Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION

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Date: May 22, 1996
Refer to: EM/ER:96-271

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: SUBMITTAL OF THE RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION (RFI) REPORT FOR POTENTIAL RELEASE SITES (PRSs) 0-030(b), 0-033(b), 0-004, AND 0-010(b) IN TECHNICAL AREA (TA) 0

Dear Mr. Garcia:

Enclosed is a copy of the Los Alamos National Laboratory's RFI Report concerning PRSs 0-030(b), 0-033(b), 0-004, and 0-010(b) in TA-0, Sixth Street Warehouse area. The report documents the field work performed as detailed in the approved RFI Work Plan for Operable Unit 1071 and the results of the sampling from the summer of 1995 through January 1996.

Please ask your office to contact Garry Allen at (505) 667-3394 or Bonnie Koch at (505) 665-7202, if you have any questions.

Sincerely,

Jorg Jansen, Program Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office

JJ/TT/rfr

Enclosures: Copy of the RFI Report for PRSs 0-030(b), 0-033(b), 0-004, and 0-010(b) at TA-0
Certification

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CERTIFICATION

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 assure 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.

Document Title: RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION REPORT FOR POTENTIAL RELEASE SITES 0-030(b), 0-033(b), 0-004, AND 0-010(b) IN TECHNICAL AREA 0

Name: _____ Date: 5-23-96

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RFI Report for Potential Release Sites

0-030(b)
0-004
0-010(b)
0-033(b)

6th Street Warehouses

Field Unit 1

Environmental Restoration Project

May 1996

A Department of Energy
Environmental Cleanup Program

Los Alamos
NATIONAL LABORATORY

LA-UR-96-1749

EXECUTIVE SUMMARY

This report presents the results of the Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of Los Alamos National Laboratory (LANL) Technical Area-0 (TA-0), 6th Street warehouses' potential release sites (PRSs). The 6th Street warehouses, also known as Zia Warehouses #1, #2, #3, and #4, are located in TA-0 of Los Alamos townsite, south of the intersection of Delta Prime (DP) Road and Trinity Drive. Of the PRSs associated with this area, only PRSs 0-030(b), 0-004, 0-033(b), and 0-010(b) are included in this RFI report. The objectives of the Phase I investigation at the 6th Street warehouses were to determine the presence or absence of chemicals of potential concern (COPCs) and to determine if the COPCs are present at concentrations that require further action. Although radiological constituents are not regulated under RCRA, this investigation and report include both hazardous (as defined by RCRA) and radiological constituents.

PRS 0-030(b), also known as Septic System #1, is located east of the 6th Street warehouses and is composed of four tanks that served 6th Street Warehouses 1 through 4, an office building, the cold storage plant, and the eastern portion of TA-1 from 1943 to approximately 1950. The investigation of PRS 0-030(b) was initiated on July 26, 1995, using a backhoe to locate the septic tank components and determine their size and design. Aroclor 1260™ was detected at 2:1 ratio above the respective SAL, indicating a potential for adverse human health effects. For this reason, a voluntary corrective action (VCA) will be conducted at PRS 0-030(b).

PRS 0-004 is a container storage area(currently a satellite storage area) that was used primarily to store solvents from the 6th Street Warehouses 3 and 4. A historical release from this site was washed to the unlined storm water drainage ditch that discharges into Los Alamos Canyon. Two samples were collected from locations upgradient of the outfall within obvious sediment catchments of the drainage channel. A third surface sample was collected from near the head of the drainage ditch approximately 25 ft south of the culvert, and two more samples from an older drainage route. No COPCs were identified in the human health screening assessment. Based on no further action (NFA) criterion 4, (There was a release, but the site was characterized and/or remediated under authority which adequately addresses corrective action and documentation, such as a closure letter, is available) a Class III permit modification is requested to remove this site from the Hazardous and Solid Waste Amendments (HSWA) Module of the Laboratory's RCRA operating permit.

PRS 0-033(b) consists of potential soil contamination related to structures and operations associated with the 6th Street warehouses and the materials testing laboratory, which was constructed south of Warehouses 3 and 4 in 1948 and remained operational until the 1970s.

Operations at the materials testing laboratory involved the use of solvents, asphalt leaching, destructive testing of concrete cylinders, and sieve tests of aggregates for roadwork. The field investigation concentrated on potential soil contamination surrounding the drain lines that served the materials testing lab. Investigation of the materials testing laboratory septic system was initiated on July 28, 1995, and involved the excavation of five trenches totaling over 110 ft in length. The results of the screening assessment for PRS 0-033(b) show that several COPCs, including lead and PAHs, are present at concentrations above SAL, and the MCE for carcinogens is greater than one. Because these concentrations indicate the potential for adverse human health effects, PRS 0-033(b) is recommended for a voluntary corrective action (VCA).

PRS 0-010(b) is a purported excavation to the east of the 6th Street warehouses, as described in the 1992 RFI Work Plan for OU 1071 (LANL 1992, 0781). PRS 0-010(b) was reportedly observed on aerial photographs taken in 1946; however, further examination of 1946 photographs and records, and visual surveys of the site, led to the conclusion that this excavation probably never existed. In addition, the area described in the RFI work plan is the location of several underground gas lines. No sampling was conducted at this site due to the lack of any evidence of an excavation actually existing, and for safety reasons due to the underground gas lines. Based on NFA criterion 1, (This site cannot be located or has been found not to exist, is a duplicate PRS, or is located within and therefore, investigated as part of another PRS) a Class III permit modification is requested to remove this site from the HSWA Module of the Laboratory's RCRA operating permit.

TABLE ES-1

SUMMARY OF PROPOSED ACTIONS

		PROPOSED ACTION			
PRS	HSWA[a]	NFA Criterion[b]	Further Action	Rationale	Section #
0-030(b)	Yes	n/a[c]	VCA	Contamination above SALs; remedy obvious.	5.1
0-004	No	4	n/a	Contamination below SALs.	5.2
0-033(b)	Yes	n/a	VCA	Contamination above SALs; remedy obvious.	5.3
0-010(b)	No	1	n/a	Incorrectly identified or nonexistent.	5.4

[a] This column indicates whether or not the site is listed on the HSWA module (Module VII) of the Laboratory's RCRA operating permit.
[b] Project Consistency Team Policy Number 015, "No Further Action Criteria".
[c] n/a = Not applicable.

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1.0 INTRODUCTION

This report presents the results of the Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of Los Alamos National Laboratory (LANL) Technical Area-0 (TA-0), 6th Street warehouses' potential release sites (PRSs). This report includes the site-specific investigation activities, data assessment, and analyses results. Also included are the conclusions and recommendations for the PRSs at 6th Street warehouses. Although radiological constituents are not regulated under RCRA, this investigation and report includes both hazardous (as defined by RCRA) and radiological constituents.

1.1 General Site History

The 6th Street warehouses, also known as Zia Warehouses #1, #2, #3, and #4, are located in TA-0 of Los Alamos townsite, south of the intersection of DP Road and Trinity Drive (Figs. 1.1-1 through 1.1-3). PRS Group 0-1 is included in the 6th Street warehouses area and consists of PRS Aggregates 0-B and 0-C. PRS Aggregate 0-B includes PRS 0-004, a potential release from a container storage area that drains to an unlined storm ditch, PRSs 0-030(b,l,m), septic systems, and PRS 0-033(b), an area of potential soil contamination from a materials testing laboratory drain line outfall. PRS Aggregate 0-C consists of PRS 0-010(b), a purported excavation/landfill, and PRS 0-033(a), a fuel oil underground storage tank (UST) associated with 6th Street Warehouse #3. Locations for all 6th Street warehouses' PRSs are shown in Fig. 1.1-3.

Only PRSs 0-030(b), 0-004, 0-033(b), and 0-010(b) are included in this RFI report as shown in Fig. 1.1-4. RFI activities led directly to voluntary corrective action (VCA) for PRSs 0-030(l), 0-030(m), and 0-033(a); therefore, discussion of these sites will be presented in a VCA completion report to be prepared later this fiscal year.

1.2 RFI Overview

The objective of the Phase I investigation at the 6th Street warehouses was twofold; first, to determine the presence or absence of chemicals of potential concern (COPCs), and second, to determine if the COPCs are present at concentrations that require further action (i.e., VCA) or no further action (NFA). Based on the historical use of the 6th Street warehouses, associated septic tanks, UST, and drain lines, the following COPCs were suspected: volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenys (PCBs), target analyte list (TAL) metals, and radiological constituents.

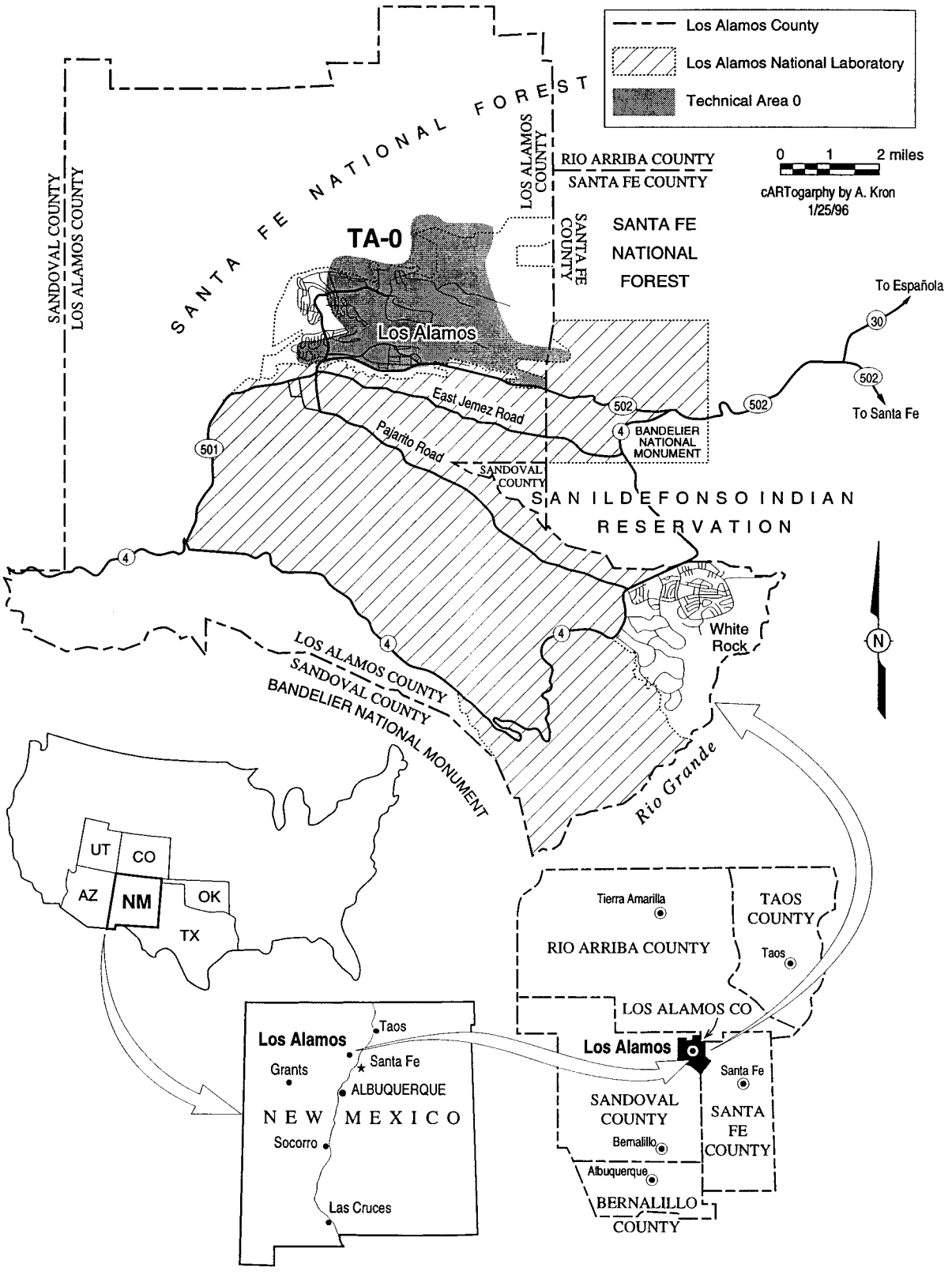


Fig. 1.1-1. Location map at TA-0 within Los Alamos National Laboratory, Los Alamos County, New Mexico.

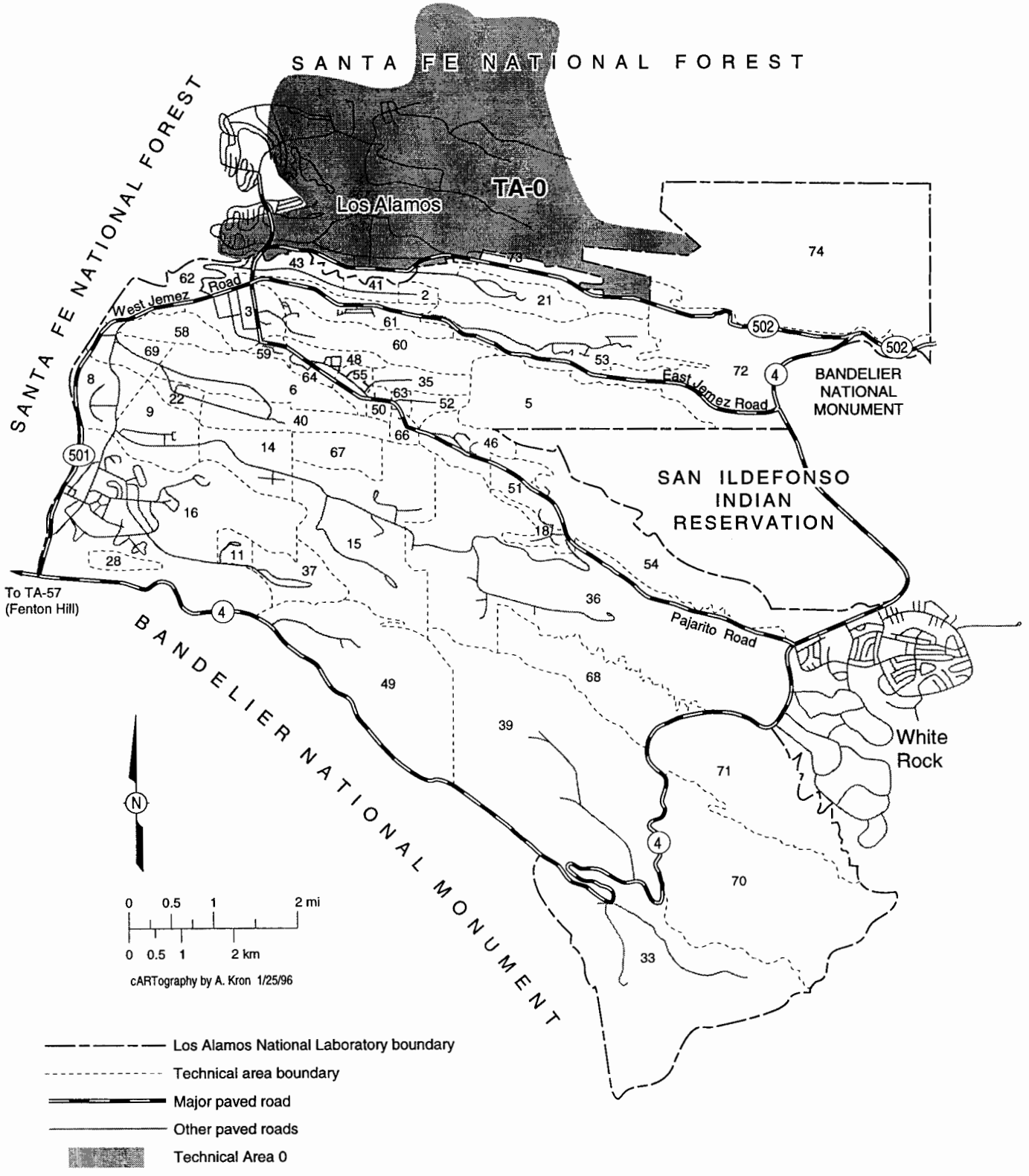


Fig. 1.1-2. Location and detail of TA-0 with respect to Laboratory TAs and surrounding townsite.

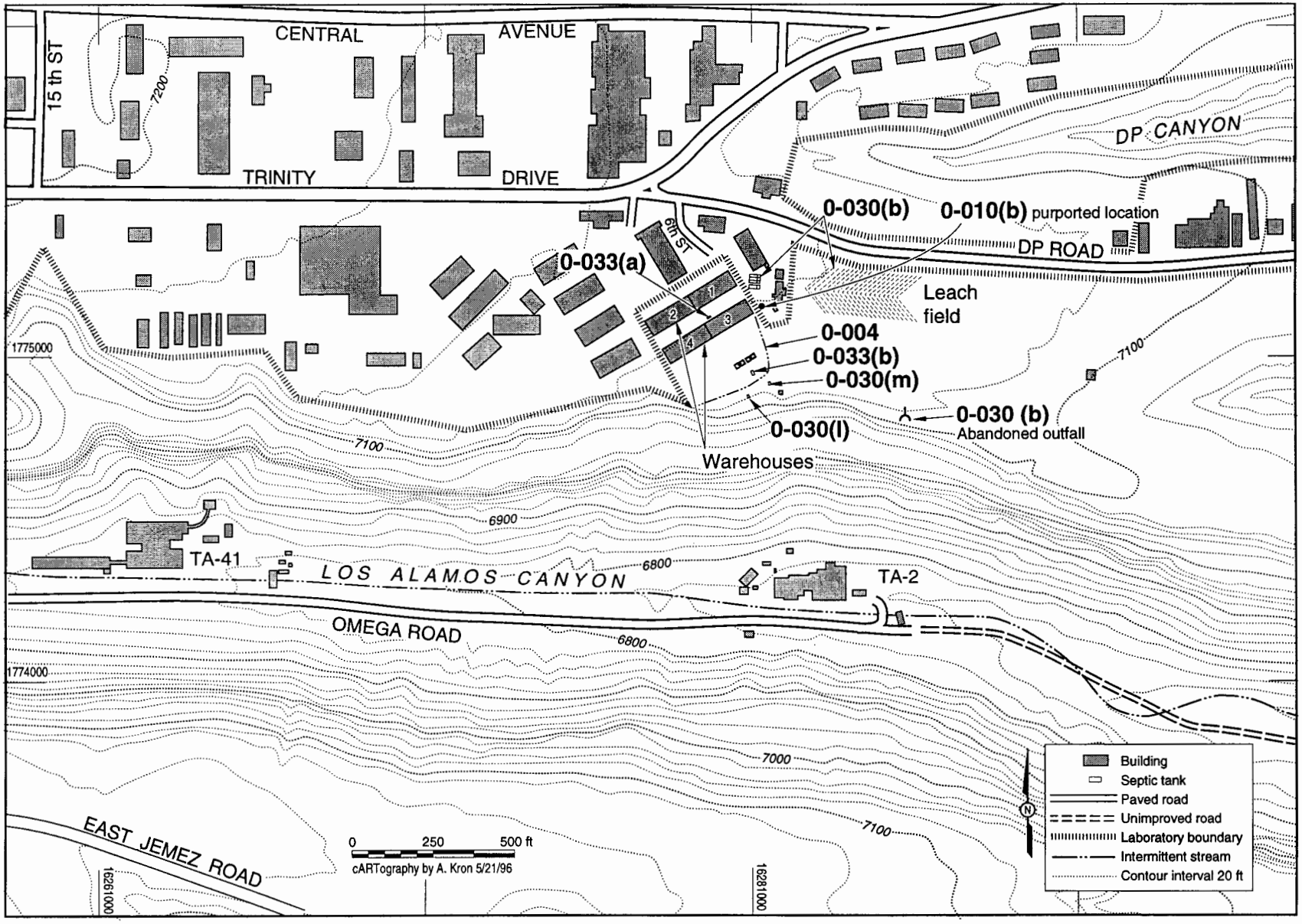


Fig. 1.1-3. Location of the 6th Street warehouse area (PRS Group 0-1) in Los Alamos.

