibenzodioxin [1,2,3,4,6,7,8-]	4	75	NA	1.2E-07	4.66E-06	1.26E-06	NA	4.66E-06	NA
Heptachlorodibenzofuran [1,2,3,4,6,7,8-]	4	50	NA	3.0E-08[a]	5.66E-06	1.48E-06	NA	5.66E-06	NA
Octachlorodibenzodioxin [1,2,3,4,6,7,8,9-]	4	50	NA	3.2E-07[a]	3.56E-05	9.84E-06	NA	3.56E-05	NA
Octachlorodibenzofuran [1,2,3,4,6,7,8,9-]	4	25	NA	9.0E-08[a]	3.14E-06	8.74E-07	NA	3.14E-06	NA

Table E-2.2-2 (concluded)

COPC	Number of Analyses	Frequency of Detection (%)	Distribution Type	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Mean Concentration (mg/kg)	Standard Deviation (mg/kg)	95% UCL (mg/kg)	95% UCL Method
Polychlorinated Biphenyls									
Aroclor-1242	48	6.3	Nonparametric	0.0017[a]	0.011	0.002	0.002	0.003	Chebyshev
Aroclor-1254	48	29.2	Nonparametric	0.0007	0.234	0.008	0.034	0.029	Chebyshev
Aroclor-1260	46	39.6	Nonparametric	0.0017[a]	0.075	0.005	0.012	0.013	Chebyshev
Radionuclides (pCi/g)									
Uranium-235	38	2.6	Lognormal	0.18	0.34	0.25	0.04	0.260	H-UCL

[a] Value shown is 1/2 the quantitation limit.

[b] Maximum values used for these COPCs.

COPC = Chemical of potential concern
CU = Consolidated unit
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
MCPA = Methyl chlorophenoxy acetic acid
MCPP = 2-(2-Methyl-4-chlorophenoxy)propionic acid
mg/kg = Milligram(s) per kilogram
NA = Not applicable, too few samples to run statistical analysis
pCi/g = Picocurie(s) per gram
T = Trichlorophenoxyacetic acid
UCL = Upper confidence limit

Table E-3.1-2
CU 19-001-99 Carcinogenic Screening Evaluation

COPC	95% UCL (mg/kg)	SSL[a] (mg/kg)
Inorganic Chemicals		
Arsenic	2.60	3.90
Chromium	9.77	2,100[b]
Semivolatile Organic Compounds		
Benzo(a)pyrene	0.044	0.621
Benzo(b)fluoranthene	0.068	6.21
Bis(2-ethylhexyl)phthalate	1.06	347
Chrysene	0.070	621
Indeno(1,2,3-cd)pyrene	0.041	6.21
Isophorone	0.393	5,120
Pesticides		
DDD[4,4'-]	0.017	24.4
DDE[4,4'-]	0.017	17.2
DDT[4,4'-]	0.017	17.2
Dieldrin	0.017	0.304
Dioxins/Furans[c]		
TCDD Equivalency	1.07E-07[d]	3.90E-05[b]
Polychlorinated Biphenyls		
Aroclor-1242	0.003	2.22
Aroclor-1254	0.029	2.22
Aroclor-1260	0.013	2.22

[a] SSLs from NMED (2004, 85615), unless otherwise noted.
[b] SSL from EPA Region 6 (EPA 2004, 87478) and converted to 10^{-5} risk.
[c] Maximum value used.
[d] Concentration represents sum of adjusted congener concentrations using congener-specific TEFs (Table E-3.1-4) for comparison to TCDD SSL
--- denotes SSL not available
COPC = Chemical of potential concern
CU = Consolidated unit
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
EPA = U.S. Environmental Protection Agency
mg/kg = Milligram(s) per kilogram
NMED = New Mexico Environment Department
SSL = Soil screening level
TCDD = Tetrachlorodibenzodioxin [2,3,7,8-]
TEF = Toxicity equivalency factor
UCL = Upper confidence limit

Table E-3.1-3
CU 19-001-99 Noncarcinogenic Screening Evaluation

COPC	95% UCL (mg/kg)	0.1 SSL[a] (mg/kg)	SSL[a] (mg/kg)
Inorganic Chemicals			
Barium	62.3	545	5,450
Beryllium	0.685	15.6	156
Cadmium	0.755	7.41	74.1
Cobalt	37.6	152	1,520
Copper	11.1	313	3,130
Lead	21.9	40.0	400
Manganese	274	155	1,550
Selenium	0.798	39.1	391
Silver	0.932	39.1	391
Zinc	262	2,350	23,500
Semivolatile Organic Compounds			
Benzo(g,h,i)perylene[b]	0.041	230	2,300
Benzoic Acid[c]	0.784	10,000	100,000
Di-n-butylphthalate	0.391	60.0	600
Fluoranthene	0.105	225	2,250
Phenanthrene	0.088	180	1,800
Pyrene	0.113	230	2,300
Volatile Organic Compounds			
Acetone	0.004	7,040	70,400
Toluene	0.001	24.8	248
Herbicides			
Dinoseb[c]	0.006	6.1	61
MCPA[c]	1.27	3.1	31
MCPP[c]	1.29	6.1	61
T[2,4,5-][c]	0.006	61.0	610
Polychlorinated Biphenyls			
Aroclor-1254	0.029	0.11	1.11
Radionuclides (pCi/g)			
Uranium-235[d]	0.260	1.7	17

Bold denotes 95% UCL exceeds 0.1 SSL.
[a] All SSLs from: NMED (2004, 85615), unless otherwise noted.
[b] Pyrene used as surrogate.
[c] SSL value from EPA Region 6 (EPA 2004, 87478).
[d] SAL from LANL (2004, 88493).
COPC = Chemical of potential concern
CU = Consolidated unit
EPA = U.S. Environmental Protection Agency
MCPA = Methyl chlorophenoxy acetic acid

Table E-3.1-3 (continued)

MCPP = 2-(2-Methyl-4-chlorophenoxy)propionic acid
mg/kg = Milligram(s) per kilogram
NMED = New Mexico Environment Department
pCi/g = Picocurie(s) per gram
SAL = Screening action level
SSL = Soil screening level
T = Trichlorophenoxyacetic acid
UCL = Upper confidence limit

Table E-3.1-4
TEFs for Dioxin/Furan Congeners Detected at CU 19-001-99

COPC	Human/Mammal TEF	95% UCL	TEF-Adjusted 95% UCL
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	0.01	4.66E-06	4.66E-08
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	0.01	5.66E-06	5.66E-08
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	0.0001	3.56E-05	3.56E-09
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	0.0001	3.14E-06	3.14E-10
TCDD Equivalency	NA	NA	1.07E-07[a]

[a] Value represents the sum of adjusted congener concentrations.
NA = Not applicable
CU = Consolidated unit
TCDD = Tetrachlorodibenzodioxin [2,3,7,8-]
TEF = Toxicity equivalency factor
UCL = Upper confidence limit

Table E-4.1-1
Final Ecological Screening Levels for Ecological Receptors, CU 19-001-99

COPC	95% UCL (mg/kg)	Final ESL[a] (mg/kg)	Hazard Quotient	Final ESL Receptor
Inorganic Chemicals				
Arsenic	2.60	0.830	**3.13**	Montane shrew (insectivore)
Barium	62.3	100	**0.62**	Generic plant
Beryllium	0.685	2.40	0.28	Montane shrew (insectivore)
Cadmium	0.755	0.670	**1.13**	Montane shrew (insectivore)
Chromium[b]	9.77	0.200	**48.9**	Earthworm (invertebrate)
Cobalt	37.6	1.30	**28.9**	Generic plant
Copper	11.1	10.0	**1.11**	Generic plant
Lead	21.9	16.0	**1.34**	American robin (insectivore)
Manganese	274	50.0	**5.48**	Generic plant
Selenium	0.798	0.100	**7.89**	Generic plant
Silver	0.932	0.050	**18.6**	Generic plant
Zinc	262	10.0	**26.2**	Generic plant
Semivolatile Organic Compounds				
Benzo(a)pyrene	0.044	9.60	0.005	Montane shrew (insectivore)
Benzo(b)fluoranthene	0.068	18.0	0.004	Generic plant
Benzo(g,h,i)perylene	0.041	12.0	0.003	Montane shrew (insectivore)
Benzoic Acid	0.784	7.30	0.11	Deer mouse (omnivore)
Bis(2-ethylhexyl)phthalate	1.06	1.00	**1.06**	American robin (insectivore)
Chrysene	0.070	2.40	0.029	Montane shrew (insectivore)
Di-n-butylphthalate	0.391	0.170	**2.3**	American robin (insectivore)
Fluoranthene	0.105	26.0	0.004	Montane shrew (insectivore)
Indeno(1,2,3-cd)pyrene	0.041	62.0	0.0006	Montane shrew (insectivore)
Isophorone	0.393	---	---	---
Phenanthrene	0.088	11.0	0.008	Montane shrew (insectivore)
Pyrene	0.113	15.0	0.008	Montane shrew (insectivore)
Volatile Organic Compounds				
Acetone	0.004	3.80	0.001	Deer mouse (omnivore)
Toluene	0.001	70.0	0.00001	Montane shrew (insectivore)
Pesticides				
DDD[4,4'-][c]	0.017	0.032	**0.53**	American robin (insectivore)
DDE[4,4'-]	0.017	0.032	**0.53**	American robin (insectivore)
DDT[4,4'-]	0.017	0.090	0.19	American robin (insectivore)
Dieldrin	0.017	0.030	**0.56**	Montane shrew (insectivore)

Table E-4.1-1 (continued)

COPC	95% UCL (mg/kg)	Final ESL[a] (mg/kg)	Hazard Quotient	Final ESL Receptor
Herbicides				
Dinoseb	0.006	---	---	---
MCPA	1.27	---	---	---
MCPP	1.29	---	---	---
T[2,4,5-]	0.006	---	---	---
Heptachlorodibenzodioxin [1,2,3,4,6,7,8-][d,e]	4.66E-08	---	---	---
Heptachlorodibenzofuran [1,2,3,4,6,7,8-][d,e]	5.66E-08	---	---	---
Octachlorodibenzodioxin [1,2,3,4,6,7,8,9-][d,e]	3.56E-09	---	---	---
Octachlorodibenzofuran [1,2,3,4,6,7,8,9-][d,e]	3.14E-10	---	---	---
TCDD Equivalency	1.07E-07[f]	2.98E-07[g]	**0.36**	Montane shrew (insectivore)
Polychlorinated Biphenyls				
Aroclor-1242	0.004	4.10E-02	0.09	American robin (insectivore)
Aroclor-1254	0.029	4.10E-02	**0.71**	American robin (insectivore)
Aroclor-1260	0.013	1.40E-01	0.09	Red fox (top carnivore)
Radionuclides (pCi/g)				
Uranium-235	0.260	5.50E+01	0.005	Earthworm (invertebrate)

Bold denotes hazard quotient exceeds 0.3.

[a] ESLs from LANL (2004, 87386).

[b] ESL for hexavalent chromium.

[c] ESL for DDE[4,4'-] used as a surrogate.

[d] Maximum values used for these COPCs.

[e] Concentrations converted using congener-specific TEFs for comparison to TCDD ESL (Table E-3.1-4).

[f] Concentration represents sum of adjusted congener concentrations.

[g] Final ESL for TCDD.

--- denotes ESL not available

COPC = Chemical of potential concern
CU = Consolidated unit
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
ESL = Ecological screening level
LANL = Los Alamos National Laboratory
MCPA = Methyl chlorophenoxy acetic acid
MCPP = 2-(2-Methyl-4-chlorophenoxy)propionic acid
mg/kg = Milligram(s) per kilogram
pCi/g = Picocurie(s) per gram
T = Trichlorophenoxyacetic acid
TCDD = Tetrachlorodibenzodioxin [2,3,7,8-]
TEF = Toxicity equivalency factor
UCL = Upper confidence limit