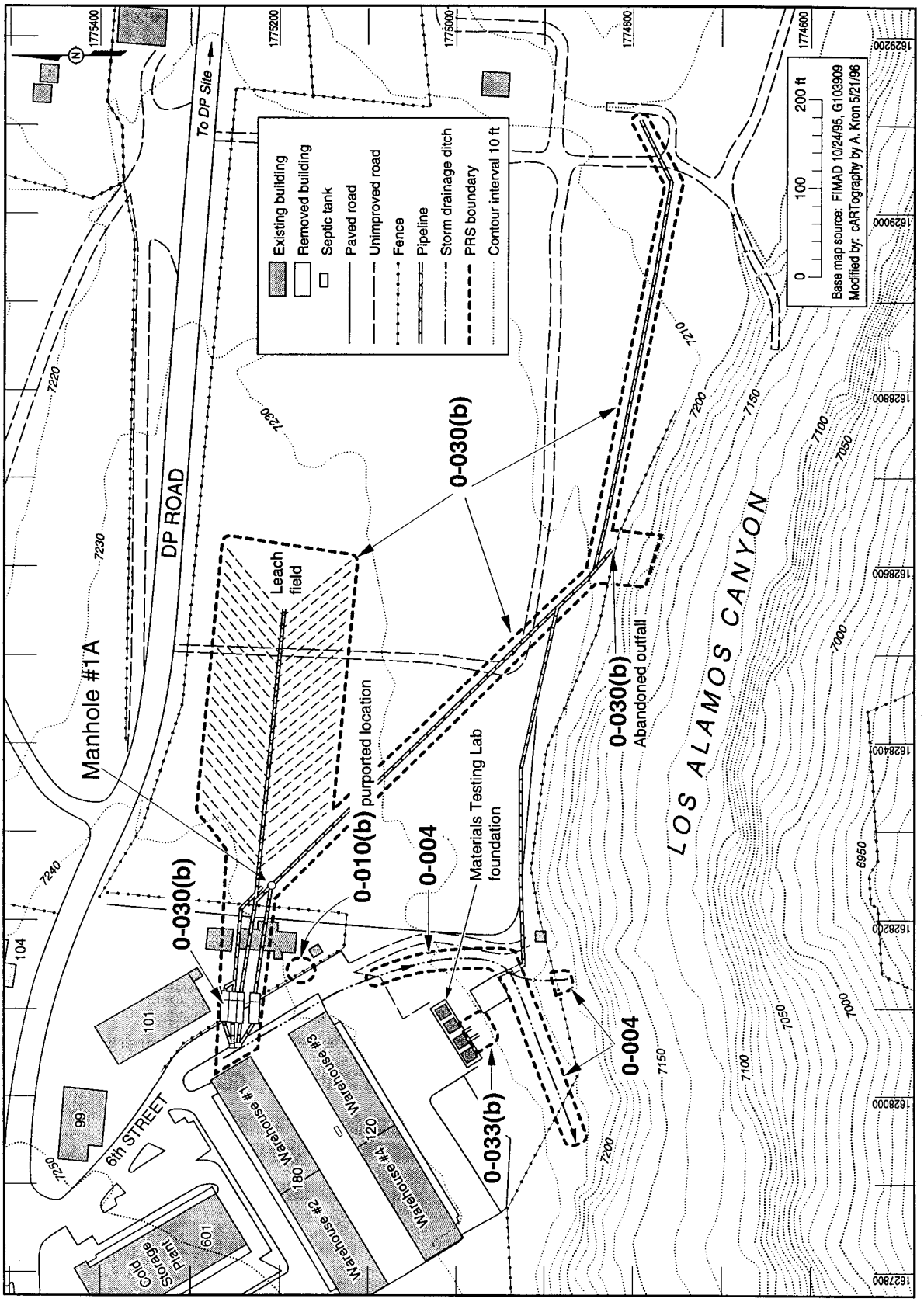


Fig. 1.1-4. PRS areas of investigation at the 6th Street warehouses.

Risk assessments used conceptual exposure models to describe the potential sources of contamination, potential pathways for contaminant migration, and potential public health and environmental impacts. The conceptual exposure model for the 6th Street warehouses' PRSs is presented in Subsection 2.3.1 of the RFI Work Plan for Operable Unit (OU) 1071 (LANL 1992, 0781).

1.3 Field Activities

The field investigation approach, methods, and guidelines presented in the original RFI work plan and the field implementation plan were followed during the investigation (LANL 1992, 0781). Deviations from the work plan and field implementation plan are documented, as appropriate, within the field investigation discussions.

To locate subsurface structures, surface drainage pathways, and areas potentially affected by VOCs, four field surveys (site survey, geophysical survey, soil gas survey, and geomorphic mapping) were to be completed prior to selecting surface and subsurface sampling locations. Three of these site surveys met with varying degrees of success and are discussed in Sections 1.3.1, 1.3.2, and 1.3.4 of this report. One survey, the soil gas survey, was not completed at all. The reasons for not performing the soil gas survey are discussed in Section 1.3.3.

1.3.1 Site Survey

Prior to initiating any other field activities, a visual inspection of the entire site was performed to ascertain the locations of the buried structures (septic tanks, septic tank drain lines, leach field, and UST). To assist in this task, historical aerial photographs and engineering drawings were reviewed. In general, this survey resulted in little usable information. Of the four septic systems, only the septic tank for PRS 0-030(l) was located during the site survey. This tank was not backfilled when it was abandoned and the top had subsequently collapsed. Surficial soil filled the tank, thus creating a depression marking the location of the tank. No such depression or other evidence was observed in the general areas of the other septic tanks.

In the vicinity of the leach field, manhole #1A, as shown on the 1943 sewage disposal area drawing, was also located (Fig. 1.1-4). All that remained of this manhole were the invert and broken sections of the two vitrified clay pipe (VCP) inlet lines and one outlet line. The VCP lines were exposed at and just below the ground surface, indicating that several feet of soil had been removed from this area when it was recontoured for construction of a trailer park.

During this initial site inspection, probable locations were staked for several septic system structures based on coordinates recorded on the 1943 engineering drawing (US Engineering

Office 1943, 05-0181) and on distances to existing site features determined from this site drawing. However, prior to actual excavation, there was no way to verify that these structures actually existed or that the surveyed locations precisely coincided with the structure's locations.

1.3.2 Geophysical Surveys

In a further attempt to precisely locate the buried septic system components, electromagnetic (EM), magnetic, ground-penetrating radar (GPR), and pipe tracking surveys were performed at the site. The principal contribution of these surveys was locating PRS 0-030(b) septic tanks. However, the geophysical anomaly contour maps were not sufficiently precise to locate subsurface sampling points relative to the septic tank walls and pipelines (Geophex, Ltd. 1995, 05-0182).

1.3.3 Soil Gas Survey

To identify areas potentially affected by VOCs, a soil gas survey was to have been conducted in the areas surrounding the septic tanks, drain lines, and leach field, as well as areas with visual evidence suggesting that contamination may exist. However, for the following reasons, the soil gas survey was not conducted.

- The other site surveys did not locate many of the buried septic system structures. It seemed inadvisable to conduct a soil gas survey without accurately locating the septic system components.
- A backhoe was subsequently used to locate the septic system components and determine their precise size and design. This provided an opportunity to collect soil and sludge samples from within, adjacent to, and below the septic tanks and pipelines. The results from these samples provided a means to evaluate possible VOC contamination without conducting a soil gas survey.
- For health and safety reasons a photoionization detector (PID) was used to monitor the work zone for volatile organic vapors during excavation and sampling activities. The PID was also used to screen samples for volatile organic vapors. Because no volatile organic vapors were detected during any of the field activities, there seemed to be no justifiable reason for completing the soil gas survey.

1.3.4 Geomorphologic Mapping

All drainage ditches, stream channels, sediment catchment areas, and the outfall that received runoff from the PRSs were located and mapped prior to selecting surface soil and sediment sampling locations. It was determined that the entire area surrounding the warehouses drained to the unlined storm drainage ditch that discharged to Los Alamos Canyon south of Warehouse #4 (Fig. 1.3.4-1). This, and other outfall points into Los Alamos Canyon, tend to be nearly vertical with few, if any, sediment catchment areas close to the outfall. An effort was made to locate surface sampling points within the first sediment catchment below an outfall. However, if no catchment areas existed within relatively close proximity to the outfall, sampling points were selected at the first available location immediately below the outfall point.

1.3.5 Deviations From the Work Plan

Three major deviations from the RFI work plan occurred during the field investigation. The first deviation was eliminating the soil gas survey. To identify areas of gross soil contamination, a soil gas survey was to have been conducted in the areas surrounding the septic tanks, drain lines, and leach field, as well as areas with visual evidence suggesting that contamination may exist. The soil gas survey was to have been conducted before any other sampling took place. The primary reasons why this survey was not conducted have been discussed in Section 1.3.3.

The second deviation was the elimination of the coring task. The RFI work plan called for a minimum of five cores to be drilled, two within the landfill, PRS 0-010(b), three within the leach field, and up to three at locations with anomalously high soil gas concentrations. PRS 0-010(b) was eliminated from the investigation, therefore no coring was done in this area. Most of the leach field components are no longer present; these components were probably removed during the trailer park construction. Only a few of the vitrified clay pipe Y branches of the leach field still exist in the far northwest corner of the field. PID screening of these samples detected no volatile organic vapors, and results from soil samples that were collected from within and below the Y branches and analyzed for the full suite of analytes, indicated there was no contamination present in the area. For these reasons, coring in the leach field was also eliminated. Finally, because the soil gas survey was not completed, there were no soil gas results to trigger coring.

It should be pointed out that as mobile chemical analytical laboratory (MCAL) and mobile radiological analytical laboratory (MRAL) soil sample data were received for the various PRSs, they were evaluated for evidence of contamination that might require further vertical investigations. If necessary, coring would have been initiated, but none of the available

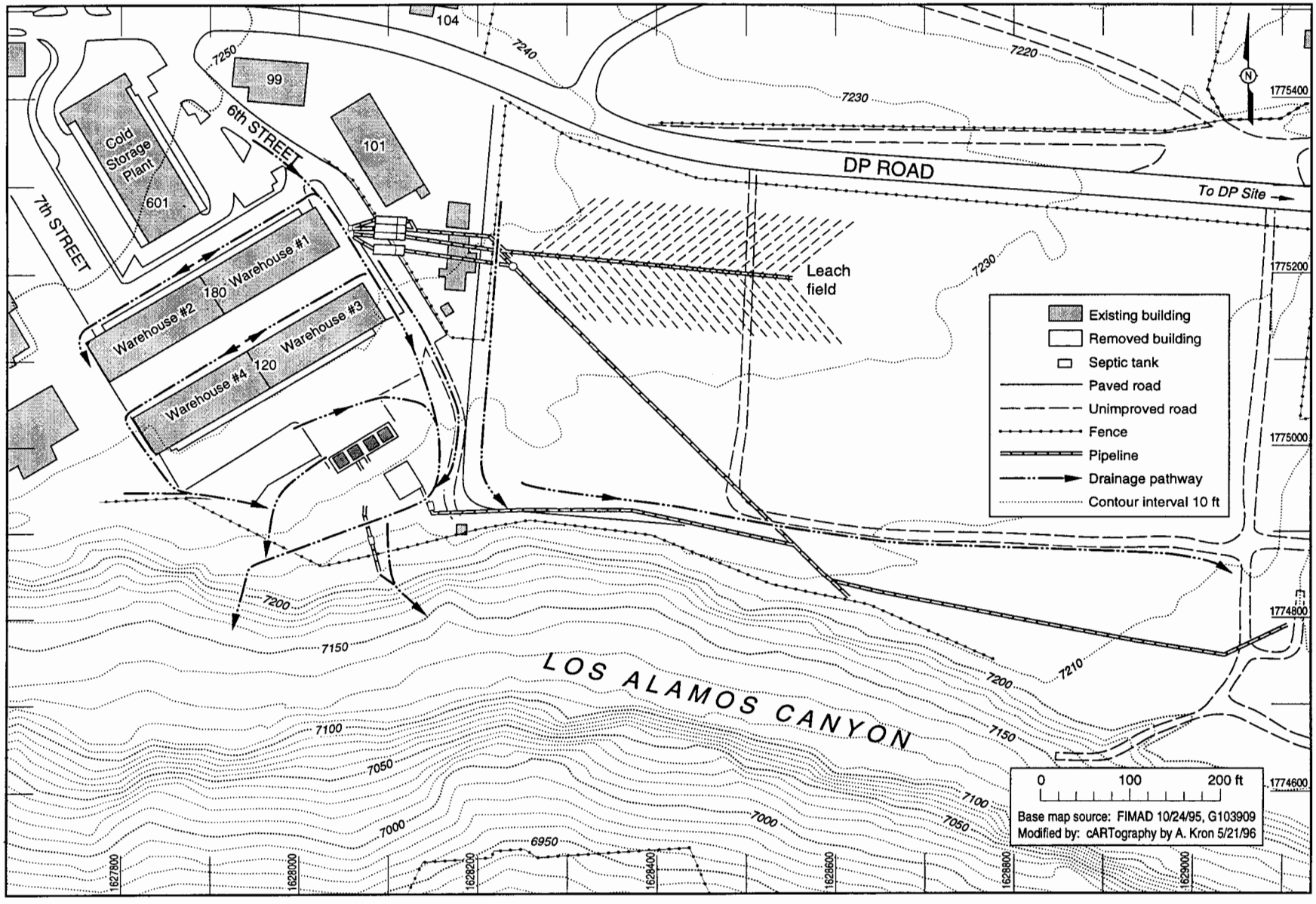


Fig. 1.3.4-1. Primary drainage pathways at the 6th Street warehouse area.

MCAL/MRAL data seemed to warrant the use of a drill rig to collect deeper samples. The only exception was the coring that was completed as part of the UST closure and carried out pursuant to the New Mexico Environment Department (NMED) UST regulations.

The third deviation was expanding the number of samples collected and the list of analytes (in most cases) over original specifications. For example, VOCs, SVOCs, TAL metals, PCBs/ pesticides, gross alpha/beta and gamma spectrometry were analyzed in most samples regardless of the field screening results. However, the work plan called for many of these analytes to be analyzed in only 50% of the samples, depending upon the field screening results. Certain radiological analyses such as tritium, isotopic plutonium, and americium-241 were also added to the analyte list in areas where historical knowledge indicated that they might exist.

The number of samples actually collected and analyzed exceeded the number of samples specified in the work plan. The reason for this deviation was a scope change in the process of septic tank removals. Initially, the RFI work plan called for removal of all septic tanks and verification samples to be collected after removal. The modified plan required the contents of the tanks be defined before removal to determine the kind of waste that would be generated if the contents and tank were removed. In addition, the tank would only be removed if the contents included COPCs greater than screening action levels (SALs), or if the cost of removing a specific tank was negligible compared to abandoning the tank in place according to NMED septic tank closure specifications. To accomplish the real-time analysis of the tank contents, analyses were completed by field laboratories for VOCs, metals [x-ray fluorescence (XRF)], and radionuclides (by gamma spectroscopy, liquid scintillation, and gross alpha/beta). Ten percent of the total number of samples collected for field laboratory analyses were sent to an off-site laboratory for confirmatory analyses. Because limited samples were sent to off-site laboratories for routine metals analysis, defined in the analytical laboratory statement of work for radiological alpha spectroscopy, XRF data were included in the background comparisons and screening assessment (LANL 1995, 49738). However, XRF data are not directly comparable with routine metals analysis data because XRF analyses and routine metals analyses have different sample preparation methods. The data used for background comparisons with XRF data in this report were taken from the integrated neutron activation analysis data in the Longmire, Duffy, and Reneau report, "Preliminary Background Elemental Concentrations in Bandelier Tuff and Selected Soil Series, 1993" (Longmire et al. 1993, 0958).

Another minor deviation occurred when the majority of combustible gas and oxygen monitoring was eliminated during subsurface sampling. The practice was to screen a few samples with the

combustible gas/oxygen meter at the beginning of subsurface sampling at each PRS. After determining a combustible condition did not exist, the remaining samples collected at that PRS were not screened with that meter.

2.0 ENVIRONMENTAL SETTING

The environmental setting for the Laboratory is described in Section 2.4 of the Installation Work Plan (IWP) for Environmental Restoration (LANL 1995, 1164). A detailed discussion of the environmental setting for TA-0, including climate, geology, hydrology, and a conceptual hydrogeologic model for the area and its surroundings, is presented in the RFI Work Plan for OU 1071 (LANL 1992, 0781). A summary is presented in the following sections.

2.1 Climate

Los Alamos County has a semiarid, temperate, mountain climate. Summers are generally sunny with moderate, warm days and cool nights. High altitude, light winds, clear skies, and dry atmosphere allow summer temperatures to range from 50°F to 90°F. During the winter, temperatures typically range from 15°F to 50°F. Normal annual precipitation in Los Alamos, including rainfall and water-equivalent snowfall, is 18 in. Of this total, approximately 40% occurs as brief, intense thunderstorms during July and August. Stream flow in canyons can occur as a result of these storms. Spring snowmelt runoff may also induce streamflow in the area canyons. Winter snowfall averages 51 in. annually (ESG 1989, 0308). Wind speeds are less than 2.5 m/s (5.5 mph) about 40% of the time and greater than 5m/s (11 mph) about 20% of the time. Strong winds occur mainly in the spring. The predominant wind direction is from the south-southwest.

2.2 Geology

2.2.1 Geologic Setting

A detailed discussion of the geology of the entire Los Alamos area can be found in Section 2.5.1.3 of the IWP (LANL 1995, 1164). Los Alamos townsite is located on the Pajarito Plateau at an elevation of about 7 300 ft. PRS Group 0-1 is located on the top of East Mesa and upper slopes of Los Alamos Canyon. Overall, the surface of the mesa slopes gently to the east with elevations at the site ranging from approximately 7 245 to 7 215 ft. The walls of Los Alamos Canyon are steep with essentially vertical sides near the top of the mesa.

The mesa top is mantled with a thin layer of reworked alluvium, colluvium, and fill material that ranges from less than 1 ft to as much as 10 ft thick. These materials are in contact with Unit 3 of the Tshirege Member of Bandelier Tuff. At the 6th Street warehouses site, this unit appears to be predominantly composed of light gray to reddish gray, partially to moderately welded tuff with abundant phenocrysts. Bedrock underlying the site and forming the walls of Los Alamos Canyon are units of Bandelier Tuff (Fig. 2.2.1-1), composed of fallout and ash flow deposits of silicic volcanic rock from eruptions 1.2–1.5 million years ago.

2.2.2 Soils

A detailed discussion of the soils in the Los Alamos area can be found in Section 2.5.1.3 of the IWP (LANL 1995, 1164). A summary of that material specific to TA-0, 6th Street warehouses area is presented below.

Soils in the vicinity of the 6th Street warehouses are of the Pogna series (Nyhan et al. 1978, 0161). In general, the Pogna series consists of shallow well-drained soils that formed in alluvium and colluvium overlying tuff on gently to strongly sloping mesa tops. Typically, these soils are of a light brownish-gray, fine sandy loam over tuff bedrock. The available water capacity of these moderately permeable soils is low, and the effective rooting depth is relatively shallow (8–20 in.). Runoff and water erosion are moderate with shallow channels cut into the mesa tops or on canyon walls and colluvial aprons that cover the lower slopes of Los Alamos Canyon.

A majority of the natural surface of the East Mesa mesa top has been altered by anthropogenic activities. Excavation and fill, paved roads, parking lots, parks, landscaped yards, and buildings have considerably changed the natural landscape.

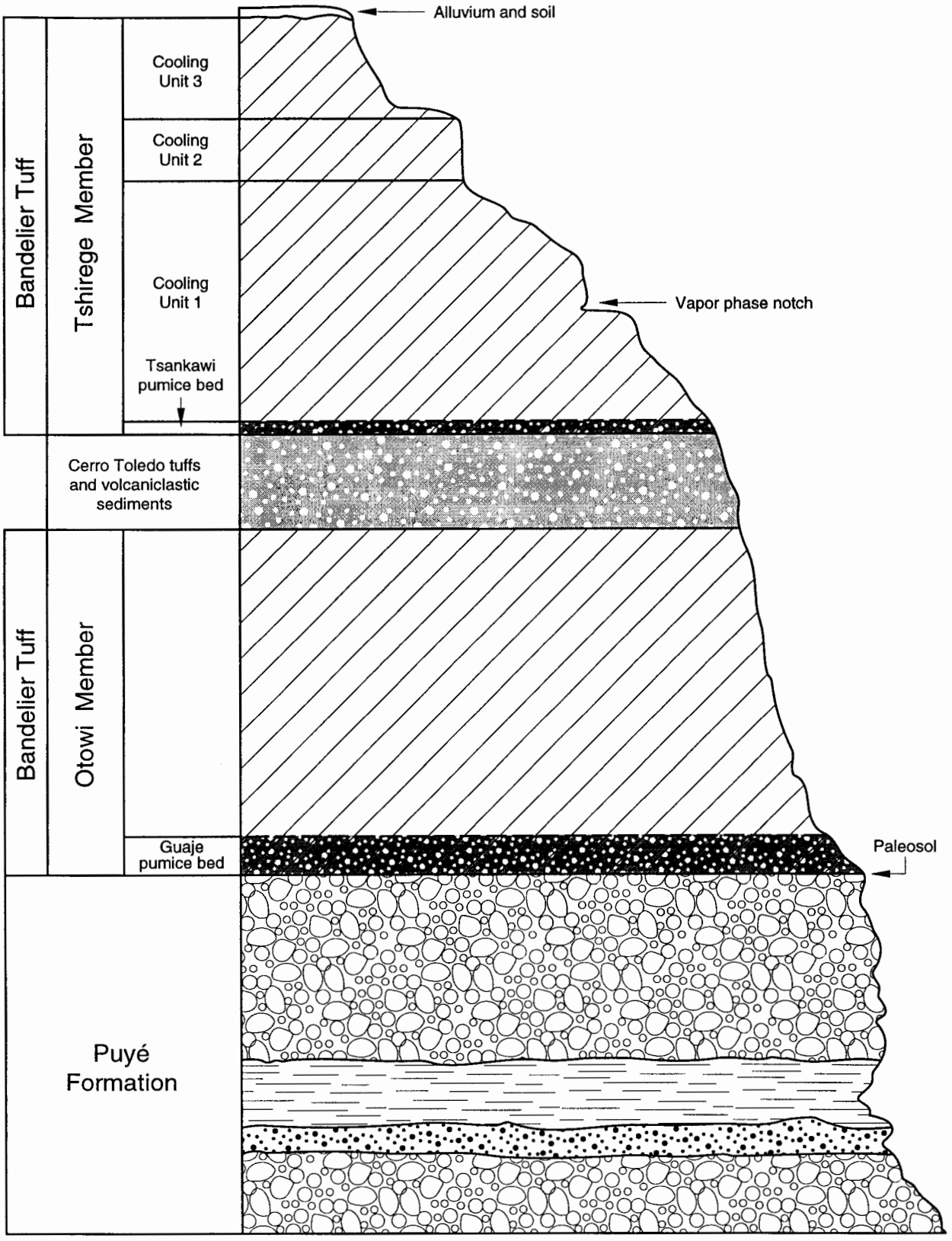


Fig. 2.2.1-1. Stratigraphy of TA-0.

2.3 Hydrology

The hydrology of the Parjarito Plateau is summarized in Section 2.5.2 of the IWP (LANL 1995, 1164). Site-specific conditions are summarized below.

2.3.1 Surface Water

Runoff and infiltration from rain events and snowmelt are the only aspects of surface water hydrology at 6th Street warehouses. Runoff may cause potential contaminants to move into surface waters, become concentrated in drainages, and be deposited in sediment catchments downstream. Surface water infiltration may cause COPCs to be transported into subsurface soils, the vadose zone, and alluvial aquifers located in the alluvial materials along the floor of Los Alamos Canyon south of the 6th Street warehouses.

2.3.2 Ground Water

The main aquifer beneath East Mesa is at an elevation of approximately 6 000 ft in the sediments of the Puyé and Totavi Formations. At mesa-top sites such as East Mesa, the surface is separated from the main aquifer by an unsaturated zone that is 1 000-ft to 1 300-ft thick. No perched aquifers are known to exist in the immediate vicinity of TA-0 (Broxton and Eller 1995, 1162).

2.4 Biological Surveys

Comprehensive plant and animal inventories are required by the Federal Endangered Species Act of 1973; the New Mexico Wildlife Conservation Act; Executive Order 11990, "Protection of Wetlands;" Executive Order 11988, "Floodplain Management;" 10 CFR 1022; Compliance With Floodplain/Wetlands Environmental Review Requirements (DOE 1979, 0633), and DOE order 5400.1, General Environmental Protection Program (DOE 1988, 0075).

The mesa top of East Mesa has undergone heavy commercial and urban development. Comprehensive plant and animal inventories were not performed for the mesa top because it is heavily developed. The wildlife habitats on the mesa top can be characterized as urban plant and animal communities.

2.5 Cultural Surveys

As required by the National Historic Preservation Act of 1966 (as amended), a cultural resource survey was conducted at OU 1071 during the summer of 1991 (McGehee et al. in preparation, 0611). The methods and techniques used for this survey conform to those specified in the Secretary of the Interior's standards and guidelines for archeology and historic preservation.

There are no archaeological sites located within the 6th Street warehouses area eligible for inclusion in the National Register of Historic Places under Criterion D.

3.0 APPROACH TO DATA ASSESSMENT AND ANALYSIS

The data assessment approach used for PRSs 0-030(b), 0-004, 0-010(b), and 0-033(b) involves a series of quantitative steps that occur after the field investigation, chemical analysis, and data reporting are complete. These steps begin with routine data validation and continue with more focused data validation, if necessary. Routine validation involves validating each data item against specific targets and adding qualifier flags to the data to signify a potential deficiency. Focused validation consists of analyzing quality assurance/quality control (QA/QC) data for their potential impact on the succeeding data assessment steps, i.e., comparing site data to background concentration data, verifying the identities of detected organic chemicals, comparing site data to SALs for human health impacts, and performing human health risk assessments when necessary. The following sections provide overviews of the methods used to complete these quantitative steps. Further details can be found in Technical Approach to RFI Reports (LANL in preparation, 1281).

3.1 Sample Analyses

All samples requiring chemical and radiological analyses and chain-of-custody documentation are submitted to the sample management office (SMO), the MCAL, and/or the MRAL for analyses.

3.1.1 Analytical Methods

All samples were analyzed using Environmental Protection Agency (EPA) SW-846 methods or their equivalents.

3.1.2 Data Validation

Data verification and validation procedures are used to determine whether data packages have been generated according to specifications, are of known quality, and contain the information necessary to determine data sufficiency for decision-making.

Data verification is a check of data deliverables against a set of stated requirements to ensure that what has been ordered has been delivered. All analytical data generated in support of the Environmental Restoration (ER) Project are verified.

Data validation is the process of determining whether an individual result (a datum) can be reliably used to support the decision-making process. During the process, validators determine whether data should be qualified or used with caution because of the potential impact of noted flaws or the failure to achieve analytical precision or bias constraints.

Routine validation is the comparison of quality indicators (such as surrogate recovery, measurements of method blanks, holding times, and differences between replicate measurements) with clearly defined limits to determine whether limitations may need to be placed on data use. Routine validation is most suitable for routine analyses and for those nonroutine analyses with established clearly defined limits.

The focused data validation process addresses those characteristics of the data (e.g., precision and bias) that directly affect the decisions to be based on the data. The same data set may undergo different focused validations for different decisions.

3.2 Background Comparisons

Once the data validation process is complete and the site data are finalized, the next step in the process is to compare site data with available background data. The results of a focused data validation should exclude from consideration for background comparison any contaminant that is identified as an artifact of laboratory or field contamination, analytical interference, or improper analyte identification or quantitation. The purpose of this decision step is to determine if chemicals that have natural or anthropogenic background distributions should be retained as COPCs or eliminated from further consideration. Background data are available from two sources: 1) soil samples collected throughout Los Alamos County for which chemical analyses were performed for certain inorganic (metal) chemicals and naturally occurring radioactive chemicals (Longmire et al. 1995, 1142; 1266); and, 2) background concentrations of radioactive chemicals associated with global fallout from atmospheric nuclear testing (e.g., plutonium,

cesium, strontium, and tritium) reported in LANL Environmental Surveillance reports (Purtymun et al. 1987, 0211; ESG 1988, 0408; ESG 1989, 0308; Environmental Protection Group 1990, 0497; Environmental Protection Group 1992, 0740).

Comparisons between site data and background data are initially performed by comparing each observed concentration datum to an upper tolerance limit (UTL) estimated from background data. Details of statistical methods used to generate UTLs from the background data sets and suggestions for statistical methods to compare site and background concentration distributions are presented in the guidance document, Statistical Comparisons to Background, Part I (Environmental Restoration Project Assessments Council 1995, 1218). Further statistical comparisons between site and background data might be performed when UTLs are exceeded.

The ER Project has developed UTLs for the most commonly sampled chemicals and the most commonly analyzed media. Because disturbed fill media were sampled in this RFI, LANL-wide soil data are appropriate background data. For chemicals and media not included in the LANL background data (or in the Facility for Information Management and Display), UTLs will be developed by the ER Project's Decision Support Council as needed.

If a chemical has a reported concentration that exceeds its UTL and fails other statistical background comparison tests (i.e., the site data are statistically greater than background data), then that chemical is carried forward through the screening assessment process. If a chemical does not have a reported concentration that exceeds the UTL, then that chemical is removed from further consideration.

3.3 Evaluation of Organic Constituents

Background data are not available for organic chemicals. The preliminary evaluation of organic chemicals considers detected chemicals and chemicals that were analyzed for but not detected in any sample. The purpose of this decision step is to determine if organic chemicals should be retained as COPCs or eliminated from further consideration based on detection status. Detection status is determined by the analytical laboratory on a sample-by-sample, analyte-by-analyte basis. Estimated quantitation limits (EQLs) have been established for each analyte as reporting limits when the analyte is not detected. It should be noted that the EQLs reported for individual samples are dependent on a number of factors and may vary from sample to sample and from analysis to analysis. Therefore, the sample-specific EQL for a chemical must be used in this comparison.

If a chemical has a reported concentration that exceeds its reporting limits, then that chemical is generally carried forward through the screening assessment process. If a chemical does not have a reported concentration that exceeds its reporting limits, then that chemical is generally removed from further consideration. Exceptions to these general rules may be made if site-specific process knowledge so indicates. A chemical that is detected may be removed from further consideration if it can be determined that its presence is not due to Laboratory operations. A chemical that is not detected in any sample may be carried through the decision process if the chemical can be expected to be present at the site based on historical operations.

3.4 Human Health Assessment

3.4.1 Screening Assessment

The purpose of this decision step is to determine if chemicals should be retained as COPCs or eliminated from further consideration based on comparisons with SALs. SALs are medium-specific concentrations that are calculated using chemical-specific toxicity information and conservative, default exposure assumptions. This is the last step in the screening assessment process for human health concerns. If COPCs remain after this step, then further action may be proposed. If no COPCs remain after this step, then NFA may be proposed based on human health concerns.

For those chemicals with available SALs, each observed concentration datum is compared to the chemical's SAL. If a chemical has a reported concentration greater than its SAL, then that chemical is retained as a COPC pending further analysis. If a chemical does not have a reported concentration greater than its SAL, then that chemical is generally removed from further consideration. If more than one chemical is present at the site, this decision is deferred pending the results of the multiple chemical evaluation (MCE) described below. The decision to identify a chemical as a COPC when a SAL is not available is made on a case-by-case basis, taking into account the availability of process knowledge and toxicological information.

It is possible that COPCs should be retained because of the combined adverse health effects of several chemicals. This possibility is evaluated in an MCE, in which the reported concentration for each chemical is divided by its respective SAL, and the resulting normalized values are incorporated into a simple additive model. If the sum of the normalized values (i.e., the total normalized value) is less than one, then the chemicals are removed from further consideration. If the total normalized value is greater than one, then chemicals having an individual normalized value greater than or equal to 0.1 are retained as COPCs pending further evaluation.

Only those chemicals that exceed background concentration thresholds (certain inorganics and radionuclides), fail other background comparison tests, or exceed reporting limits (organics) in at least one sample are included in the MCE. These chemicals are divided into three classes: noncarcinogens, chemical carcinogens, and radionuclides. Additive effects are assumed within each class, but each class is evaluated separately. For further information on the calculation of MCEs see Technical Approach to RFI Reports (LANL in preparation, 1281).

3.4.2 Risk Assessment

The human health risk assessment presented in Chapter 5 follows the guidance document Risk-Based Corrective Action Process (LANL/SNL 1996, 1277). The human health risk assessment process consists of the following four steps:

- identification of COPCs,
- exposure assessment,
- toxicity assessment, and
- risk characterization.

3.5 Ecological Assessment

All information obtained from the Phase I investigation at the 6th Street warehouses PRSs will be considered as part of a larger ecological exposure unit once the ecological exposure unit approach has been formally approved by LANL ER Project regulators. PRSs 0-030(b), 0-004, 0-033(b), and 0-010(b) are mesa-top sites surrounded by disturbed areas. The area provides limited habitat for biota, does not contain sensitive habitats, and threatened or endangered species are not present (Ebinger et al. 1994, 1216). Therefore, there is no immediate ecological risk at this site.

4.0 RESULTS OF QUALITY ASSURANCE/QUALITY CONTROL ACTIVITIES

All samples, along with chain-of-custody documentation, were submitted to the SMO, the MCAL, and/or to the MRAL.

Selected samples were analyzed for TAL metals by flame atomic absorption (FAA) (EPA SW-846 method 7420), electrothermal vapor atomic absorption (ETVAA) (SW-846 method 7041), cold vaporization atomic absorption (CVAA) (EPA SW-846 method 7471),

inductively coupled plasma mass spectroscopy (ICPMS) (EPA SW-846 method 6020), and inductively coupled plasma emission spectroscopy (ICPES) (EPA SW-846 method 6010). The TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and thallium.

VOC analyses were conducted using purge and trap-gas chromatography/mass spectrometry (P&T-GC/MS), EPA SW-846 method 8260. SVOC analyses were conducted using GC/MS (EPA SW-846 method 8270).

Radiological analyses were conducted in fixed-base laboratoriesusing alpha spectroscopy for isotopic uranium and plutonium, kinetic phosphorescence analysis (KPA) for total uranium, delayed neutron activation analysis (DNAA) for total uranium, and gamma spectroscopy for gamma isotopes. The methods used for radiological analyses varied between the laboratories. The analyses performed in the MRAL included the following: percent moisture analyses using a Denver Instruments IR100 Moisture Analyzer™, tritium analyses using liquid scintillation (LS) counting, gross alpha and gross beta analyses using a gas flow proportional counter (GFPC) and gross gamma analyses using a Bicron™ 5 in. x 7 in. sodium iodide (NaI) well counter.

Data validation was performed on all data from the analytical laboratories. Validation was performed using the guidelines from the ER Project's Generic Quality Assurance Project Plan for RCRA Facility Investigations, Appendix T of the IWP (LANL 1991, 0553). Reviews of the validation and the QA/QC activities for each PRS are included in the following sections. A summary table of all the QA/QC results for each sample can be found in Appendix B of this document.

As a result of QA/QC activities, qualifiers are added to the data when necessary as part of routine data validation activities. The following is a list of the qualifiers used in this RFI report and their definitions.

- U = Undetected quantity. The analyte was not detected in the sample above the EQL.
- J = Estimated quantity. The analyte was detected in the sample, but there were one or more QC parameters associated with this sample that were outside allowed limits.
- R = Data are rejected.

There can be many reasons for qualifying analytical data. For example, there is a set of sample-specific QC parameters that can cause analytes from individual samples to be qualified, such as surrogate recoveries or duplicate results. There are also batch-specific parameters, such as blind QC samples and method blanks that affect all of the samples analyzed in a particular group. Often, the quantity of QA/QC data available for site-specific investigations is inadequate for estimating components of measurement error because statistics cannot be defined for sample sizes of one, and cannot be estimated well with small sample sizes. Consequently, QA/QC data for site-specific investigations will rarely be used to adjust data.

4.1 Inorganic Analysis

4.1.1 PRS 0-030(b)

For request number 984, one sample was analyzed. The percent recovery of the matrix spike sample was below the lower control limit (LCL) for the following elements: aluminum, arsenic, antimony, calcium, iron, lead, magnesium, manganese, potassium, silver, zinc, selenium, and molybdenum. Sample data for aluminum, arsenic, calcium, iron, lead, magnesium, manganese, potassium, silver, zinc, and molybdenum were qualified "J" for low bias. Sample data for antimony and selenium were qualified "UJ". The percent recovery of uranium was above the upper control limit in the matrix spike sample of the total uranium analyses; therefore, sample data for uranium are qualified "J" for high bias.

For request number 1478, four soil samples (0100-95-0704, 0100-95-0705, 0100-95-0706, and 0100-95-0707) were analyzed. The percent recovery from the matrix spike sample and the relative percent difference (RPD) from the duplicate sample were above the uppper control limit (UCL) for mercury. Sample data for mercury were qualified "J" for high bias. The percent recovery of selenium was below the LCL in the matrix spike sample. Sample data for selenium were qualified "UJ". The RPD for calcium in the duplicate sample was above the UCL; therefore, sample data for calcium were qualified "J".

For request number 1488, six samples (0100-95-0709, 0100-95-0710, 0100-95-0712, 0100-95-0713, 0100-95-0714, and 0100-95-0715) were analyzed. Mercury was qualified "J" for high bias because of high recovery in matrix spike sample. Selenium was qualified as "UJ" for low recovery in the matrix spike sample. Mercury and calcium were qualified "J" for high percent RSD in a duplicate sample.

For request number 1495, four samples (0100-95-0716, 0100-95-0717, 0100-95-0718, and 0100-95-0719) were analyzed. The percent recovery of silver, mercury and zinc were above the UCL in the matrix spike sample. Sample data for silver, mercury, and tin were qualified "J"

for high bias. The percent recovery of barium and selenium were below the LCL in the matrix spike. Sample data for barium were qualified "J" for low bias and sample data for selenium were qualified "UJ".