Table E-4.1-2
ESLs for COPECs at CU 19-001-99

COPEC	ESL (mg/kg)[a]										
	Generic plant	Earthworm (invertebrate)	American robin (insectivore)	American robin (omnivore)	American robin (herbivore)	American kestrel (top carnivore)	American kestrel (Intermediate carnivore)	Desert cottontail (herbivore)	Deer mouse (omnivore)	Montane shrew (insectivore)	Red fox (top carnivore)
Inorganic Chemicals											
Arsenic	1.00E+01	6.80E+00	1.90E+01	3.20E+01	1.00E+02	2.40E+03	1.40E+02	2.10E+01	1.70E+00	8.30E-01	9.70E+01
Barium	1.00E+02	3.30E+02	1.90E+02	3.00E+02	8.20E+02	3.60E+04	1.40E+03	3.30E+03	4.40E+02	2.30E+02	4.10E+04
Cadmium	2.90E+01	1.50E+02	8.30E-01	1.50E+00	1.00E+01	7.70E+02	5.90E+00	2.20E+01	1.20E+00	6.70E-01	5.70E+02
Chromium[b]	3.50E-01	2.00E-01	1.90E+02	2.20E+02	2.80E+02	5.40E+03	2.20E+03	1.10E+03	3.00E+02	1.00E+02	2.50E+03
Cobalt	1.30E+01	---	1.90E+01	3.50E+01	1.70E+02	2.30E+03	1.40E+02	1.80E+03	6.90E+01	3.30E+01	3.90E+03
Copper	1.00E+01	1.30E+01	2.40E+01	2.00E+01	1.60E+01	1.40E+03	2.10E+02	1.30E+02	7.60E+01	7.50E+01	3.90E+03
Lead	2.10E+02	1.70E+03	1.60E+01	2.10E+01	3.00E+01	8.00E+02	1.40E+02	9.30E+02	2.20E+02	1.00E+02	4.60E+03
Manganese	5.00E+01	---	3.90E+03	4.20E+03	4.60E+03	2.90E+05	3.20E+04	1.70E+03	7.20E+02	5.20E+02	3.40E+04
Selenium	1.00E-01	7.70E+00	1.10E+00	2.00E+00	1.00E+01	1.40E+02	8.40E+00	5.50E+01	1.90E+00	9.10E-01	1.10E+02
Silver	5.00E-02	---	1.40E+01	1.90E+01	3.00E+01	2.40E+03	1.00E+02	4.90E+02	1.30E+02	8.60E+01	1.40E+04
Zinc	1.00E+01	1.90E+02	3.00E+01	4.20E+01	6.70E+01	1.50E+03	2.00E+02	9.10E+02	2.50E+02	1.80E+02	1.10E+04
Semivolatile Organic Compounds											
Bis(2ethylhexyl) phthalate	---	---	1.00E+00	1.90E+00	2.30E+01	1.70E+00	2.30E+00	3.60E+03	6.10E+01	3.00E+01	6.40E+01
Di-n-butylphthalate	1.60E+02	---	1.70E-01	2.90E-01	8.90E-01	3.70E+00	1.10E+00	4.00E+04	5.30E+03	2.90E+03	7.70E+04
Pesticides											
DDD[4,4'-][c]	---	---	3.20E-02	6.30E-02	1.50E+00	9.00E-02	1.00E-01	1.40E+03	1.30E+01	6.60E+00	2.30E+01
DDE[4,4'-]	---	---	3.20E-02	6.30E-02	1.50E+00	9.00E-02	1.00E-01	1.40E+03	1.30E+01	6.60E+00	2.30E+01
Dieldrin	1.00E+01	---	9.10E-02	1.60E-01	8.00E-01	9.60E-01	4.90E-01	8.30E-01	5.80E-02	3.00E-02	4.00E-01
Dioxins/Furans[d]											
TCDD	---	NA	---	---	---	---	---	7.20E-05	5.90E-07	2.90E-07	1.20E-06
Polychlorinated Biphenyls											
Aroclor-1254	1.60E+02	---	4.10E-02	8.00E-02	1.40E+00	2.20E-01	1.70E-01	5.60E+01	8.80E-01	4.40E-01	1.50E-01

Table E-4.1-2 (continued)

[a] ESLs from LANL (2004, 87386).
[b] ESLs for hexavalent chromium.
[c] ESLs for DDE[4,4'-] used as surrogate.
[d] Toxicity to dioxins/furans evaluated against TCDD.
--- denotes ESL not available
COPEC = Chemical of potential ecological concern
CU = Consolidated unit
DDE = Dichlorodiphenyldichloroethylene
ESL = Ecological screening level
mg/kg = Milligram(s) per kilogram
NA = Not available, individual PCB congeners cannot be evaluated for invertebrates
TCDD = Tetrachlorodibenzodioxin [2,3,7,8-]

Table E-4.2-1
HQs for Ecological Receptors, CU 19-001-99

COPEC	95% UCL (mg/kg)	Hazard Quotient[a]										
		Generic plant	Earthworm (invertebrate)	American robin (insectivore)	American robin (omnivore)	American robin (herbivore)	American kestrel (top carnivore)	American kestrel (Intermediate carnivore)	Desert cottontail (herbivore)	Deer mouse (omnivore)	Montane shrew (insectivore)	Red fox (top carnivore)
Inorganic Chemicals												
Arsenic	2.59	2.59E-01	**3.81E-01**	1.36E-01	8.09E-02	2.59E-02	1.08E-03	1.85E-02	1.23E-01	**1.52E+00**	**3.12E+00**	2.67E-02
Barium	62.3	**6.23E-01**	1.89E-01	**3.28E-01**	2.08E-01	7.60E-02	1.73E-02	4.45E-02	1.89E-02	1.42E-01	2.71E-01	1.52E-03
Cadmium	0.76	2.62E-02	5.07E-03	**9.16E-01**	**5.07E-01**	7.60E-02	9.87E-04	1.29E-01	3.45E-02	**6.33E-01**	**1.13E+00**	1.33E-03
Chromium[b]	9.77	**2.79E+01**	**4.89E+01**	5.14E-02	4.44E-02	3.49E-02	1.81E-03	4.44E-03	8.88E-03	3.26E-02	9.77E-02	3.91E-03
Cobalt	37.6	**2.89E+00**	---	**1.98E+00**	**1.07E+00**	2.21E-01	1.63E-02	2.69E-01	2.09E-02	**5.45E-01**	**1.14E+00**	9.64E-03
Copper	11.1	**1.11E+00**	**8.54E-01**	**4.63E-01**	**5.55E-01**	**6.94E-01**	7.93E-03	5.29E-02	8.54E-02	1.46E-01	1.48E-01	2.85E-03
Lead	21.9	1.04E-01	1.29E-02	**1.37E+00**	**1.04E+00**	**7.30E-01**	2.74E-02	1.56E-01	2.35E-02	9.95E-02	2.19E-01	4.76E-03
Manganese	273	**5.46E+00**	---	7.00E-02	6.50E-02	5.93E-02	9.41E-04	8.53E-03	1.61E-01	**3.79E-01**	**5.25E-01**	8.03E-03
Selenium	0.79	**7.90E+00**	1.03E-01	**7.18E-01**	**3.95E-01**	7.90E-02	5.64E-03	9.40E-02	1.44E-02	**4.16E-01**	**8.68E-01**	7.18E-03
Silver	0.93	**1.86E+01**	---	6.64E-02	4.89E-02	3.10E-02	3.88E-04	9.30E-03	1.90E-03	7.15E-03	1.08E-02	6.64E-05
Zinc	262	**2.62E+01**	**1.38E+00**	**8.73E+00**	**6.24E+00**	**3.91E+00**	1.75E-01	**1.31E+00**	2.88E-01	**1.05E+00**	**1.46E+00**	2.38E-02
Semivolatile Organic Compounds												
Bis(2ethylhexyl) phthalate	1.06	---	---	**1.06E+00**	**5.58E-01**	4.61E-02	**6.24E-01**	**4.61E-01**	2.94E-04	1.74E-02	3.53E-02	1.66E-02
Di-n-butylphthalate	0.391	2.44E-03	---	**2.30E+00**	**1.35E+00**	**4.39E-01**	1.06E-01	**3.55E-01**	9.78E-06	7.38E-05	1.35E-04	5.08E-06
Pesticides												
DDD[4,4'-][c]	0.017	---	---	**5.31E-01**	2.70E-01	1.13E-02	1.89E-01	1.70E-01	1.21E-05	1.31E-03	2.58E-03	7.39E-04
DDE[4,4'-]	0.017	---	---	**5.31E-01**	2.70E-01	1.13E-02	1.89E-01	1.70E-01	1.21E-05	1.31E-03	2.58E-03	7.39E-04
Dieldrin	0.17	1.70E-03	---	1.87E-01	1.06E-01	2.13E-02	1.77E-02	3.47E-02	2.05E-02	2.93E-01	**5.67E-01**	4.25E-02
Dioxins/Furans[d,e]												
TCDD Equivalency	1.07E-07[f]	---	NA	---	---	---	---	---	1.49E-03	**1.81E-01**	**3.69E-01**	8.92E-02
Polychlorinated Biphenyls												
Aroclor-1254	0.029	1.81E-04	---	**7.07E-01**	**3.63E-01**	2.07E-02	1.32E-01	1.71E-01	5.18E-04	3.30E-02	6.59E-02	1.93E-01
HI		**9.11E+01**	**5.18E+01**	**1.99E+01**	**1.31E+01**	**6.46E+00**	**1.48E+00**	**3.42E+00**	7.83E-01	**5.21E+00**	**9.47E+00**	3.91E-01