For request number 1506, five samples (0100-95-0721, 0100-95-0722, 0100-95-0723, 0100-95-0724, and 0100-95-0725) were analyzed. The percent recovery of selenium, barium, copper, and lead were below the LCL in the matrix spike sample. Sample data for selenium were qualified "UJ". Sample data for barium, copper, and lead were qualified "J" for low bias.

For request number 1515, 10 samples (0100-95-0726, 0100-95-0727, 0100-95-0728, 0100-95-0729, 0100-95-0730, 0100-95-0731, 0100-95-0732, 0100-95-0733, 0100-95-0734, and 0100-95-0735) were analyzed. Because the percent recovery for manganese was above the UCL in the matrix spike sample, sample data for manganese were qualified "J" for high bias. The percent recovery of selenium was below the LCL. Sample data for selenium were qualified "UJ".

For request number 1572, 12 samples (0100-95-0740, 0100-95-0741, 0100-95-0742, 0100-95-0743, 0100-95-0744, 0100-95-0745, 0100-95-0746, 0100-95-0749, 0100-95-0750, 0100-95-0911, 0100-95-0912, and 0100-95-0913) were analyzed. Because the percent recovery of selenium was below the LCL in the matrix spike sample, sample data for selenium were qualified "UJ".

For request 1720, sample 0100-96-0001 had three QC problems. Antimony was qualified "UJ" for low recovery in the matrix spike sample. Manganese was qualified "J" for high percent RPD for the duplicate sample. Potassium was qualified "J" for high percent RPD in the serial dilution sample.

4.1.2 PRS 0-004

No inorganic analyses were performed on this site by a fixed laboratory. However, XRF data are available.

4.1.3 PRS 0-033(b)

For all request numbers associated with inorganic analyses, all QC criteria were met.

4.1.4 PRS 0-010(b)

No samples were collected from this alleged PRS.

4.2 Organic Analysis

4.2.1 PRS 0-030(b)

All QC criteria associated with organic analyses were met for all but the following request numbers.

For request 1497, four samples (0100-95-0716, 0100-95-0717, 0100-95-0718, 01-95-0719) were analyzed for SVOCs, VOCs, and pesticides/PCBs. All QC criteria associated with the SVOCs and pesticides/PCBs analyses were met. For the VOC analyses, the EQL of methylene chloride was raised in samples 0-100-95-0716, 0100-95-0717, 0100-95-0718, and 0100-95-0719 due to laboratory contamination. For sample 0100-95-0718, the following analytes were qualified "UJ" due to low area count for an internal standard: isopropylbenzene, bromobenzene, 1,2,3-trichloropropane, 1,1,2,2-tetrachloroethane, tert-butylbenzene, sec-butylbenzene, n-butylbenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 4-isopropyltoluene, n-propylbenzene, 2-chlorotoluene, 4-chlorotoluene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,2-dibromo-3-chloropropane.

For request number 1505, five samples (0100-95-0721, 0100-95-0722, 0100-95-0723, 0100-95-0724, and 0100-95-0725) were analyzed for pesticides/PCBs, SVOCs, and VOCs. QC criteria were met in all analytical methods with the exception of VOCs. Because internal standard areas were beyond the acceptance window in sample 0100-95-0721, tetrachloroethene was qualified "J" and the remaining target analytes were qualified "UJ". The percent recovery of one of the three system monitoring compounds in sample 0100-95-0722 was below the LCL; therefore, all target analytes were qualified "UJ". The percent recovery of one of the three system monitoring compounds in sample 0100-95-0723 was above the UCL resulting in tetrachloroethene to be qualified "J".

For request number 1514, 10 samples (0100-95-0726, 0100-95-0727, 0100-95-0728, 0100-95-0729, 0100-95-0730, 0100-95-0731, 0100-95-0732, 0100-95-0733, 0100-95-0734, and 0100-95-0735) were analyzed for pesticides/PCBs, SVOCs, and VOCs. QC criteria were met in all analytical methods with the exception of pesticides/PCBs and VOCs. For the pesticides/PCBs, the percent recovery of the surrogate compound was below the LCL in samples 0100-95-0726 and 0100-95-0730. All analytes were qualified "UJ" in the two samples. Several QC criteria were not met in the VOCs analyses. Laboratory contamination, as evident by the method blank data, resulted in raising the EQL for methylene chloride in samples 0100-95-0730, 0100-95-0732, 0100-95-0733, and 0100-95-0735. In samples 0100-95-0726, 0100-95-0727, 0100-95-0728, 0100-95-0729, and 0100-95-0731 laboratory contamination

resulted in raising the EQL for methylene chloride and acetone. Because internal standard areas were above the UCL in sample 0100-95-0727, all target analytes were qualified "UJ". The area count for one internal standard was below the LCL in sample 0100-95-0730; therefore,17 target analytes were qualified "UJ".

For request number 1571, 12 samples (0100-95-0740, 0100-95-0741, 0100-95-0742, 0100-95-0743, 0100-95-0744, 0100-95-0745, 0100-95-0746, 0100-95-0749, 0100-95-0750, 0100-95-0911, 0100-95-0912, and 0100-95-0913) were analyzed for pesticides/PCBs, SVOCs, and VOCs. QC criteria were met in all analytical methods with the exception of VOCs. Laboratory contamination, evident from the method blank data, resulted in raising the EQL for methylene chloride in samples 0100-95-0741, 0100-95-0742, and 0100-95-0746. The EQL for methylene chloride and acetone was raised in samples 0100-95-0743, 0100-95-0744, 0100-95-0745, 0100-95-0749, 0100-95-0750, and 0100-95-0911 because of laboratory contamination. In samples 0100-95-0740 and 0100-95-0912, the EQL for acetone was raised because of laboratory contamination. For sample 0100-95-0740, all target analytes were qualified "UJ" because of internal standard areas below the acceptance limit.

4.2.2 PRS 0-004

For request number 822, six samples (0100-95-0514, 0100-95-0515, 0100-95-0516, 0100-95-0517, 0100-95-0518, and 0100-95-0519) were analyzed for pesticides/PCBs and SVOCs. QC criteria were met in all but two samples. For samples 0100-95-0517 and 0100-95-0518, seven analytes were qualified "UJ" in the SVOC analyses because of low internal standard areas. For sample 0100-95-0518, all analytes in the pesticide/PCB analyses were qualified "UJ" because of low surrogate recovery.

4.2.3 PRS 0-033(b)

For all request numbers associated with organic analyses, all QC criteria were met.

4.2.4 PRS 0-010(b)

No samples were collected from this alleged PRS.

4.3 Radiochemical Analysis

4.3.1 PRS 0-030(b)

All QC criteria associated with radiochemical analyses were met for all but the following request numbers.

For request number 985, one sample was analyzed for radionuclides (sample ID number 0100-95-0479) with plutonium-239 qualified "J" for high percent RDP for duplicate analysis.

For request number 1256, three samples were analyzed. All data are valid without qualification. Although tracer recovery was low for americium-241 in sample 0100-95-0684, recovery was within control limits for duplicate analysis.

For request number 1496, four samples were analyzed. Americium-241 was qualified "J" for low tracer recovery for samples 0100-95-0716, 0100-95-0717, and 0100-95-0718. Americium-241 was qualified "R" for tracer recovery <10% for sample 0100-95-0719.

For request number 1507, five samples were analyzed. Americium-241 was qualified "J" for low tracer recovery for samples 0100-95-0721, 0100-95-0722, 0100-95-0723, and 0100-95-0724. Americium-241 was qualified "R" for tracer recovery <10% for sample 0100-95-0725.

For request number 1516, 10 samples were analyzed. Americium-241 was qualified "J" for low tracer recovery for samples 0100-95-0726, 0100-95-0727, 0100-95-0728, 0100-95-0729, 0100-95-0731, 0100-95-0732, and 0100-95-0733. Americium-241 was qualified "R" for tracer recovery <10% for samples 0100-95-0730 and 0100-95-0100-95-0734.

4.3.2 PRS 0-004

For all request numbers associated with radiochemical analyses, all QC criteria were met.

4.3.3 PRS 0-033(b)

For all request numbers associated with radiochemical analyses, all QC criteria were met.

4.3.4 PRS 0-010(b)

No samples were collected from this alleged PRS.

5.0 SPECIFIC INVESTIGATIONS, RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 PRS 0-030(b)

5.1.1 History

PRS 0-030(b), also known as Septic System #1 is located east of the 6th Street warehouses (US Engineer Office 1946, 05-0122; The Zia Company 1947, 05-0132). The septic system is composed of four tanks, that served 6th Street warehouses 1 through 4, an office building, the cold storage plant, and the eastern portion of TA-1 (US Engineer Office 1946, 05-0122). An October 1943 engineering drawing depicts only two tanks, and it is apparent that the other two tanks were added at a later date. The septic line system consisted of a main 8-in.-diameter drain line that received sanitary waste from the buildings and warehouses through 6-in.-diameter lines. The drain lines were probably constructed of VCP. The 8-in.-diameter main line discharged to the septic tanks. These septic tanks discharged to a leach field located east of the 6th Street warehouses, and directly to an outfall to Los Alamos Canyon (US Engineer Office 1943, 05-0121). Available information indicates that this septic system handled only sanitary waste; however, having served portions of TA-1, there is a potential that nonsanitary wastes may have found their way into the system.

5.1.2 Description

The mesa top at TA-0 is mantled with a thin layer of reworked colluvium and fill material that ranges from less than 1 ft to as much as 10 ft thick. At the 6th Street Warehouse site, the mesa is characterized by heavy commercial and urban development and wildlife habitats are urban plant and animal communities.

For a description of geological setting, soils, and hydrology pertinent to the location of PRS 0-030(b) see Section 2.0 of this report.

5.1.3 Previous Investigations

There were no known previous investigations at this site.

5.1.4 Field Investigation

The investigation of PRS 0-030(b) was initiated on July 26, 1995. A backhoe was used as the primary exploration tool to locate the septic tank components and determine their size and design. Initial excavation efforts concentrated on locating the outlet and leach field pipelines. Four north/south trending trenches were excavated at regularly spaced intervals in the vicinity

of the leach field in an effort to locate the central drainline and any of the lateral Y branches. The central drainline could not be found and only a couple of the Y branches in the far northwest corner of the former leach field could be located. These consisted of two-foot sections of VCP, loosely laid end-to-end and underlain by a shallow, gravel-filled trench. The majority of the leach field lines, including the central drain line, were obviously not present. It is believed that terracing and recontouring of the field prior to construction of the trailer park in the 1950s resulted in removal of the central drain line and most of the Y branches. This would explain the source of the numerous VCP fragments found strewn across the field. This would also explain why the invert (base) of manhole #1A is exposed at the ground surface (Fig. 5.1.4-1). According to the 1943 engineering drawing, the manhole was approximately 6.5 ft deep, all of which was obviously removed during the terracing activities to expose the invert. To further confirm that a considerable amount of soil was removed from portions of the field prior to construction of the trailer park, ground surface elevations were surveyed at several grid points at the west end of the former leach field. Existing elevations were found to be as much as five to six feet lower than elevations shown on the 1943 drawing of the septic system. The earth removed from portions of the field during the terracing activities was presumably used as fill material to build up the south side of the field next to Los Alamos Canyon.

Three large trenches were excavated to locate the end of the northwest/southeast trending VCP outfall. These trenches encountered from four to six feet of fill, with the contact between the fill and native soil or tuff frequently being marked by a thin, discontinuous layer of coal pieces. The coal was a remnant of the coal storage yard, apparent in a 1946 aerial photograph, which occupied portions of this field in the 1940s and possibly early 1950s. The junction of the PRS 0-030(m) outlet pipe with the PRS 0-030(b) outlet pipe, which was supposedly in this area, was never found and it is assumed that it is located further north than depicted on the 1943 drawing. The end of the VCP was finally located at a depth of approximately eight feet. As opposed to ending in an outfall as shown on the 1943 drawing, a six-inch diameter steel pipe had been connected to the end and a concrete patch had been placed around the connection. The steel pipe was bent, thus giving it an east/west orientation. However, it did appear that at one time the VCP ended at or near this point of attachment based on the presence of a shallow trench in the tuff which continued in a northwest/southeast trend toward the edge of the mesa.

Nine additional trenches were subsequently excavated in an effort to trace the six-inch steel pipe and find its termination (Fig. 5.1.4-2). The end of the pipe was finally located at the far east end of the field, approximately 530 ft due east of its connection with the VCP. The pipe termination was somewhat flattened, highly corroded, and jagged. The surrounding soil was

discolored. It appeared that this was the outfall point and no evidence could be found that the pipe had at one time continued further to the east. The end of the pipe lies at the head of a shallow ravine that continues to the east and gradually deepens and curves to the south, thus eventually joining with Los Alamos Canyon approximately 2 000 ft to the east. It is speculated that at some time the effluent discharge became a problem or source of annoyance for the reactor facility directly below the original outfall in Los Alamos Canyon, and the problem was solved by installing the steel pipe and redirecting the effluent down canyon from the facility.

The geophysical survey provided some good information on the location of the septic tanks below 6th Street. Two large anomalies were evident within the general area where the PRS 0-030(b) septic tanks were expected to be located. Using this information in conjunction with the geodetic survey locations, the backhoe began excavating to determine the precise location and design of the septic tanks. As tank walls were located and the dimensions and design of the tanks were revealed, the excavation work was focused in areas requiring additional information. None of the tank tops or covers were still in place and the tank walls had been partially broken off, presumably to permit the construction of 6th Street. The walls had been broken off below the point of connection of the inlet pipelines and no trace of the inlet lines could be found. The tank walls were constructed of four to six-inch thick, rebar reinforced concrete. Excavation work revealed the existence of two large septic tanks shown in Fig. 5.1.4-3.

The south tank (tank 1) is composed of two cells divided by a concrete wall. The west cell (cell 1) is approximately 25 ft long x 10 ft wide and the east cell (cell 2) is approximately 10 ft long x 10 ft wide. Cell 1 is slightly less than 10 ft deep from the top of the asphalt pavement; thus possibly making the original depth of the tank approximately 8 ft before the sides were partially broken off. Cell 2 was found to be only about 5 ft deep from the top of the asphalt pavement; thus making its original depth approximately 3 ft. No baffles were encountered in either cell. A 6-in. diameter VCP outlet was found approximately 6 in. below the bottom of cell 2. As opposed to connecting to the side of the tank, the outlet pipe is obviously connected to the bottom of cell 2, possibly protruding a short distance up into the tank. This overall tank design is similar to a typical tank design shown in Fig. 5.1.4-4.

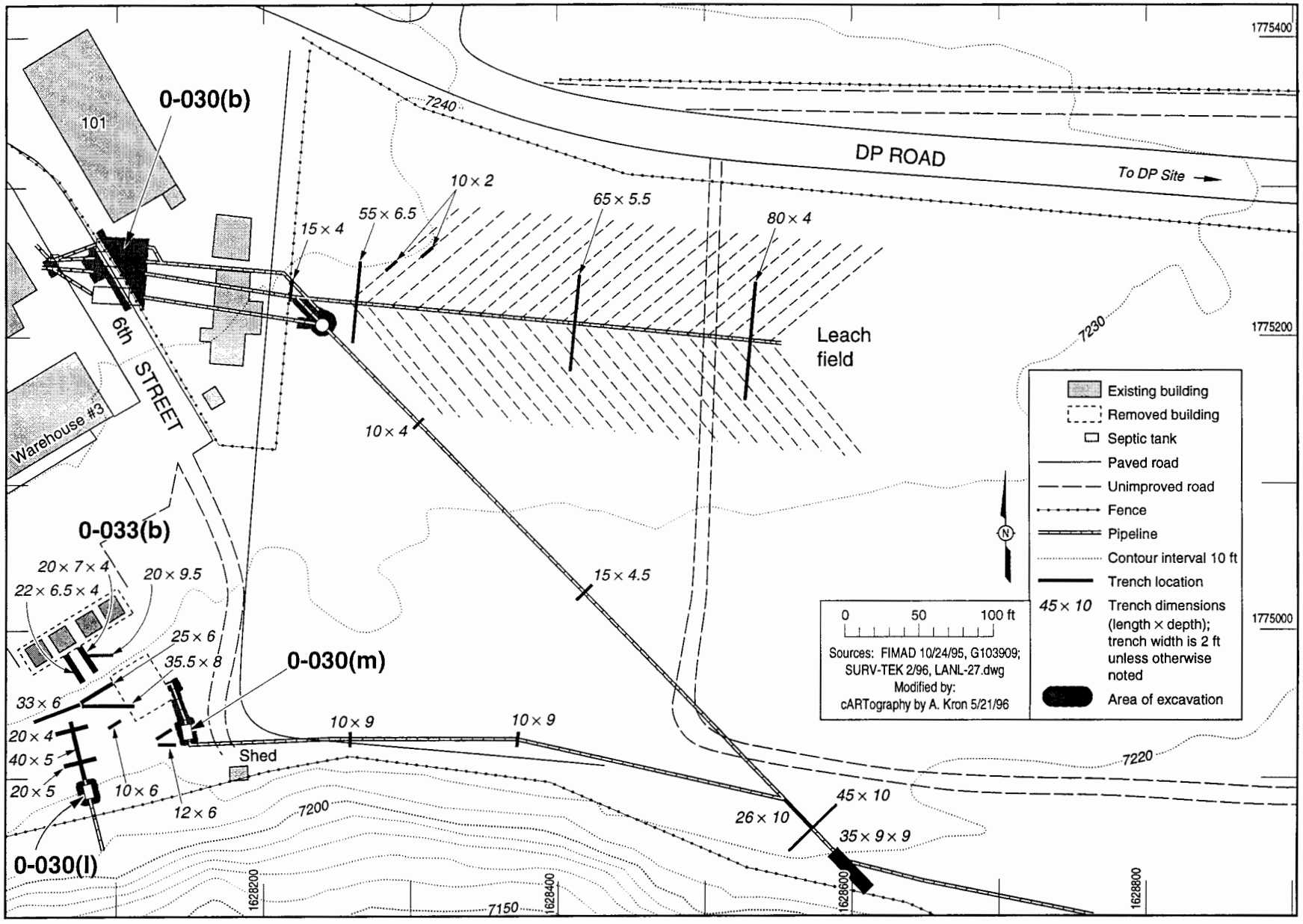


Fig. 5.1.4-1. Investigation and sampling trenches and excavations for the western portion of site.