Table E-4.2-1 (continued)

Bold denotes HQ is greater than 0.3 or HI is greater than 1.0.
[a] ESLs from LANL (2004, 87386).
[b] ESLs for hexavalent chromium.
[c] ESLs for DDE[4,4'-] used as surrogates.
[d] Maximum values used for these COPECs.
[e] Concentrations converted using congener-specific TEFs for comparison to TCDD-like toxicity (Table E-3.1-4).
[f] Concentration represents sum of adjusted congener concentrations.
--- denotes ESL not available

COPEC	= Chemical of potential ecological concern
CU	= Consolidated unit
DDE	= Dichlorodiphenyldichloroethylene
ESL	= Ecological screening level
HI	= Hazard index
HQ	= Hazard quotient
LANL	= Los Alamos National Laboratory
mg/kg	= Milligram(s) per kilogram
NA	= Not available, individual PCB congeners cannot be evaluated for invertebrates
TEF	= Toxicity equivalency factor
TCDD	= Tetrachlorodibenzodioxin [2,3,7,8-]
UCL	= Upper confidence limit

Table E-4.2-2
Modified HQs for Ecological Receptors, CU 19-001-99

COPEC	95% UCL (mg/kg)	Hazard Quotient[a]										
		Generic plant	Earthworm (invertebrate)	American robin (insectivore)	American robin (omnivore)	American robin (herbivore)	American kestrel (top carnivore)	American kestrel (Intermediate carnivore)	Desert cottontail (herbivore)	Deer mouse (omnivore)	Montane shrew (insectivore)	Red fox (top carnivore)
Inorganic Chemicals												
Copper	11.1	**1.11E+00**	8.54E-01	4.63E-01	5.55E-01	6.94E-01	7.93E-03	5.29E-02	8.54E-02	1.46E-01	1.48E-01	2.85E-03
Lead	21.9	1.04E-01	1.29E-02	**1.37E+00**	**1.04E+00**	7.30E-01	2.74E-02	1.56E-01	2.35E-02	9.95E-02	2.19E-01	4.76E-03
Selenium	0.79	NC	1.03E-01	7.18E-01	3.95E-01	7.90E-02	5.64E-03	9.40E-02	1.44E-02	4.16E-01	8.68E-01	7.18E-03
Zinc	262	NC	**1.38E+00**	NC	NC	**3.91E+00**	1.75E-01	**1.31E+00**	2.88E-01	**1.05E+00**	**1.46E+00**	2.38E-02
Semivolatile Organic Compounds												
Bis(2-ethylhexyl)phthalate	1.06	—	—	**1.06E+00**	5.58E-01	4.61E-02	6.24E-01	4.61E-01	2.94E-04	1.74E-02	3.53E-02	1.66E-02
Di-n-butylphthalate	0.391	2.44E-03	—	**2.30E+00**	**1.35E+00**	4.39E-01	1.06E-01	3.55E-01	9.78E-06	7.38E-05	1.35E-04	5.08E-06
Pesticides												
DDD[4,4'-]	0.017	—	—	5.31E-01	2.70E-01	1.13E-02	1.89E-01	1.70E-01	1.21E-05	1.31E-03	2.58E-03	7.39E-04
DDE[4,4'-]	0.017	—	—	5.31E-01	2.70E-01	1.13E-02	1.89E-01	1.70E-01	1.21E-05	1.31E-03	2.58E-03	7.39E-04
Dieldrin	0.17	1.70E-03	—	1.87E-01	1.06E-01	2.13E-02	1.77E-02	3.47E-02	2.05E-02	2.93E-01	5.67E-01	4.25E-02
Dioxins/Furans[b,c]												
TCDD Equivalency	1.07E-07[d]	—	—	—	—	—	—	—	1.49E-03	1.81E-01	3.69E-01	8.92E-02
Polychlorinated Biphenyls												
Aroclor-1254	0.029	1.81E-04	—	7.07E-01	3.63E-01	2.07E-02	1.32E-01	1.71E-01	5.18E-04	3.30E-02	6.59E-02	1.93E-01
HI	**1.22E+00**	**2.35E+00**	**7.16E+00**	**4.55E+00**	**5.94E+00**	**1.34E+00**	**2.80E+00**	4.33E-01	**2.20E+00**	**3.66E+00**	1.89E-01	

Table E-4.2-2 (continued)

Bold indicates HQ or HI is greater than 1.