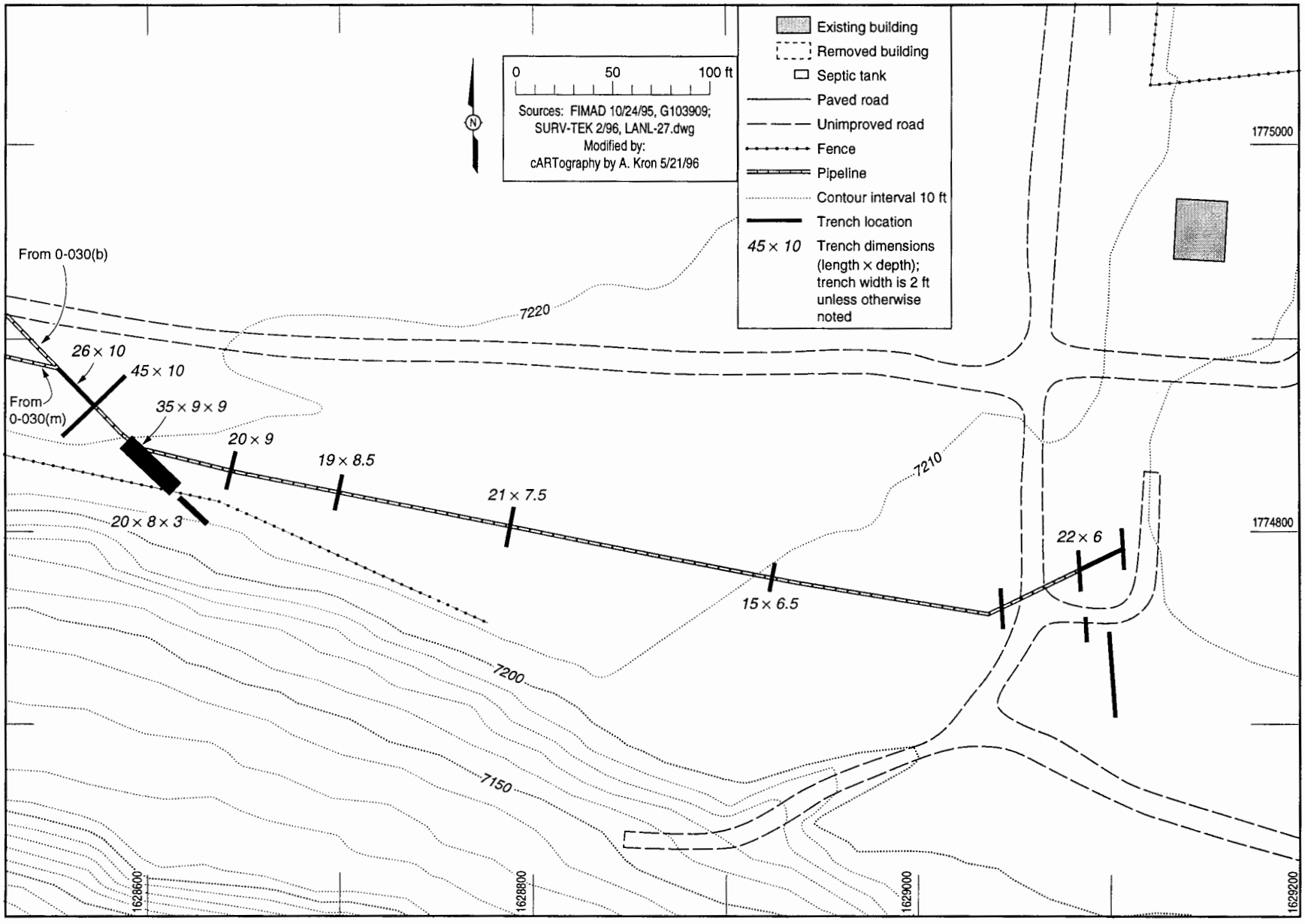


Fig. 5.1.4-2. Investigation and sampling trenches and excavations for the eastern portion of site.

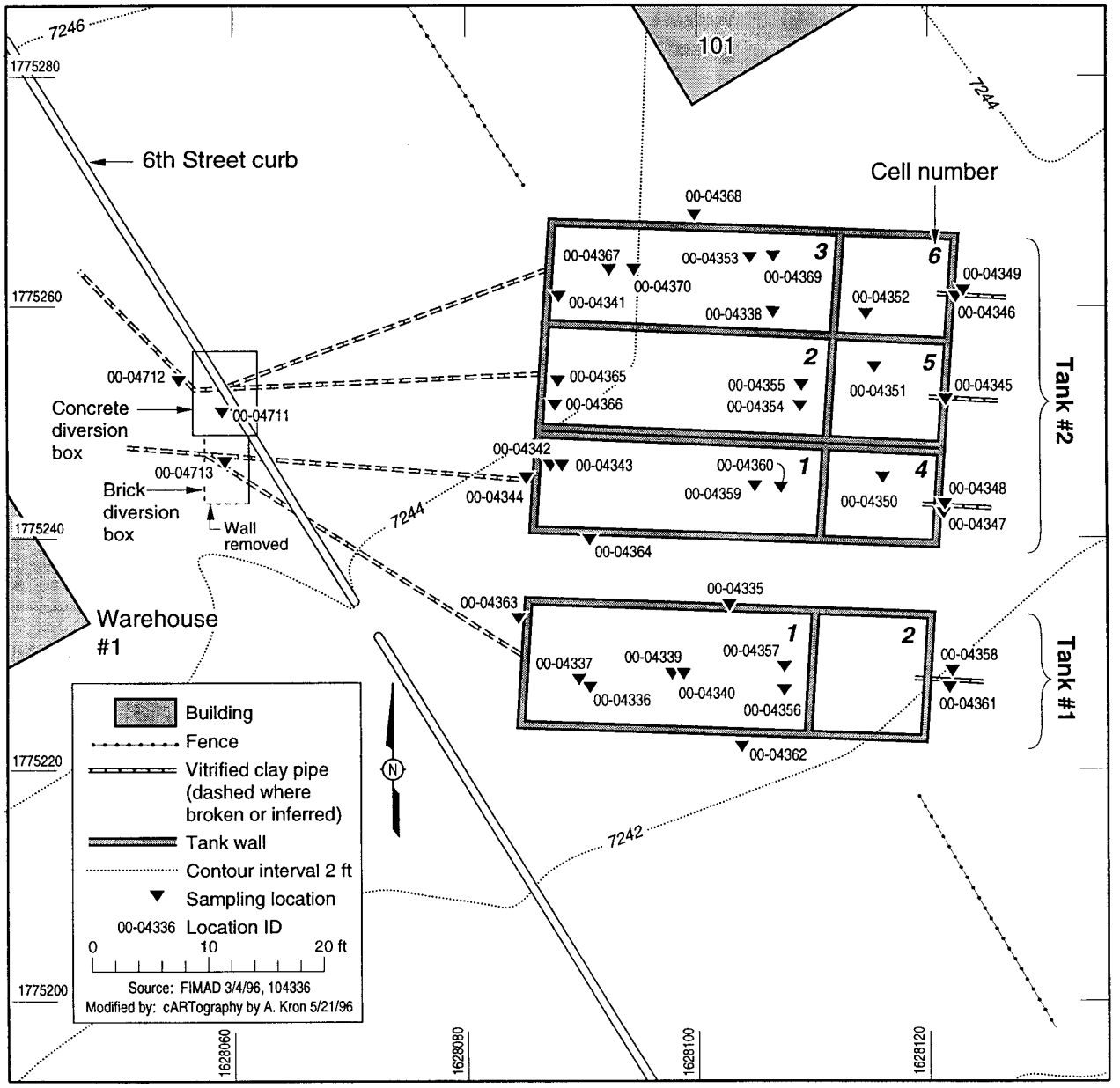
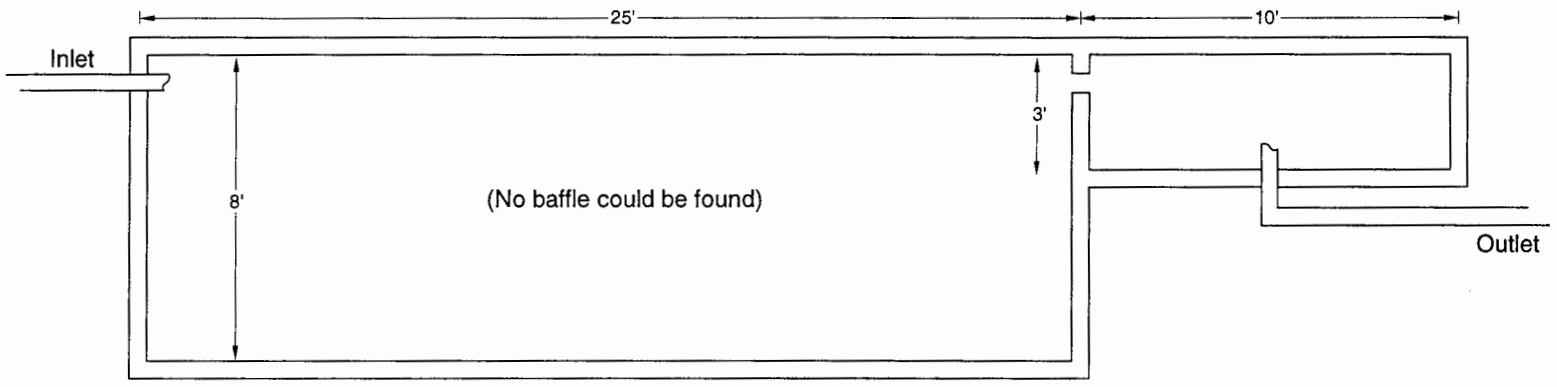
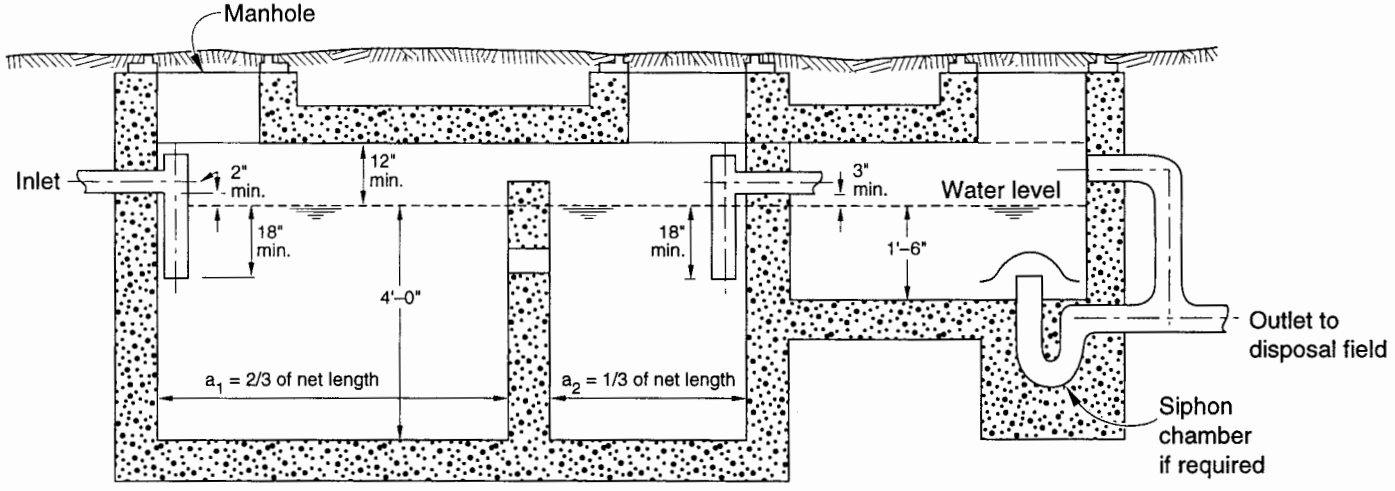


Fig. 5.1.4-3. PRS 0-030(b) diversion box and septic tank sample locations.



Inferred general construction details of PRS 0-030(b) septic tanks.



General construction details of a two-compartment septic tank with a dosing chamber.
Source: Septic Tank Systems, Ontario Dept. of Health, 1965.

Fig. 5.1.4-4. Construction detail comparison between PRS 0-030(b) septic tanks and a typical septic tank design.

The north tank (tank 2) is actually composed of three separate tanks, each constructed with the same two cell design used for tank 1 and each with its own outlet. A pipe tracking survey demonstrated that the outfall lines from the central and north tanks converge to a single pipeline a short distance east of the tanks. However, the outlet line from the south tank appeared to maintain an easterly orientation without converging with the other two lines. Based on all the evidence, Fig. 5.1.4-5 depicts the best estimate of the outfall pipeline design. The center (cells 2 and 5) and north (cells 3 and 6) tanks share a common wall and were probably constructed at the same time. However, the central and south (cells 1 and 4) tanks do not share a common wall, which is interpreted as indicating that they were constructed at different times. Based on the 1943 engineering drawing and visual evidence, it appears that tank 1 and the south tank of tank 2 were constructed first and that the central and north tanks of tank 2 were added at a later date. This may explain why some drawings of the septic system indicate the presence of two tanks and some indicate the presence of four tanks.

Two diversion boxes were uncovered immediately adjacent to 6th Street, between the street and Warehouse #1 (Fig. 5.1.4-3). The south diversion box was constructed of brick and was partially demolished with the west and south walls missing. The base was concrete and contained channels for directing the flow. The inlet pipe was missing, but the design of the box and orientation of the outlet pipes looked identical to that shown on the 1943 engineering drawing. Therefore, it was speculated that the north concrete diversion box was a later addition, installed at the same time and for the purpose of directing flow to cells 2 and 3 of tank 2. However, the outlet lines were never exposed; therefore their orientation is not certain. The inlet pipe to the concrete diversion box was intact, and was oriented northwest/southeast unlike the east/west orientation of the former inlet pipe to the brick diversion box.

The septic tanks and diversion boxes had been backfilled with a silty, sandy, clayey fill material. Concrete chunks, presumably pieces of the broken tank walls, were relatively common within the fill material. Moisture content was variable and some of the cells, particularly cells 1 and 2 of tank 2, contained significant amounts of water. This water is assumed to be an accumulation over the years of rainwater infiltration. It appeared that the original contents of the tanks and diversion boxes had been mostly removed before they were backfilled. Only rarely was a darker organic material encountered near the bottom.

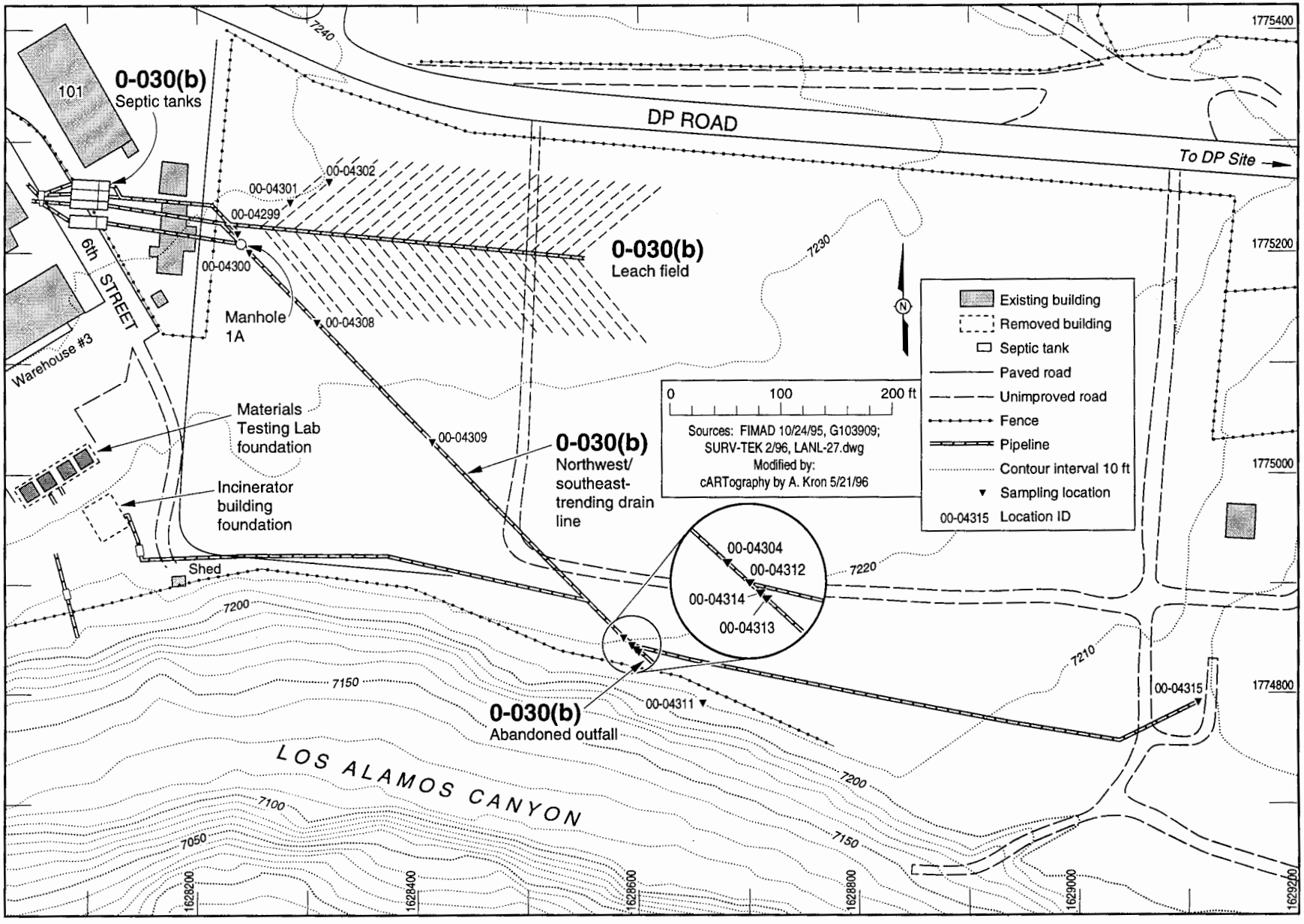


Fig. 5.1.4-5. PRS 0-030(b) leach field and outlet pipeline sample locations.

An effort was made to collect representative samples from each component of the septic system. A total of 67 samples were collected and analyzed. Three samples were collected from within and below the leach field Y branches. Twelve samples including two tritium and one metals samples were collected from within or below the northwest/southeast trending outlet pipeline for off-site analyses. Three samples were collected from within what was possibly the original outfall channel leading from the end of the VCP. One sample was collected from within and below the end of the steel outfall pipe. Because no seams or connections that could potentially have leaked were found along the exposed portions of the steel pipe, no samples were collected from beneath the pipe. A total of 44 samples were collected from within and below the septic tanks and their immediate outlet pipelines. Four samples were collected from within and below the diversion boxes and the inlet pipeline to the concrete diversion box. Sampling locations are shown in Figs. 5.1.4-3 and 5.1.4-5 and sample information is summarized in Table 5.1.4-1

As samples were collected from within and below the outlet and leach field pipelines; the excavations were immediately backfilled and the sampling locations were marked to be geodetically surveyed. However, the septic tank excavations in 6th Street were covered with polyethylene sheeting and allowed to remain open until the data were received and briefly reviewed to determine if gross contamination existed that would definitely require remediation. Because MCAL/MRAL real-time results contained very few detects of VOCs, SVOCs, pesticides, and PCBs, and only detected the chemicals at low concentrations, the decision was made to close these tanks in place. However, the NMED was first called to confirm that the existing fill material would meet state guidelines and they indicated that it would. Also, before the excavations were backfilled, the inlet line to the concrete diversion box and all four outlet lines from the septic tanks were broken and sealed with concrete. The excavations were then backfilled with crushed tuff in six to eight inch lifts and compacted. They were topped off with four to six inches of compacted base course material and approximately three inches of asphalt.