[a] ESLs from LANL (2004, 87386).

[b] Maximum values used for these COPECs.

[c] Concentrations converted using congener-specific TEFs for comparison to TCDD-like toxicity (Table E-3.1-4).

[d] Concentration represents sum of adjusted congener concentrations.

--- denotes ESL not available

BV = Background value
COPEC = Chemical of potential ecological concern
CU = Consolidated unit
DDE = Dichlorodiphenyldichloroethylene
ESL = Ecological screening level
HI = Hazard index
HQ = Hazard quotient
LANL = Los Alamos National Laboratory
mg/kg = Milligram(s) per kilogram
NC = Not calculated because ESL was below both soil and tuff BVs
TCDD = Tetrachlorodibenzodioxin [2,3,7,8-]
TEF = Toxicity equivalency factor
UCL = Upper confidence limit

Table E-4.2-3
HI Summary with PAUF Adjustment for CU 19-001-99

Receptor	Individual Home Range (ha)[a]	Population Area (ha)	PAUF[b]	Unadjusted HI[c]	Adjusted HI
American robin (insectivore)	0.42	16.8	0.089	7.16	0.64
American robin (omnivore)	0.42	16.8	0.089	4.55	0.40
American robin (herbivore)	0.42	16.8	0.089	5.94	0.53
American kestrel (top carnivore)[d]	366	NA	0.004	1.34	0.005
American kestrel (intermediate carnivore)	106	4,200	0.0004	2.80	0.0011
Deer mouse (omnivore)	0.077	3.0	0.5	2.20	1.1
Montane shrew (insectivore)	0.39	15.6	0.096	3.66	0.35

[a] Home ranges were obtained from EPA 1993, 59109.
[b]PAUF is calculated as the area of CU 19-001-99 (1.5 ha) divided by the receptor population area.
[c] Unadjusted HI values from Table E-4.2-2.
[d] Individual home range for the Mexican spotted owl used to calculate the individual area use factor and the adjusted HI.
CU = Consolidated unit
ha = Hectare(s)
HI = Hazard index
PAUF = Population area use factor
NA = Not applicable

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Attachment E1

Ecological Scoping Checklist

PART A—SCOPING MEETING DOCUMENTATION

Site ID	Consolidated Unit (CU) 19-001-99, Former TA-19
Form of site releases (solid, liquid, vapor). Describe all relevant known or suspected mechanisms of release (spills, dumping, material disposal, outfall, explosive testing, etc.) and describe potential areas of release. Reference locations on a map as appropriate.	Historical operations at CU 19-001-99 may have caused releases related to: (1) the septic systems at the site, including potential contamination of soil and/or tuff in the vicinity of SWMU 19-001 (septic system) and SWMU 19-003 (sewer drainline and outfall); (2) the surface disposal of building and battery debris, including potential contamination of soil and/or tuff in the vicinity of the debris piles at SWMU 19-002; and (3) laboratory operations at AOC C-19-001 and potential contamination beneath the former laboratory buildings. Locations of the individual SWMUs/AOC within CU 19-001-99 are shown on Figure 1.1-1.
List of Primary Impacted Media (Indicate all that apply.)	Surface soil – X Surface water/sediment – Subsurface – X Groundwater – Other, explain –
Vegetation class based on GIS vegetation coverage (Indicate all that apply.)	Water – Bare Ground/Unvegetated – X Spruce/fir/aspen/mixed conifer – Ponderosa pine – X Piñon juniper/juniper savannah – X Grassland/shrubland – X Developed – Burned – CU 19-001-99 exists within the ecological transition zone of the piñon-juniper woodlands and the ponderosa pine woodlands. The overstory contains piñon, juniper, and ponderosa pine. Prominent understory species include scrub oak, mixed grasses, and forbs.
Is T&E Habitat Present? If applicable, list species known or suspected of using the site for breeding or foraging.	There is no T&E habitat present at the site, per communication with LANL's Ecology Group (March 30, 2005) prior to the initiation of additional depth sampling in 2005.
Provide list, of Neighboring/ Contiguous/ Upgradient sites, includes a brief summary of COPCs and the form of releases for relevant sites and reference a map as appropriate. (Use this information to evaluate the need to aggregate sites for screening.)	There are no contiguous or upgradient sites that might have contributed to potential contamination at CU 19-001-99. Note that CU 19-001-99 is itself an aggregate of 3 SWMUs and 1 AOC.
Surface Water Erosion Potential Information Summarize information from SOP 2.01, including the total score and the run-off subscore (maximum of 46); terminal point of surface water transport; slope; and surface water run-on sources.	The total erosion potential score for the SWMUs within CU 19-001-99 ranges from 8.8 (mesa top locations) to 36.6 (hillslope locations). Runoff subscores range from 0 (mesa top locations) to 9.1 (hillslope locations). Run-on subscores range from 0 (mesa top locations) to 7 (hillslope locations). Slope subscores range from 1.3 ("low", mesa top locations) to 13 ("high", hillslope locations). The terminal point of surface water transport is in Pueblo Canyon to the north of the site.

PART B—SITE VISIT DOCUMENTATION

Site ID	Consolidated Unit (CU) 19-001-99, Former TA-19
Date of Site Visit	June 2004
Site Visit Conducted by	Sharon Wirth

Receptor Information:

Estimate cover	Relative vegetative cover (high, medium, low, none) = medium Relative wetland cover (high, medium, low, none) = none Relative structures/asphalt, etc., cover (high, medium, low, none) = none
Field notes on the GIS vegetation class to assist in verifying the Arcview information	CU 19-001-99 exists within the ecological transition zone of the piñon-juniper woodlands and the ponderosa pine woodlands. The overstory contains piñon, juniper, and ponderosa pine. Prominent understory species include scrub oak, mixed grasses, and forbs. Vegetation at the site is a mosaic of the following FIMAD vegetation classes: bare ground/unvegetated, Ponderosa pine, piñon juniper/ juniper savannah, and grassland/shrubland.
Are ecological receptors present at the site? (yes/no/uncertain) Describe the general types of receptors present at the site (terrestrial and aquatic), and make notes on the quality of habitat present at the site.	Yes. The vegetation at the site is mature and the habitat quality appears sufficient for supporting foraging and nesting by terrestrial receptors. The mesa top has areas with exposed tuff outcrops, which indicates generally shallow soil across the mesa top, which would limit habitation by burrowing animals. The slopes to Pueblo Canyon have a greater percentage of successional/transitional plants than is found on the mesa top, indicating that disturbance events (probably erosion or runoff related to severe thunderstorms) impact the slopes more than the mesa top. While vegetation does occur on the slopes, the habitat quality appears to be of lesser quality than the mesa top. Habitat use by terrestrial receptors is likely to be limited to foraging and habitation by birds; the steep slopes limit foraging or habitation by mammals.

Contaminant Transport Information:

Surface water transport Field notes on the erosion potential, including a discussion of the terminal point of surface water transport (if applicable).	Surface water transport and erosion potential on the mesa top is considered low because of the relatively flat terrain (<10% slope). Surface water transport and erosion potential is considerably higher on the steep slopes. The terminal point of surface water transport is in Pueblo Canyon to the north of the site.
Are there any off-site transport pathways (surface water, air, or groundwater)? (yes/no/uncertain) Provide explanation	Surface Water: Yes. Runoff from the site may occur, the amount of which is expected to be in direct proportion to the amount and intensity of precipitation events. Air: Yes. Transport of potential contamination in surface soil at the site may occur. Groundwater: No. Depth to groundwater at the site (~1,000 ft) precludes this transport pathway.

Ecological Effects Information:

Physical Disturbance (Provide list of major types of disturbances, including erosion and construction activities, review historical aerial photos where appropriate.)	Minor disturbance from historical operations at CU 19-001-99 is still observable, but is limited to the access roads on the mesa top. Much of the former access roads have been revegetated. Erosional disturbance is observable on the steep slopes, as indicated by rills and channels and the plant community composition of successional/transitional plant species.
Are there obvious ecological effects? (yes/no/uncertain) Provide explanation and apparent cause (e.g., contamination, physical disturbance, other).	No. The vegetation at the site is mature and the habitat quality appears sufficient for supporting foraging and nesting by terrestrial receptors. No adverse ecological conditions were observed.

No Exposure/Transport Pathways:

If there are no complete exposure pathways to ecological receptors onsite and no transport pathways to off-site receptors, the remainder of the checklist should not be completed. Stop here and provide additional explanation/justification for proposing an ecological No Further Action recommendation (if needed). At a minimum, the potential for future transport should include the likelihood that future construction activities could make contamination more available for exposure or transport.

Adequacy of Site Characterization:

Do existing or proposed data provide information on the nature and extent of contamination? (yes/no/uncertain) Provide explanation (Consider if the maximum value was captured by existing sample data.)	Yes. The approved 2004 Work Plan for additional investigation was designed to identify nature and extent of any potential contamination at CU 19-001-99.
Do existing or proposed data for the site address potential transport pathways of site contamination? (yes/no/uncertain) Provide explanation (Consider if other sites should be aggregated to characterize potential ecological risk.)	Yes. The approved 2004 Work Plan for additional investigation was designed to identify any potential contamination at downgradient locations that may have received contamination from CU 19-001-99 via erosion or surface water transport.

Additional Field Notes:

Provide additional field notes on the site setting and potential ecological receptors. No additional notes are provided.

PART C—ECOLOGICAL PATHWAYS CONCEPTUAL EXPOSURE MODEL

Provide answers to Questions A to V to develop the Ecological Pathways Conceptual Exposure Model

Question A:

Could soil contaminants reach receptors through vapors?

Volatility of the hazardous substance (volatile chemicals generally have Henry's Law constant >10^{-5} atm-m^3/mol and molecular weight <200 g/mol).

Answer (likely/unlikely/uncertain): Unlikely.

Provide explanation: Based on historical data, volatile organic chemicals (VOCs) are not expected to be present at CU 19-001-99, except perhaps at trace levels (e.g., estimated values slightly greater than the quantitation limits).

Question B:

Could the soil contaminants reach receptors through fugitive dust carried in air?

Soil contamination would have to be on the actual surface of the soil to become available for dust.

In the case of dust exposures to burrowing animals, the contamination would have to occur in the depth interval where these burrows occur.

Answer (likely/unlikely/uncertain): Likely transport, unlikely exposure.

Provide explanation**:** Air transport via fugitive dust of potential surface contamination is possible at CU 19-001-99. Dust exposure to burrowing animals is unlikely, however, because of the shallow soils on the mesa top (too shallow for significant burrowing activities to occur) and the highly disturbed, erosion-prone steep slopes at the remainder of the site (too instable for burrows to be maintained).

Question C:

Can contaminated soil be transported to aquatic ecological communities (use SOP 2.01 run-off score and terminal point of surface water runoff to help answer this question)?

If the SOP 2.01 run-off score* for each SWMU and/or AOC included in the site is equal to zero, this suggests that erosion at the site is not a transport pathway. (* note that the runoff score is not the entire erosion potential score, rather it is a subtotal of this score with a maximum value of 46 points).

If erosion is a transport pathway, evaluate the terminal point to see if aquatic receptors could be affected by contamination from this site.

Answer (likely/unlikely/uncertain): Unlikely.

Provide explanation: There are no nearby aquatic communities that could be impacted by runoff from the site.

Question D:

Is contaminated groundwater potentially available to biological receptors through seeps or springs or shallow groundwater?

Known or suspected presence of contaminants in groundwater.

The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.

Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.

Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.

Answer (likely/unlikely/uncertain): Unlikely.

Provide explanation: Migration of contaminant to groundwater is unlikely due to depth of groundwater beneath the site (~1,000) ft. Surface discharge of groundwater does not occur at the site.

Question E:

Is infiltration/percolation from contaminated subsurface material a viable transport and exposure pathway?

The potential for contaminants to migrate to groundwater.

The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.

Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.

Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.

Answer (likely/unlikely/uncertain): Unlikely.

Provide explanation: Migration of contaminant to groundwater is unlikely due to depth of groundwater beneath the site (~1,000) ft. Surface discharge of groundwater does not occur at the site.

Question F:

Might erosion or mass wasting events be a potential release mechanism for contaminants from subsurface materials or perched aquifers to the surface?

This question is only applicable to release sites located on or near the mesa edge.

Consider the erodability of surficial material and the geologic processes of canyon/mesa edges.

Answer (likely/unlikely/uncertain): Unlikely.

Provide explanation: Potential contamination at CU 19-001-99 is limited to the near-surface soil and tuff and, thus, mass wasting would not contribute to transport of contamination from the site at a rate or in an amount greater than that expected from erosion.