TABLE 5.1.4-1

SUMMARY OF SAMPLES COLLECTED AT PRS 0-030(b)

SAMPLE INFORMATION			ANALYTICAL SUITE AND REQUEST NUMBER[a,b]									
LOCATION ID	SAMPLE ID	LOCATION DESCRIPTION AND DEPTH (ft)	MATRIX	VOCs[c]	SVOCs[d]	PCBs[e]	PESTI-CIDES	BTEX[f]	TPH[g]	XRF[h] METALS	TAL[i] METALS	RAD.[j]
00-04299	0100-95-0468	Below Pipeline NW of Invert, 0-0.5	Soil	X	NA[k]	X	NA	NA	NA	X	NA	X
00-04300	0100-95-0471	Below Pipeline SE of Invert, 0-0.5	Soil	X	NA	X	NA	NA	NA	X	NA	X
00-04301	0100-95-0472	Inside W. Leach Pipeline, 1-1.5	Soil	X	943	943	943	NA	NA	X	NA	944
00-04302	0100-95-0473	Below E. Leach Pipeline, 1-1.5	Soil	X	943	943	943	NA	NA	X	NA	944
00-04299	0100-95-0475	Inside Pipeline NW of Invert, 0-0.4	Soil	X	NA	X	NA	NA	NA	X	NA	X
00-04301	0100-95-0478	Below W. Leach Pipeline, 1-1.5	Soil	X	943	943	943	NA	NA	X	NA	944
00-04304	0100-95-0479	Below SE End of Outlet VCP, 10 - 10.3	Soil	X	983	983	983	NA	NA	NA	984	985
00-04308	0100-95-0484	Inside Outlet Pipe 95' SE of Invert, 4.5-7	Soil	NA	NA	NA	NA	NA	NA	NA	NA	994
00-04308	0100-95-0485	Inside Outlet Pipe 95' SE of Invert, 4.5-7	Soil	NA	NA	NA	NA	NA	NA	NA	993	NA
00-04308	0100-95-0487	Inside Outlet Pipe 95' SE of Invert, 4.5-7	Soil	X	992	992	992	NA	NA	X	NA	994
00-04308	0100-95-0488	Below Outlet Pipe 95' SE of Invert, 4.7-5	Soil	X	992	992	992	NA	NA	X	NA	994
00-04309	0100-95-0489	Below Outlet Pipe 246' SE of Invert, 4.2-4.8	Soil	X	1002	1002	1002	NA	NA	X	NA	1003
00-04311	0100-95-0491	Outfall Channel, 0-0.5	Soil	X	1002	1002	1002	NA	NA	X	NA	1003
00-04312	0100-95-0684	Inside VCP at Junct. with Steel Pipe, 9.4-9.7	Soil	X	1255	1255	1255	NA	NA	X	NA	1256
00-04312	0100-95-0685	Below Junct. of VCP and Steel Pipe, 9.4-9.7	Soil	X	1255	1255	1255	NA	NA	X	NA	1256
00-04312	0100-95-0686	Inside VCP at Junct. with Steel Pipe, 9.4-9.7	Soil	NA	NA	NA	NA	NA	NA	NA	NA	1256
00-04313	0100-95-0687	Outfall Channel 8' from End of VCP, 9-9.5	Soil	X	1262	1262	1262	NA	NA	X	NA	1263
00-04314	0100-95-0688	Outfall Channel 5' from End of VCP, 9-9.5	Soil	X	1262	1262	1262	NA	NA	X	NA	1263
00-04315	0100-95-0689	Inside and Below End of Steel Pipe, 5-5.2	Soil	X	1328	1328	1328	NA	NA	X	NA	1330
00-04335	0100-95-0704	Outside and Below Septic Tank #1, 9-9.5	Soil	1476	1476	1476	1476	NA	NA	NA	1478	1479
00-04336	0100-95-0705	Inside Cell #1, Septic Tank #1, 0-9.8	Soil	1476	1476	1476	1476	NA	NA	NA	1478	1479

TABLE 5.1.4-1 (CONTINUED)

SUMMARY OF SAMPLES COLLECTED AT PRS 0-030(b)

SAMPLE INFORMATION			ANALYTICAL SUITE AND REQUEST NUMBER									
LOCATION ID	SAMPLE ID	LOCATION DESCRIPTION AND DEPTH (ft)	MATRIX	VOCs	SVOCs	PCBs	PESTI-CIDES	BTEX	TPH	XRF METALS	TAL METALS	RAD.
00-04337	0100-95-0706	Inside Cell #1, Septic Tank #1, 7-8	Soil	1476	1476	1476	1476	NA	NA	NA	1478	1479
00-04337	0100-95-0707	Inside Cell #1, Septic Tank #1, 8.5 - 9.5	Soil	1476	1476	1476	1476	NA	NA	NA	1478	1479
00-04338	0100-95-0708	Inside Cell #3, Septic Tank #2, 4-4.5	Soil	NA	NA	NA	NA	X	X	NA	NA	NA
00-04339	0100-95-0709	Inside Cell #1, Septic Tank #1, 0-9	Soil	1486	1486	1486	1486	NA	NA	NA	1488	1489
00-04340	0100-95-0710	Inside Cell #1, Septic Tank #1, 7-8	Soil	1486	1486	1486	1486	NA	NA	NA	1488	1489
00-04341	0100-95-0711	Inside Cell #3, Septic Tank #2, 4-4.5	Soil	X	1490	X	NA	NA	X	X	NA	X
00-04342	0100-95-0712	Inside Cell #1, Septic Tank #2, 0-10	Soil	1486	1486	1486	1486	NA	NA	NA	1488	1489
00-04343	0100-95-0713	Inside Cell #1, Septic Tank #2, 7-8	Soil	1486	1486	1486	1486	NA	NA	NA	1488	1489
00-04343	0100-95-0714	Inside Cell #1, Septic Tank #2, 9-10	Soil	1486	1486	1486	1486	NA	NA	NA	1488	1489
00-04344	0100-95-0715	Outside and Below Cell #1, Tank #2, 10-11	Soil	1486	1486	1486	1486	NA	NA	NA	1488	1489
00-04345	0100-95-0716	Below Outlet Pipe #2, Tank #2, 4.5 - 5.5	Soil	1497	1497	1497	1497	NA	NA	NA	1495	1496
00-04346	0100-95-0717	Below Outlet Pipe #3, Tank #2, 7.5 - 8.5	Soil	1497	1497	1497	1497	NA	NA	NA	1495	1496
00-04347	0100-95-0718	Below Outlet Pipe #1, Tank #2, 4-5	Soil	1497	1497	1497	1497	NA	NA	NA	1495	1496
00-04348	0100-95-0719	Inside Outlet Pipe #1, Tank #2, 4.8 - 5	Soil	1497	1497	1497	1497	NA	NA	NA	1495	1496
00-04349	0100-95-0720	Inside Outlet Pipe #3, Tank #2, 8.3 - 8.5	Soil	NA	NA	NA	NA	NA	NA	NA	NA	X
00-04350	0100-95-0721	Inside Cell #4, Septic Tank #2, 4.8-5	Soil	1505	1505	1505	1505	NA	NA	NA	1506	1507
00-04351	0100-95-0722	Inside Cell #5, Septic Tank #2, 4.8-5	Soil	1505	1505	1505	1505	NA	NA	NA	1506	1507
00-04352	0100-95-0723	Inside Cell #6, Septic Tank #2, 4.8-5	Soil	1505	1505	1505	1505	NA	NA	NA	1506	1507
00-04353	0100-95-0724	Inside Cell #3, Septic Tank #2, 4.5 - 5.5	Soil	1505	1505	1505	1505	NA	NA	NA	1506	1507
00-04353	0100-95-0725	Inside Cell #3, Septic Tank #2, 6.5-7	Soil	1505	1505	1505	1505	NA	NA	NA	1506	1507
00-04354	0100-95-0726	Inside Cell #2, Septic Tank #2, 0-9	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04355	0100-95-0727	Inside Cell #2, Septic Tank #2, 6-7	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516

TABLE 5.1.4-1 (CONTINUED)

SUMMARY OF SAMPLES COLLECTED AT PRS 0-030(b)

SAMPLE INFORMATION			ANALYTICAL SUITE AND REQUEST NUMBER									
LOCATION ID	SAMPLE ID	LOCATION DESCRIPTION AND DEPTH (ft)	MATRIX	VOCs	SVOCs	PCBs	PESTI-CIDES	BTEX	TPH	XRF METALS	TAL METALS	RAD.
00-04355	0100-95-0728	Inside Cell #2, Septic Tank #2, 8-9	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04356	0100-95-0729	Inside Cell #1, Septic Tank #1, 2-8	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04357	0100-95-0730	Inside Cell #1, Septic Tank #1, 4-5	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04357	0100-95-0731	Inside Cell #1, Septic Tank #1, 6-7	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04358	0100-95-0732	Below Outlet Pipe, Septic Tank #1, 4.5-4.7	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04359	0100-95-0733	Inside Cell #1, Septic Tank #2, 0-6	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04360	0100-95-0734	Inside Cell #1, Septic Tank #2, 3-4	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04360	0100-95-0735	Inside Cell #1, Septic Tank #2, 5-6	Soil	1514	1514	1514	1514	NA	NA	NA	1515	1516
00-04361	0100-95-0740	Inside Outlet Pipe, Septic Tank #1, 4.5-4.8	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04362	0100-95-0741	Outside and Below Septic Tank #1, 9-10	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04363	0100-95-0742	Outside and Below Septic Tank #1, 9-10	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04364	0100-95-0743	Outside and Below Cell #1, Tank #2, 10-11	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04365	0100-95-0744	Inside Cell #2, Septic Tank #2, 0-9	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04366	0100-95-0745	Inside Cell #2, Septic Tank #2, 6-7	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04366	0100-95-0746	Inside Cell #2, Septic Tank #2, 8-9	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04367	0100-95-0749	Inside Cell #3, Septic Tank #2, 0-9	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04368	0100-95-0750	Outside and Below Cell #3, Tank #2, 10-11	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04369	0100-95-0911	Inside Cell #3, Septic Tank #2, 0-9	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04370	0100-95-0912	Inside Cell #3, Septic Tank #2, 6-7	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04370	0100-95-0913	Inside Cell #3, Septic Tank #2, 8-9	Soil	1571	1571	1571	1571	NA	NA	NA	1572	1573
00-04711	0100-96-0001	Inside Concrete Diversion Box, 0-1	Soil	X	1719	1719	1719	NA	NA	NA	1720	X

TABLE 5.1.4-1 (CONTINUED)

SUMMARY OF SAMPLES COLLECTED AT PRS 0-030(b)

SAMPLE INFORMATION			ANALYTICAL SUITE AND REQUEST NUMBER									
LOCATION ID	SAMPLE ID	LOCATION DESCRIPTION AND DEPTH (ft)	MATRIX	VOCs	SVOCs	PCBs	PESTI-CIDES	BTEX	TPH	XRF METALS	TAL METALS	RAD.
00-04712	0100-96-0002	Below Concrete Diversion Box Inlet, 3-3.5	Soil	X	1722	1722	1722	NA	NA	NA	1720	1721
00-04713	0100-96-0003	Inside Brick Diversion Box Outlets, 2.5-3	Soil	X	1722	1722	1722	NA	NA	NA	1720	X
00-04712	0100-96-0004	Inside Concrete Diversion Box Inlet, 2.5-3	Soil	X	1722	1722	1722	NA	NA	NA	1720	X

[a] X = Analyzed, but not assigned a request number. All samples sent to MCAL or MRAL were not assigned request numbers.
[b] Request number. Only samples sent to SMO for off-site analysis were assigned request numbers.
[c] VOCs = Volatile organic compounds.
[d] SVOCs = Semivolatile organic compounds.
[e] PCBs = Polychlorinated biphenyls.
[f] BTEX = Benzene, toluene, ethylene, and xylene.
[g] TPH = Total petroleum hydrocarbons.
[h] XRF = X-ray fluoroscopy.
[i] TAL = Target analyte list metals: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, thallium, and uranium.
[j] Radiological analyses consisted of any or all of the following: gross alpha/beta/gamma, tritium, gamma spectroscopy/scan, americium-241, isotopic plutonium, and isotopic uranium.
[k] NA = Not analyzed.

5.1.4.1 Screening Results

Field screening results are summarized in Table C-1 of Appendix C.

5.1.5 Screening Assessment

5.1.5.1 Background Comparison

5.1.5.1.1 Inorganics

Forty-seven soil samples were analyzed for TAL metals. Some analyses included one or more laboratory duplicates or laboratory replicates. For purposes of this screening assessment, the highest detected value was used for sample locations at which a laboratory duplicate and/or laboratory replicate was analyzed. Antimony, barium, beryllium, calcium, chromium, copper, lead, manganese, mercury, silver, uranium, and zinc had at least one detect above their respective background values. Further background comparisons were performed for barium, beryllium, calcium, chromium, copper, lead, manganese, uranium, and zinc because of the infrequency of their detections above background UTLs and because of the high probability of false positive results given the UTLs. Antimony, mercury, and silver are not subjected to further background comparisons because the background data for these metals are inadequate to support other statistical tests (typically there are only one or two detections in the background data sets for these metals). Although these three metals were detected infrequently in the site data at concentrations that are not expected to be associated with a release, they are carried forward through the screening assessment process because of the lack of background information.

Because the data for the other nine metals (barium, beryllium, calcium, chromium, copper, lead, manganese, uranium, and zinc) contain several nondetects and do not otherwise appear to satisfy normality assumptions, non-parametric tests were preferred for further background comparisons. The Gehan modification to the Wilcoxon Rank Sum test and the Quantile test, both of which account reasonably for nondetects, were used for these evaluations. The Gehan test is best suited for assessing complete shifts in distribution, whereas the Quantile test is better suited for assessing partial shifts. Between the two tests most types of differences between distributions can be captured. Observed significance levels (P-values) for these tests are presented in Table 5.1.5-1. If a P-value is less than some small probability, typically 0.05 or 50%, then there is some reason to suspect that there is a difference between the background and site distributions; otherwise, no statistical difference is indicated.

TABLE 5.1.5-1

STATISTICAL TESTS FOR BACKGROUND COMPARISONS

ANALYTE	GEHAN TEST (P-VALUES)	QUANTILE TEST (P-VALUES)
Barium	0.893	0.9803
Beryllium	0.9997	0.9944
Calcium	0.0001	0.2954
Chromium	0.4597	0.9445
Copper	0.0027	0.0883
Lead	0.0035	0.0912
Manganese	0.66	0.9946
Uranium	1	0.9966
Zinc	0	0.005

The results for barium, beryllium, chromium, manganese, and uranium are indicative of site concentrations that are within background. The results for calcium, copper, lead, and zinc, however, are indicative of site concentrations that are greater than background concentrations.

Based on the background UTL comparisons and the further statistical tests performed to compare site and background data, antimony, calcium, copper, lead, mercury, silver, and zinc are carried forward through the screening assessment. The data for these analytes are presented below in Table 5.1.5-2 (See Table D-1 for all data associated with the samples in Table 5.1.5-2) and their associated sample locations are shown in Figs. 5.1.5-1 and 5.1.5-2.

TABLE 5.1.5-2

INORGANICS WITH CONCENTRATIONS GREATER THAN BACKGROUND SCREENING VALUES FOR PRS 0-030(b)

LOCATION ID	SAMPLE ID	ANTIMONY (mg/kg)	CALCIUM (mg/kg)	COPPER (mg/kg)	LEAD (mg/kg)	MERCURY (mg/kg)	SILVER (mg/kg)	ZINC (mg/kg)
UTL[a]	n/a[b]	1	6 120	15.5	23.3	0.1	N/A[c]	50.8
SAL[d]	n/a	31	N/A	2 800	400	23	380	23 000
00-04304	0100-95-0479	–[e]	–	77.2[f]	169[f] (J)[g]	8.4	32.9177[f] (J)	110[f](J)
00-04335	0100-95-0704	5.651	–	–	–	0.653[f](J)		63.7[f]
00-04337	0100-95-0706	–	–	–	25.4	–	–	–
00-04340	0100-95-0710	–	–	–	–	–	–	52.2
00-04344	0100-95-0715	–	9 170(J)	–	–	–	–	–
00-04345	0100-95-0716	–	–	–	30.5[f]	0.468(J)	13.8[f](J)	87.2[f]
00-04346	0100-95-0717	–	–	–	28.5	0.239(J)	13.3(J)	53.9
00-04347	0100-95-0718	–	–	–	–	0.642(J)	4.57(J)	–
00-04348	0100-95-0719	5.6	–	–	–	–	1.08(J)	–
00-04350	0100-95-0721	5.7	11 500[f]	113[f](J)	123.4[f] (J)	5.2(J)	48.8[f]	268[f]
00-04351	0100-95-0722	–	–	–	–	–	1.37	–
00-04354	0100-95-0726	6.5	–	–	–	–	–	–
00-04361	0100-95-0740	–	–	–	–	0.45	3.9	–
00-04366	0100-95-0745	–	–	–	24.5	–	–	–
00-04711	0100-96-0001	0.42	–	–	–	NA[h]	–	–
00-04712	0100-96-0002	–	–	–	46	–	–	61
00-04713	0100-96-0003	–	4 200	57	160	6.1	72	300
00-04712	0100-96-0004	–	2 000	–	24	–	–	–

[a] UTL = Upper tolerance limit.
[b] n/a = Not applicable.
[c] N/A = Not available.
[d] SAL = Screening action level.
[e] – = Analyte not detected or detected at concentrations less than EQL.
[f] Maximum of the reported values for a sample and a laboratory duplicate of that sample.
[g] (J) = Estimated quantity.
[h] NA = Not analyzed.

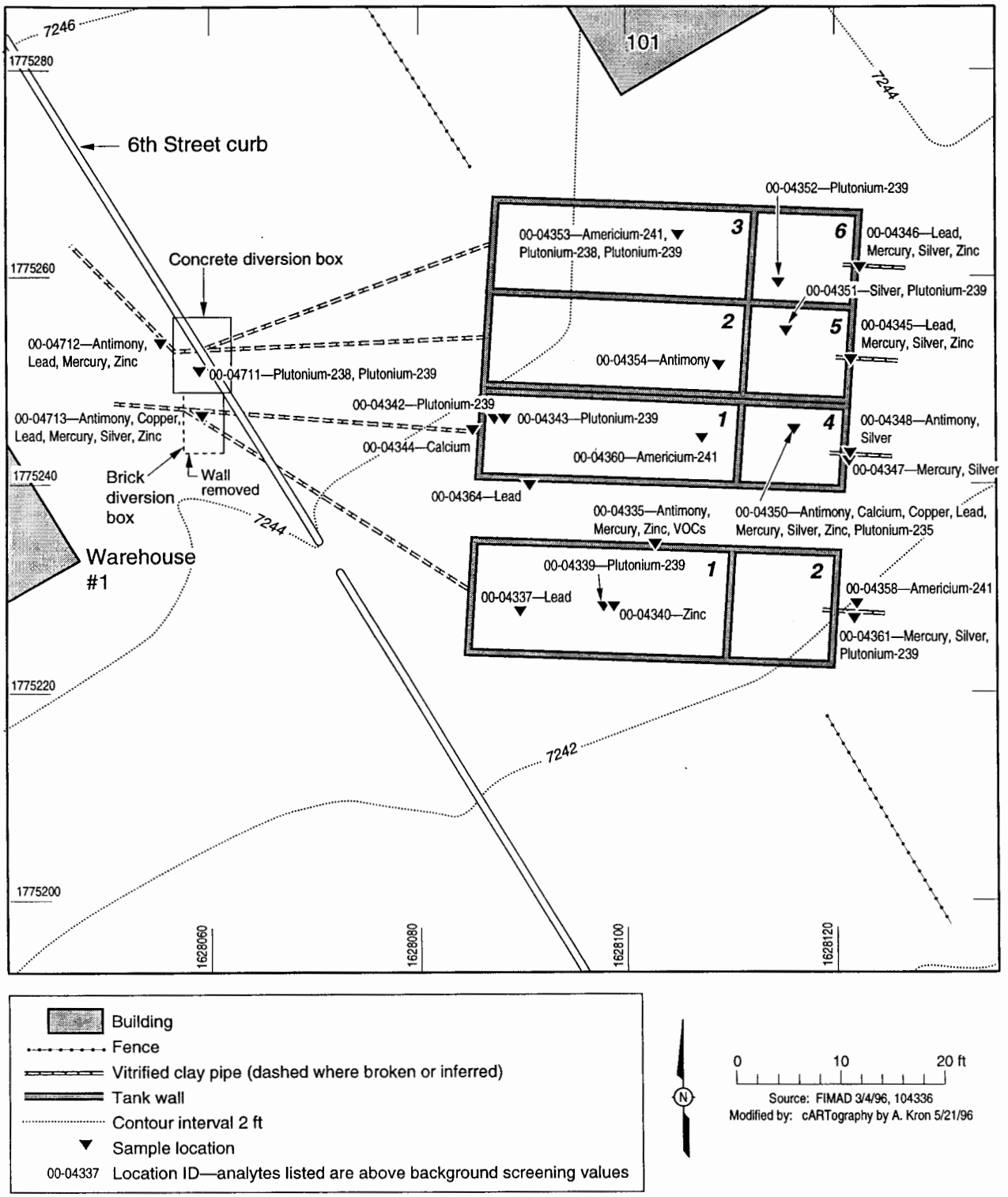


Fig. 5.1.5-1. PRS 0-030(b) sample locations with radionuclides and inorganics above background screening values.

5.1.5.1.2 Radionuclides

Fifty-seven soil samples from PRS 0-030(b) were analyzed for radionuclides. Americium-241, plutonium-238, and plutonium-239 were detected above background screening values. These analytes are shown in Table 5.1.5-3 (See Table D-2 for all data associated with the samples in Table 5.1.5-3) and on Figs. 5.1.5-1 and 5.1.5-2.

TABLE 5.1.5-3

PRS 0-030(b) RADIONUCLIDES WITH CONCENTRATIONS THAT EXCEED BACKGROUND THRESHOLD CONCENTRATIONS

LOCATION ID	SAMPLE ID	AMERICIUM-241 (pCi/g)	PLUTONIUM-238 (pCi/g)	PLUTONIUM-239 (pCi/g)
UTL[a,b]	n/a[c]	0.336	0.014	0.052
SAL[d]	n/a	22	27	24
00-04304	0100-95-0479	–[e]	0.02	7.232(J)[f]
00-04311	0100-95-0491	–	–	0.056
00-04312	0100-95-0684	–	0.0158	0.45
00-04312	0100-95-0685	–	0.02	2.25
00-04314	0100-95-0688	–	–	0.12
00-04315	0100-95-0689	–	–	0.086
00-04339	0100-95-0709	–	–	0.052
00-04342	0100-95-0712	–	–	0.078
00-04343	0100-95-0713	–	–	0.179
00-04350	0100-95-0721	–	–	0.953
00-04351	0100-95-0722	–	–	0.098
00-04352	0100-95-0723	–	–	0.083
00-04353	0100-95-0724	0.345(J)	–	0.11
00-04358	0100-95-0732	0.466(J)	NA[g]	NA
00-04360	0100-95-0734	0.963(J)	NA	NA
00-04361	0100-95-0740	–	–	0.219
00-04711	0100-96-0001	–	0.03	0.08

[a] UTL = Upper tolerance limit.
[b] Value is maximum reported background value from LANL Environmental Surveillance Reports.
[c] n/a = Not applicable.
[d] SAL = Screening action level.
[e] – = Analyte not detected below UTL.
[f] (J) = Estimated quantity.
[g] NA = Not analyzed.

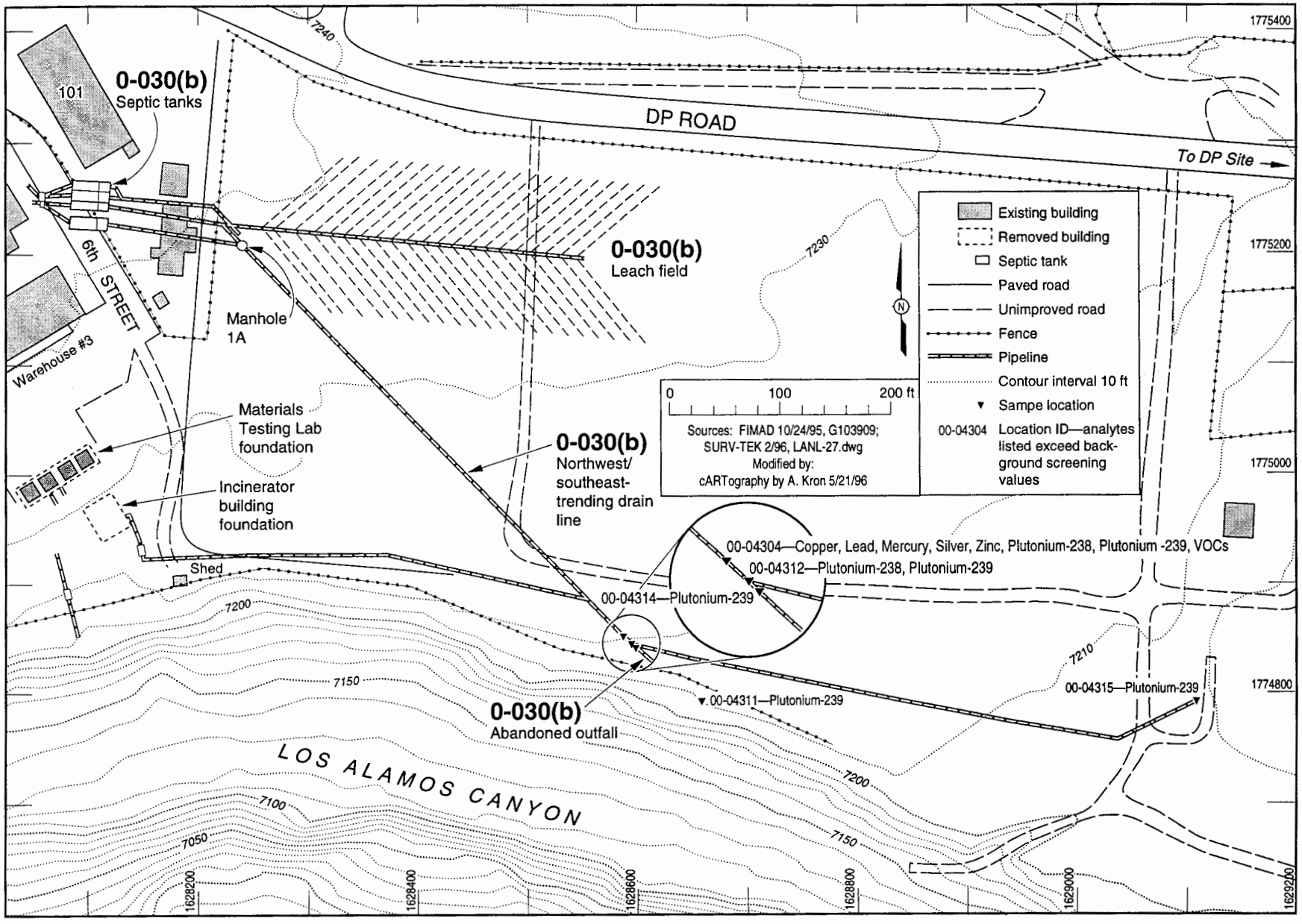


Fig. 5.1.5-2. PRS 0-030(b) leach field and outlet pipeline sample locations with radionuclides and inorganics that exceed background screening values.

Radium was also detected at PRS 0-030(b). However, radium-226 is a naturally-occurring radionuclide in the uranium decay chain. There are no LANL soil background data for radium-226; however, there are background data for Bandelier Tuff. The radium-226 background screening values for the Tshirege Member of the Bandelier Tuff range from 2.6 to 6.23 pCi/g (Longmire et al. 1995, 1266). These concentrations from Bandelier Tuff are consistent with values measured for PRS 0-030(b), which indicates that radium-226 is present in concentrations consistent with natural background. In addition, DOE Order 5400.5 indicates that cleanup levels for radium-226 are 5 pCi/g for the first 15 cm and 15 pCi/g for depths greater than 15 cm. All but three radium-226 samples were taken at depths greater than 15 cm, and all were less than 15 pCi/g (the maximum detected value was 6.54 pCi/g). Three radium-226 samples were taken as vertical composites from the surface to depths of up to 10 ft; all three of these samples were less than 5 pCi/g. Radium-226 will not be carried forward through the screening assessment process.

Because there are no background data available for further statistical tests for radionuclides, americium-241, plutonium-238, and plutonium-239 will be carried forward through the screening assessment process for further evaluation.

5.1.6 Evaluation of Organics

Samples from PRS 0-030(b) that were analyzed for SVOCs, pesticides, and PCBs and the chemicals that were detected, are shown in Table 5.1.6-1 (See Table D-3 for all data associated with the samples in Table 5.1.6-1). All detected organics are carried forward through the screening assessment process.

Of the organics that were not detected in any soil sample collected from PRS 0-030(b), 13 had EQLs that were higher than their respective SALs [i.e., 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloropropane, 2-nitroaniline, 3,3-dichlorobenzidine, bis(2-chloroethyl) ether, carbon tetrachloride, chloroform, chloromethane, hexachlorobenzene, N-nitroso di-n-propylamine, N-nitrosodimethylamine, and vinyl chloride]. Eighteen other organics do not have SALs to which the EQLs can be compared [i.e., 4,6-dinitro-o-cresol, 1,2-dibromoethane, 2-hexanone, 2-nitrophenol, 3-nitroaniline, 4-bromophenyl-phenyl ether, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, 4-nitroaniline, 4-nitrophenol, bis(2-chloroethoxy)methane, delta-BHC, 1,2-dichloropropane, 2,2-dichloropropane, 1,1-dichloropropene, cis-1,3-dichloropropene, trans-1,3-dichloropropene, and methyl iodide]. These specific 31 organics are not expected to be present at the site based on historical operations. Therefore, none of the nondetected organics are carried forward through the screening assessment process.

TABLE 5.1.6-1

PRS 0-030(b)SOIL CONCENTRATIONS (mg/kg) FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

Location ID	Sample ID	1,2,4-Trimethylbenzene	1,2-Dichloroethylene (cis)	1,2-Dichloroethylene (trans)	1,3,5-Trimethylbenzene	1,4-Dichlorobenzene	2-Methylnaphthalene	4-Isopropyltoluene	Acenaphthylene	Acetone
	SAL[b]	8	59	170	6.4	7.4	N/A[c]	n/a	N/A	2000
00-04301	0100-95-0472	NA[d]	NA	NA	NA	-	-	NA	-	NA
00-04304	0100-95-0479	NA	NA	NA	NA	-	-	NA	-	NA
00-04311	0100-95-0491	NA	NA	NA	NA	-	-	NA	-	NA
00-04314	0100-95-0688	NA	NA	NA	NA	-	-	NA	-	NA
00-04336	0100-95-0705	0.003(J)	-	-	-	0.1	-	-	-	0.056
00-04337	0100-95-0706	-	-	-	-	-	-	-	-	-
00-04337	0100-95-0707	0.14	-	-	0.066	1	0.53	0.06	-	0.079
00-04339	0100-95-0709	-	-	-	-	-	-	-	-	-
00-04340	0100-95-0710	-	-	-	-	0.007	-	-	-	-
00-04341	0100-95-0711	NA	NA	NA	NA	-	-	NA	-	NA
00-04342	0100-95-0712	-	-	-	-	-	-	-	-	-
00-04343	0100-95-0713	-	-	-	-	-	-	-	-	-
00-04343	0100-95-0714	-	-	-	-	-	-	-	-	-
00-04344	0100-95-0715	-	-	-	-	-	-	-	-	-
00-04345	0100-95-0716	-	-	-	-	-	-	-	-	-
00-04346	0100-95-0717	-	-	-	-	-	-	-	-	-
00-04347	0100-95-0718	-	-	-	-	-	-	-	-	-
00-04348	0100-95-0719	-	-	-	-	-	-	-	-	-
00-04350	0100-95-0721	-	-	-	-	-	-	-	0.39	-
00-04351	0100-95-0722	-	-	-	-	-	-	-	-	0.019(J)[e]
00-04352	0100-95-0723	-	-	-	-	-	-	-	-	0.012(J)
00-04353	0100-95-0724	-	-	-	-	-	-	-	-	0.046
00-04353	0100-95-0725	-	-	-	-	-	-	-	-	-
00-04354	0100-95-0726	-	-	-	-	-	-	-	-	0.027
00-04355	0100-95-0728	-	-	-	-	-	-	-	-	0.028
00-04356	0100-95-0729	-	-	-	-	-	-	-	-	0.036
00-04357	0100-95-0730	-	-	-	-	-	-	-	-	-
00-04357	0100-95-0731	-	-	-	-	-	-	-	-	0.037
00-04358	0100-95-0732	-	-	-	-	-	-	-	-	-
00-04359	0100-95-0733	-	-	-	-	-	-	-	-	-
00-04360	0100-95-0734	-	-	-	-	-	-	-	-	-
00-04360	0100-95-0735	-	-	-	-	-	-	-	-	-
00-04361	0100-95-0740	-	-	-	-	-	-	-	-	-
00-04362	0100-95-0741	-	-	-	0.005(J)	-	-	0.005(J)	-	-
00-04363	0100-95-0742	-	-	-	-	-	-	-	-	0.016(J)
00-04364	0100-95-0743	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0745	-	0.002(J)	0.003(J)	-	-	-	-	-	-
00-04366	0100-95-0746	0.004(J)	-	-	-	0.025	-	-	-	0.017(J)
00-04367	0100-95-0749	0.039	0.002(J)	-	0.013	0.43(J)	-	0.02	-	-
00-04368	0100-95-0750	-	-	-	-	-	-	-	-	0.013(J)
00-04369	0100-95-0911	-	0.002(J)	-	-	-	-	-	-	-
00-04370	0100-95-0912	0.002(J)	-	-	-	-	-	-	-	-
00-04370	0100-95-0913	-	-	-	1.1(J)	-	-	1.1(J)	-	-
00-04712	0100-96-0002	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 5.1.6-1 (CONTINUED)

PRS 0-030(b)SOIL CONCENTRATIONS (mg/kg) FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

	Sample ID	Anthracene	Aroclor 1260	Azobenzene	Benzoic Acid	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Benzo[a]anthracene
Location ID	SAL	19	1	4	100000	0.061	0.61	n/a	6.1	0.61
00-04301	0100-95-0472	-	-	-	-	-	-	-	-	-
00-04304	0100-95-0479	-	0.0819	-	-	-	-	-	-	-
00-04311	0100-95-0491	-	-	-	-	-	-	-	-	-
00-04314	0100-95-0688	-	-	-	-	-	-	-	-	-
00-04336	0100-95-0705	-	-	-	-	-	-	-	-	-
00-04337	0100-95-0706	-	-	-	-	-	-	-	-	-
00-04337	0100-95-0707	-	-	-	-	-	-	-	-	-
00-04339	0100-95-0709	-	-	-	-	-	-	-	-	-
00-04340	0100-95-0710	-	-	-	-	-	-	-	-	-
00-04341	0100-95-0711	-	NA	-	-	-	-	-	-	-
00-04342	0100-95-0712	-	-	-	-	-	-	-	-	-
00-04343	0100-95-0713	-	-	-	-	-	-	-	-	-
00-04343	0100-95-0714	-	-	-	-	-	-	-	-	-
00-04344	0100-95-0715	-	-	-	-	-	-	-	-	-
00-04345	0100-95-0716	-	-	-	-	0.051(J)	0.049(J)	-	0.051(J)	0.06(J)
00-04346	0100-95-0717	-	-	-	0.31(J)	-	-	-	-	-
00-04347	0100-95-0718	-	-	-	-	-	-	-	-	-
00-04348	0100-95-0719	0.06(J)	-	-	-	0.086(J)	0.079(J)	0.061(J)	0.076(J)	0.1(J)
00-04350	0100-95-0721	0.25(J)	-	0.35	-	1.6	1.1	1.3	1.2	1.3
00-04351	0100-95-0722	-	-	-	-	-	-	-	-	-
00-04352	0100-95-0723	0.085(J)	-	0.38	-	0.11(J)	0.1(J)	0.074(J)	0.099(J)	0.12(J)
00-04353	0100-95-0724	-	-	0.39	-	-	-	-	-	-
00-04353	0100-95-0725	-	-	0.4	-	-	-	-	-	-
00-04354	0100-95-0726	-	-	-	-	-	-	-	-	-
00-04355	0100-95-0728	-	-	-	-	-	-	-	-	-
00-04356	0100-95-0729	0.038(J)	-	-	-	0.042(J)	0.038(J)	-	0.04(J)	0.054(J)
00-04357	0100-95-0730	-	-	-	-	-	-	-	-	-
00-04357	0100-95-0731	-	-	-	-	-	-	-	-	-
00-04358	0100-95-0732	-	-	-	-	-	-	-	-	-
00-04359	0100-95-0733	-	-	-	-	-	-	-	-	-
00-04360	0100-95-0734	-	-	-	-	-	-	-	-	-
00-04360	0100-95-0735	-	-	-	-	-	0.031(J)	-	0.046(J)	0.043(J)
00-04361	0100-95-0740	0.19(J)	-	-	-	1.2(J)	1.4(J)	1.1(J)	1.2(J)	1.1(J)
00-04362	0100-95-0741	-	-	-	-	-	-	-	-	-
00-04363	0100-95-0742	-	-	-	-	-	-	-	-	-
00-04364	0100-95-0743	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0745	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0746	-	-	-	-	-	-	-	-	-
00-04367	0100-95-0749	-	-	-	-	-	-	-	-	-
00-04368	0100-95-0750	-	-	-	-	-	-	-	-	-
00-04369	0100-95-0911	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0912	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0913	-	-	-	-	-	-	-	-	-
00-04712	0100-96-0002	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 5.1.6-1 (CONTINUED)

PRS 0-030(b)SOIL CONCENTRATIONS (mg/kg) FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