Question G:

Could airborne contaminants interact with receptors through the respiration of vapors?

Contaminants must be present as volatiles in the air.

Consider the importance of the inhalation of vapors for burrowing animals.

Foliar uptake of vapors is typically not a significant exposure pathway.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 1

Terrestrial Animals: 1

Provide explanation: VOCs are not expected to be present at CU 19-001-99, except perhaps at trace levels (e.g., estimated values slightly greater than the quantitation limits). Also, the shallow soils on the mesa top and highly disturbed soils on the steep slopes limit burrowing activities and subsequent exposure to burrowing animals.

Question H:

Could airborne contaminants interact with plants through the deposition of particulates or with animals through the inhalation of fugitive dust?

Contaminants must be present as particulates in the air or as dust for this exposure pathway to be complete.

Exposure through the inhalation of fugitive dust is particularly applicable to ground-dwelling species that would be exposed to dust disturbed by their foraging or burrowing activities or by wind movement.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 3

Terrestrial Animals: 2

Provide explanation: Deposition of particulates on plants and foraging activities by animals may expose terrestrial receptors to contaminants in fugitive dust. Dust exposure to burrowing animals is considered unlikely because the shallow soils on the mesa top and highly disturbed soils on the steep slopes limit burrowing activities and subsequent exposure to burrowing animals. Finally, exposure to contaminants in tuff is considered an unlikely pathway because of the weathering that must occur to the tuff prior to exposure.

Question I:

Could contaminants interact with plants through root uptake or rain splash from surficial soils?

Contaminants in bulk soil may partition into soil solution, making them available to roots.

Exposure of terrestrial plants to contaminants present in particulates deposited on leaf and stem surfaces by rain striking contaminated soils (i.e., rain splash).

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 3

Provide explanation: Residual contaminants in sol could be taken up through plant roots. Additionally, rain splash from surficial soils could be deposited on the aboveground portions of plants.

Question J:

Could contaminants interact with receptors through food-web transport from surficial soils?

The chemicals may bioaccumulate in animals.

Animals may ingest contaminated food items.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 3

Provide explanation: The following bioaccumulating chemicals (as defined by the EPA's Persistent Bioaccumulative and Toxic Chemical Program) were detected in samples from CU 19-001-99: dieldrin, DDD, DDE, DDT, PCBs as Aroclors, and dioxins/furans.

Question K:

Could contaminants interact with receptors through the incidental ingestion of surficial soils?

Incidental ingestion of contaminated soil could occur while animals grub for food resident in the soil, feed on plant matter covered with contaminated soil, or while grooming themselves clean of soil.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 3

Provide explanation: Foraging and grooming activities may result in exposure to animals via incidental ingestion.

Question L:

Could contaminants interact with receptors through dermal contact with surficial soils?

Significant exposure through dermal contact would generally be limited to organic contaminants that are lipophilic and can cross epidermal barriers.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 1

Provide explanation: Exposure via dermal contact is possible for animals, but is considered unlikely because of the minimal amount of burrowing expected at the site and because organic chemicals detected in soil and tuff at the site are not considered lipophilic nor can they cross epidermal barriers.

Question M:

Could contaminants interact with plants or animals through external irradiation?

External irradiation effects are most relevant for gamma-emitting radionuclides.

Burial of contamination attenuates radiological exposure.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Terrestrial Animals: 0

Provide explanation: Radiological COPCs have not been identified at CU 19-001-99.

Question N:

Could contaminants interact with plants through direct uptake from water and sediment or sediment rain splash?

Contaminants may be taken up by terrestrial plants whose roots are in contact with surface waters.

Terrestrial plants may be exposed to particulates deposited on leaf and stem surfaces by rain striking contaminated sediments (i.e., rain splash) in an area that is only periodically inundated with water.

Contaminants in sediment may partition into soil solution, making them available to roots.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

Question O:

Could contaminants interact with receptors through food-web transport from water and sediment?

The chemicals may bioconcentrate in food items.

Animals may ingest contaminated food items.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

Question P:

Could contaminants interact with receptors through the ingestion of water and suspended sediments?

If sediments are present in an area that is only periodically inundated with water, terrestrial receptors may incidentally ingest sediments.

Terrestrial receptors may ingest water-borne contaminants if contaminated surface waters are used as a drinking water source.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

Question Q:

Could contaminants interact with receptors through dermal contact with water and sediment?

If sediments are present in an area that is only periodically inundated with water, terrestrial species may be dermally exposed during dry periods.

Terrestrial organisms may be dermally exposed to water-borne contaminants as a result of wading or swimming in contaminated waters.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

Question R:

Could suspended or sediment-based contaminants interact with plants or animals through external irradiation?

External irradiation effects are most relevant for gamma-emitting radionuclides.

Burial of contamination attenuates radiological exposure.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Terrestrial Animals: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

Question S:

Could contaminants bioconcentrate in free-floating aquatic, attached aquatic plants, or emergent vegetation?

Aquatic plants are in direct contact with water.

Contaminants in sediment may partition into pore water, making them available to submerged roots.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Plants/Emergent Vegetation: 0

Provide explanation: No surface water is present at CU 19-001-99.

Question T:

Could contaminants bioconcentrate in sedimentary or water-column organisms?

Aquatic receptors may actively or incidentally ingest sediment while foraging.

Aquatic receptors may be directly exposed to contaminated sediments or may be exposed to contaminants through osmotic exchange, respiration, or ventilation of sediment pore waters.

Aquatic receptors may be exposed through osmotic exchange, respiration, or ventilation of surface waters.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

Question U:

Could contaminants bioaccumulate in sedimentary or water column organisms?

Lipophilic organic contaminants and some metals may concentrate in an organism's tissues.

Ingestion of contaminated food items may result in contaminant bioaccumulation through the food web.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

Question V:

Could contaminants interact with aquatic plants or animals through external irradiation?

External irradiation effects are most relevant for gamma-emitting radionuclides.

The water column acts to absorb radiation; therefore, external irradiation is typically more important for sediment dwelling organisms.

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

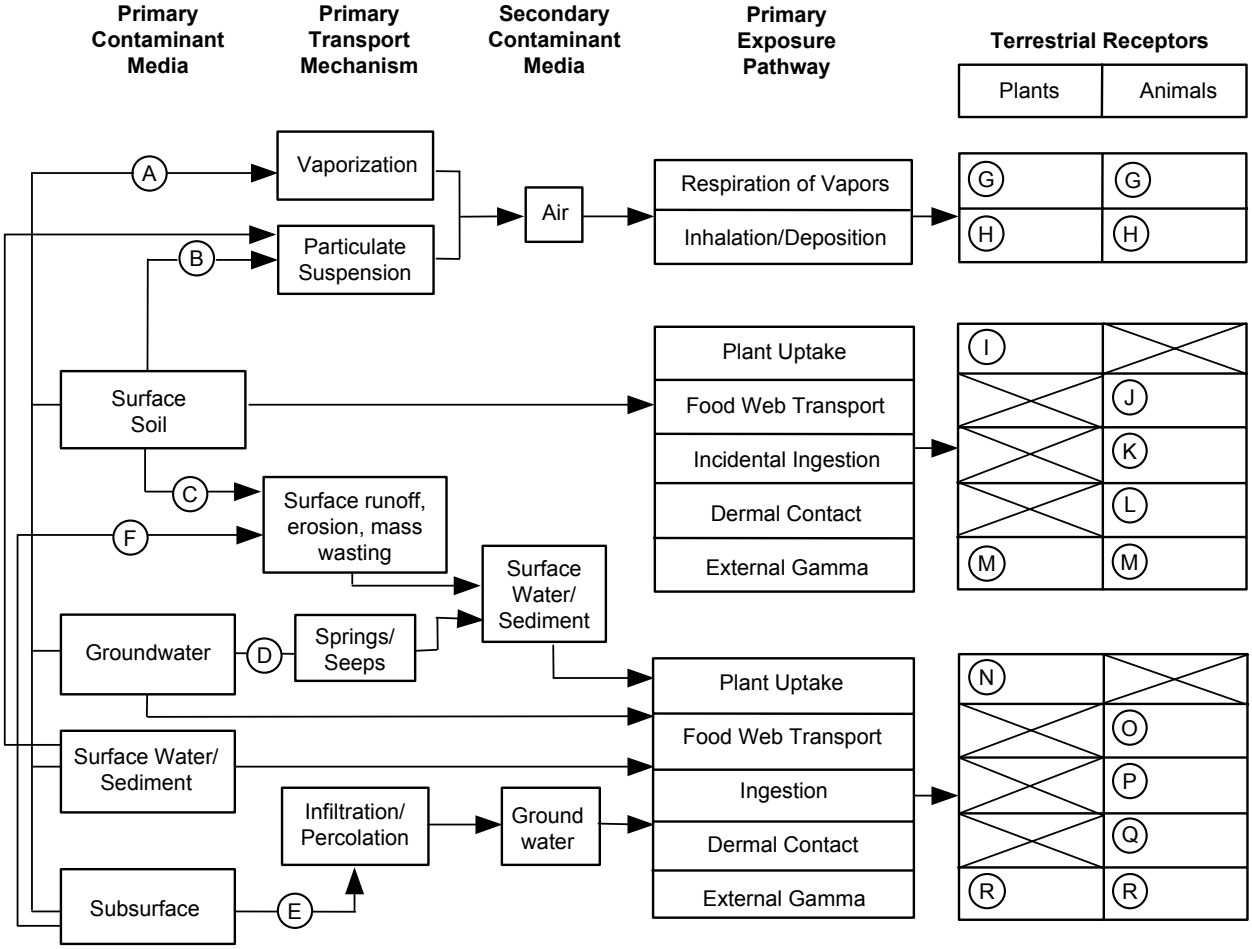
Aquatic Plants: 0

Aquatic Animals: 0

Provide explanation: No surface water or sediment is present at CU 19-001-99.

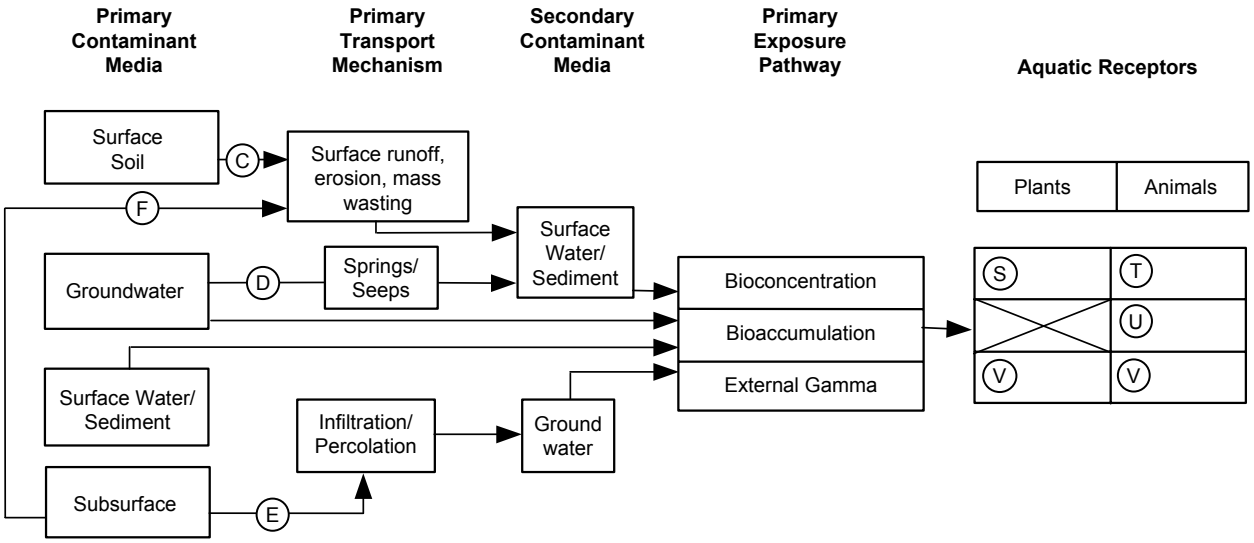
Ecological Scoping Checklist
Terrestrial Receptors
Ecological Pathways Conceptual Exposure Model

NOTE:
Letters in circles refer to questions on the Scoping Checklist



Ecological Scoping Checklist
Aquatic Receptors
Ecological Pathways Conceptual Exposure Model

NOTE:
Letters in circles refer to questions on the Scoping Checklist



Signatures and certifications:

Checklist completed by (provide name, organization and phone number):

Name (printed): Sharon R. Wirth, Ecologist

Name (signature): S R Wirth

Organization: Shaw Environmental

Phone number: 505-262-8936

Date completed: **June 16, 2005**

Verification by another party (provide name, organization and phone number):

Name (printed): Richard Miranda

Name (signature): Richard Miranda

Organization: ENV-ECR

Phone number: (505) 665-6953

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