Location ID	Sample ID	Bis(2-ethylhexyl)phthalate	Butyl benzyl phthalate	Butylbenzene [sec-]	Carbon disulfide	Chlordane [alpha-]	Chlordane [gamma-]	Chrysene	Cumene	DDD[f]
	SAL	32	13000	n/a	16	0.34	0.34	24	49	1.9
00-04301	0100-95-0472	-	-	NA	NA	0.00304	-	-	NA	-
00-04304	0100-95-0479	0.16(J)	-	NA	NA	0.0036	-	-	NA	0.121
00-04311	0100-95-0491	-	-	NA	NA	-	-	-	NA	-
00-04314	0100-95-0688	-	-	NA	NA	-	-	-	NA	-
00-04336	0100-95-0705	-	-	0.004(J)	-	-	-	-	-	-
00-04337	0100-95-0706	-	-	-	-	-	-	-	-	-
00-04337	0100-95-0707	-	-	0.033(J)	-	-	-	-	0.007	-
00-04339	0100-95-0709	-	-	-	-	-	-	-	-	-
00-04340	0100-95-0710	-	-	-	-	-	-	-	-	-
00-04341	0100-95-0711	-	0.14(J)	NA	NA	NA	NA	-	NA	NA
00-04342	0100-95-0712	-	-	-	-	-	-	-	-	-
00-04343	0100-95-0713	-	0.15(J)	-	-	-	-	-	-	-
00-04343	0100-95-0714	-	-	-	-	-	-	-	-	-
00-04344	0100-95-0715	-	-	-	-	-	-	-	-	-
00-04345	0100-95-0716	-	-	-	-	-	-	0.064(J)	-	0.014
00-04346	0100-95-0717	-	-	-	-	-	-	-	-	-
00-04347	0100-95-0718	-	-	-	-	-	-	-	-	-
00-04348	0100-95-0719	-	-	-	-	-	-	0.094(J)	-	-
00-04350	0100-95-0721	-	-	-	-	-	-	1.4	-	-
00-04351	0100-95-0722	-	-	-	-	-	-	-	-	-
00-04352	0100-95-0723	-	-	-	-	-	-	0.11(J)	-	-
00-04353	0100-95-0724	-	-	-	-	-	-	-	-	-
00-04353	0100-95-0725	-	-	-	-	-	-	-	-	-
00-04354	0100-95-0726	-	-	-	-	-	-	-	-	-
00-04355	0100-95-0728	-	-	-	-	-	-	-	-	-
00-04356	0100-95-0729	-	-	-	-	-	-	0.051(J)	-	-
00-04357	0100-95-0730	-	-	-	-	-	-	-	-	-
00-04357	0100-95-0731	-	-	-	-	-	-	-	-	-
00-04358	0100-95-0732	-	-	-	-	-	-	-	-	-
00-04359	0100-95-0733	-	-	-	-	-	-	-	-	-
00-04360	0100-95-0734	-	-	-	-	-	-	0.04(J)	-	-
00-04360	0100-95-0735	0.054(J)	-	-	-	-	-	0.053(J)	-	-
00-04361	0100-95-0740	-	-	-	-	-	-	1.6(J)	-	0.06
00-04362	0100-95-0741	-	-	-	-	-	-	-	-	-
00-04363	0100-95-0742	-	-	-	-	-	-	-	-	-
00-04364	0100-95-0743	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0745	-	-	-	0.013	-	-	-	-	-
00-04366	0100-95-0746	-	-	-	-	-	-	-	-	0.0076
00-04367	0100-95-0749	-	-	-	-	-	-	-	-	0.0058
00-04368	0100-95-0750	0.06(J)	-	-	-	-	-	-	-	-
00-04369	0100-95-0911	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0912	-	-	-	0.002(J)	-	-	-	-	-
00-04370	0100-95-0913	-	-	-	-	-	-	-	-	0.055
00-04712	0100-96-0002	NA	NA	NA	NA	0.0052	0.0045	NA	NA	NA

TABLE 5.1.6-1 (CONTINUED)

PRS 0-030(b)SOIL CONCENTRATIONS (mg/kg) FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

Location ID	Sample ID	DDE[g]	DDT[h]	Di-n-butyl phthalate	Dibenzo[a,h]anthracene	Dieldrin	Ethyl benzene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene
	SAL	1.3	1.3	6500	0.061	0.028	690	2600	300	0.61
00-04301	0100-95-0472	-	0.00523	-	-	-	NA	-	-	-
00-04304	0100-95-0479	0.0096	0.255	-	-	0.0079	NA	-	-	-
00-04311	0100-95-0491	-	0.0038	-	-	-	NA	-	-	-
00-04314	0100-95-0688	-	0.011	-	-	-	NA	-	-	-
00-04336	0100-95-0705	-	-	-	-	-	-	-	-	-
00-04337	0100-95-0706	-	-	-	-	-	-	-	-	-
00-04337	0100-95-0707	-	-	-	-	-	-	-	-	-
00-04339	0100-95-0709	-	-	-	-	-	-	-	-	-
00-04340	0100-95-0710	-	-	-	-	-	-	-	-	-
00-04341	0100-95-0711	NA	NA	-	-	NA	NA	-	-	-
00-04342	0100-95-0712	-	-	-	-	-	-	0.23(J)	-	-
00-04343	0100-95-0713	-	-	-	-	-	-	-	-	-
00-04343	0100-95-0714	-	-	-	-	-	-	-	-	-
00-04344	0100-95-0715	-	-	-	-	-	-	-	-	-
00-04345	0100-95-0716	-	0.012	-	-	-	-	0.11(J)	-	-
00-04346	0100-95-0717	0.0072	0.024	-	-	-	-	-	-	-
00-04347	0100-95-0718	-	-	-	-	-	-	-	-	-
00-04348	0100-95-0719	-	-	-	-	-	-	0.25(J)	-	0.054(J)
00-04350	0100-95-0721	0.029	0.084	-	0.34(J)	-	-	1.6	-	1.1
00-04351	0100-95-0722	-	-	-	-	-	-	-	-	-
00-04352	0100-95-0723	-	0.0073	-	-	-	-	0.31(J)	0.046(J)	0.07(J)
00-04353	0100-95-0724	-	-	-	-	-	-	-	-	-
00-04353	0100-95-0725	-	-	-	-	0.0054	-	-	-	-
00-04354	0100-95-0726	-	-	0.081(J)	-	-	-	-	-	-
00-04355	0100-95-0728	-	-	0.058(J)	-	-	-	-	-	-
00-04356	0100-95-0729	-	0.01	-	-	-	-	0.14(J)	-	-
00-04357	0100-95-0730	-	-	-	-	-	-	-	-	-
00-04357	0100-95-0731	-	-	-	-	-	-	0.059(J)	-	-
00-04358	0100-95-0732	-	-	0.062(J)	-	-	-	-	-	-
00-04359	0100-95-0733	-	-	-	-	-	-	-	-	-
00-04360	0100-95-0734	-	-	-	-	-	-	0.076(J)	-	-
00-04360	0100-95-0735	-	-	-	-	-	-	0.091(J)	-	-
00-04361	0100-95-0740	-	0.026	-	0.58(J)	-	-	1.3(J)	-	1.1(J)
00-04362	0100-95-0741	-	-	-	-	-	-	-	-	-
00-04363	0100-95-0742	-	-	-	-	-	-	-	-	-
00-04364	0100-95-0743	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0745	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0746	-	-	-	-	-	-	-	-	-
00-04367	0100-95-0749	-	-	-	-	-	0.002(J)	-	-	-
00-04368	0100-95-0750	-	-	-	-	-	-	-	-	-
00-04369	0100-95-0911	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0912	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0913	0.0067	-	-	-	-	-	-	-	-
00-04712	0100-96-0002	NA	0.0094	NA	NA	NA	NA	NA	NA	NA

TABLE 5.1.6-1 (CONTINUED)

PRS 0-030(b)SOIL CONCENTRATIONS (mg/kg) FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

	Sample ID	Methylene Chloride	n-Butylbenzene	Naphthalene	Phenanthrene	Propylbenzene	Pyrene	Tetrachloroethene	Toluene	Toxaphene	Xylene (Total)
Location ID	SAL	11	n/a	800	n/a	n/a	2000	7	1900	0.4	990
00-04301	0100-95-0472	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04304	0100-95-0479	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04311	0100-95-0491	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04314	0100-95-0688	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04336	0100-95-0705	-	0.006	-	-	-	-	0.006(J)	-	-	-
00-04337	0100-95-0706	-	-	-	-	-	-	0.015	-	-	-
00-04337	0100-95-0707	-	-	-	0.13(J)	0.015	-	-	-	-	-
00-04339	0100-95-0709	-	-	-	-	-	-	0.007	-	-	-
00-04340	0100-95-0710	-	-	-	-	-	-	0.004(J)	-	-	-
00-04341	0100-95-0711	NA	NA	-	-	NA	-	NA	NA	NA	NA
00-04342	0100-95-0712	-	-	-	0.29(J)	-	0.14(J)	0.011	-	-	-
00-04343	0100-95-0713	-	-	-	-	-	-	0.17	-	-	-
00-04343	0100-95-0714	-	-	-	-	-	-	0.019	-	-	-
00-04344	0100-95-0715	-	-	-	-	-	-	0.003(J)	-	-	-
00-04345	0100-95-0716	-	-	-	0.051(J)	-	0.097(J)	-	-	-	-
00-04346	0100-95-0717	-	-	-	-	-	-	0.001(J)	-	-	-
00-04347	0100-95-0718	-	-	-	-	-	-	0.006	-	-	-
00-04348	0100-95-0719	-	-	-	0.25(J)	-	0.19(J)	-	-	-	-
00-04350	0100-95-0721	-	-	-	0.51	-	1.7	0.01	-	-	-
00-04351	0100-95-0722	0.017	-	-	-	-	-	0.003(J)	-	-	-
00-04352	0100-95-0723	0.019	-	0.052(J)	0.34(J)	-	0.21(J)	0.006	-	-	-
00-04353	0100-95-0724	0.01	-	-	-	-	-	0.004(J)	-	-	-
00-04353	0100-95-0725	0.01	-	-	-	-	-	-	-	-	-
00-04354	0100-95-0726	0.01	-	-	-	-	-	-	-	-	-
00-04355	0100-95-0728	0.004(J)	-	-	-	-	-	-	-	-	-
00-04356	0100-95-0729	0.011	-	-	0.15(J)	-	0.1(J)	-	0.001(J)	-	-
00-04357	0100-95-0730	-	-	-	0.042(J)	-	-	-	0.002(J)	-	-
00-04357	0100-95-0731	0.012	-	-	0.071(J)	-	0.04(J)	0.01	0.002(J)	-	-
00-04358	0100-95-0732	0.007	-	-	-	-	-	-	0.001(J)	-	-
00-04359	0100-95-0733	0.015	-	-	-	-	-	0.005(J)	-	-	-
00-04360	0100-95-0734	0.004(J)	-	-	-	-	0.065(J)	0.003(J)	-	-	-
00-04360	0100-95-0735	0.007	-	-	0.078(J)	-	0.097(J)	0.005(J)	0.002(J)	-	-
00-04361	0100-95-0740	-	-	-	0.72(J)	-	1.8	0.032	0.002(J)	-	-
00-04362	0100-95-0741	-	-	-	-	-	-	-	-	-	-
00-04363	0100-95-0742	-	-	-	-	-	-	-	-	-	-
00-04364	0100-95-0743	-	-	-	-	-	-	0.017	-	-	-
00-04366	0100-95-0745	-	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0746	-	-	-	-	-	-	-	-	-	-
00-04367	0100-95-0749	-	-	-	-	-	-	-	-	-	0.004(J)
00-04368	0100-95-0750	-	-	-	-	-	-	0.006	-	-	-
00-04369	0100-95-0911	0.002(J)	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0912	-	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0913	-	-	-	-	-	-	-	-	-	-
00-04712	0100-96-0002	NA	NA	NA	NA	NA	NA	NA	NA	0.31	NA

[a] EQL = Estimated quantiy limit.
[b] SAL = Screening action level.
[c] N/A = Not available.
[d] NA = Not analyzed.
[e] (J) = Estimated quantity.
[f] DDD = Dichlorodiphenyldichloroethane.
[g] DDE = Dichlorodiphenyldichloroethylene.
[h] DDT = Dichlorodiphenyltrichloroethane.

All detected concentrations of PAHs were within the two septic tanks, which had been backfilled and paved over prior to the RFI. The highest detected concentrations of PAHs were located in the shallow ends of the tanks (and thus nearer the paved surface). Because PAHs appeared nowhere else in the septic system, their presence is expected to be due to backfilling and paving over the septic tanks, and not due to laboratory use of the septic system. All of the PAHs at PRS 0-030(b) are considered to be anthropogenic background (including those with no SAL) and are eliminated as COPCs. Risk due to anthropogenic background PAHs was estimated based on assumptions from EPA Region IX for residential land use (EPA 1995, 1307). Estimated excess cancer risk from anthropogenic background PAHs is $4x10^{-5}$, while the estimated hazard index from anthropogenic background PAHs is 0.015. PAHs thus eliminated include: carcinogenic PAHs benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene; noncarcinogens anthracene, fluoranthene, fluorene, naphthalene, and pyrene; PAHs with no SAL acenaphthylene, benzo(g,h,i)perylene, 2-methylnaphthalene, and phenanthrene.

5.1.7 Human Health Assessment

5.1.7.1 Human Health Screening Assessment

Forty chemicals were carried forward from the background and reporting limit comparisons. One chemical Aroclor 1260™ was detected at 2.1 mg/kg above SAL (1 mg/kg) and is retained as a COPC pending further evaluation.

Thirty-four chemicals were detected in concentrations below their respective SALs. To evaluate multiple chemical effects for these 34 chemicals, an MCE is performed separately for three classes of analytes: carcinogens, noncarcinogens, and radionuclides. In this case, all three classes of chemicals were identified for the MCE. Table 5.1.7-1 presents the results of the MCE for PRS 0-030(b).

The normalized sum for radionuclides at 0.3 is less than one, indicating that adverse human health effects resulting from exposure are unlikely. All radionuclides detected at concentrations below their respective SAL are therefore eliminated as COPCs. The spatial distribution of radionuclides above background screening values is, however, evaluated further.

The normalized sum for carcinogens is greater than one at 1.6, indicating a potential for adverse human health effects. All carcinogens with normalized values greater than 0.1 in Table 5.1.7-1 were retained as COPCs pending further evaluation.

TABLE 5.1.6-1 (CONTINUED)

PRS 0-030(b)SOIL CONCENTRATIONS (mg/kg) FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

Location ID	Sample ID	Methylene Chloride	n-Butylbenzene	Naphthalene	Phenanthrene	Propylbenzene	Pyrene	Tetrachloroethene	Toluene	Toxaphene	Xylene (Total)
	SAL	11	n/a	800	n/a	n/a	2000	7	1900	0.4	990
00-04301	0100-95-0472	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04304	0100-95-0479	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04311	0100-95-0491	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04314	0100-95-0688	NA	NA	-	-	NA	-	NA	NA	-	NA
00-04336	0100-95-0705	-	0.006	-	-	-	-	0.006(J)	-	-	-
00-04337	0100-95-0706	-	-	-	-	-	-	0.015	-	-	-
00-04337	0100-95-0707	-	-	-	0.13(J)	0.015	-	-	-	-	-
00-04339	0100-95-0709	-	-	-	-	-	-	0.007	-	-	-
00-04340	0100-95-0710	-	-	-	-	-	-	0.004(J)	-	-	-
00-04341	0100-95-0711	NA	NA	-	-	NA	-	NA	NA	NA	NA
00-04342	0100-95-0712	-	-	-	0.29(J)	-	0.14(J)	0.011	-	-	-
00-04343	0100-95-0713	-	-	-	-	-	-	0.17	-	-	-
00-04343	0100-95-0714	-	-	-	-	-	-	0.019	-	-	-
00-04344	0100-95-0715	-	-	-	-	-	-	0.003(J)	-	-	-
00-04345	0100-95-0716	-	-	-	0.051(J)	-	0.097(J)	-	-	-	-
00-04346	0100-95-0717	-	-	-	-	-	-	0.001(J)	-	-	-
00-04347	0100-95-0718	-	-	-	-	-	-	0.006	-	-	-
00-04348	0100-95-0719	-	-	-	0.25(J)	-	0.19(J)	-	-	-	-
00-04350	0100-95-0721	-	-	-	0.51	-	1.7	0.01	-	-	-
00-04351	0100-95-0722	0.017	-	-	-	-	-	0.003(J)	-	-	-
00-04352	0100-95-0723	0.019	-	0.052(J)	0.34(J)	-	0.21(J)	0.006	-	-	-
00-04353	0100-95-0724	0.01	-	-	-	-	-	0.004(J)	-	-	-
00-04353	0100-95-0725	0.01	-	-	-	-	-	-	-	-	-
00-04354	0100-95-0726	0.01	-	-	-	-	-	-	-	-	-
00-04355	0100-95-0728	0.004(J)	-	-	-	-	-	-	-	-	-
00-04356	0100-95-0729	0.011	-	-	0.15(J)	-	0.1(J)	-	0.001(J)	-	-
00-04357	0100-95-0730	-	-	-	0.042(J)	-	-	-	0.002(J)	-	-
00-04357	0100-95-0731	0.012	-	-	0.071(J)	-	0.04(J)	0.01	0.002(J)	-	-
00-04358	0100-95-0732	0.007	-	-	-	-	-	-	0.001(J)	-	-
00-04359	0100-95-0733	0.015	-	-	-	-	-	0.005(J)	-	-	-
00-04360	0100-95-0734	0.004(J)	-	-	-	-	0.065(J)	0.003(J)	-	-	-
00-04360	0100-95-0735	0.007	-	-	0.078(J)	-	0.097(J)	0.005(J)	0.002(J)	-	-
00-04361	0100-95-0740	-	-	-	0.72(J)	-	1.8	0.032	0.002(J)	-	-
00-04362	0100-95-0741	-	-	-	-	-	-	-	-	-	-
00-04363	0100-95-0742	-	-	-	-	-	-	-	-	-	-
00-04364	0100-95-0743	-	-	-	-	-	-	0.017	-	-	-
00-04366	0100-95-0745	-	-	-	-	-	-	-	-	-	-
00-04366	0100-95-0746	-	-	-	-	-	-	-	-	-	-
00-04367	0100-95-0749	-	-	-	-	-	-	-	-	-	0.004(J)
00-04368	0100-95-0750	-	-	-	-	-	-	0.006	-	-	-
00-04369	0100-95-0911	0.002(J)	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0912	-	-	-	-	-	-	-	-	-	-
00-04370	0100-95-0913	-	-	-	-	-	-	-	-	-	-
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The normalized sum for radionuclides at 0.3 is less than one, indicating that adverse human health effects resulting from exposure are unlikely. All radionuclides detected at concentrations below their respective SAL are therefore eliminated as COPCs. The spatial distribution of radionuclides above background screening values is, however, evaluated further.

The normalized sum for carcinogens is greater than one at 1.6, indicating a potential for adverse human health effects. All carcinogens with normalized values greater than 0.1 in Table 5.1.7-1 were retained as COPCs pending further evaluation.

TABLE 5.1.7-1

PRS 0-030(b) MULTIPLE CHEMICAL EVALUATION (MCE)

ANALYTE	MAX	SAL[a]	NORMALIZED VALUE
RADIONUCLIDES (pCi/g)			
Americium-241	0.466	22	0.02
Plutonium-238	0.1	27	0.004
Plutonium-239	7.232	24	0.3
	NORMALIZED SUM		**0.3**
CARCINOGENS (mg/kg)			
Toxaphene	0.31	0.4	0.8
Dieldrin	0.0079	0.028	0.3
DDT	0.255	1.3	0.2
1,4-Dichlorobenzene	1	7.4	0.1
Azobenzene	0.4	4	0.1
DDD	0.121	1.9	0.06
Tetrachloroethene	0.17	7	0.02
DDE	0.029	1.3	0.02
Chlordane [alpha-]	0.0052	0.34	0.02
Chlordane [gamma-]	0.0045	0.34	0.01
Bis(2-ethylhexyl)phthalate	0.16 (J)	32	0.005
Methylene Chloride	0.019	11	0.002
	NORMALIZED SUM		**1.6**
NONCARCINOGENS (mg/kg)			
Antimony	6.5	31	0.2
Lead	169	400	0.4
Mercury	8.4	23	0.4
Silver	72	380	0.2
1,3,5-Trimethylbenzene	1.1(J)	6.4	0.2
Copper	113	2 800	0.04
1,2,4-Trimethylbenzene	0.14	8	0.02
Zinc	300	23 000	0.01
Carbon disulfide	0.013	16	0.0008
Cumene	0.007	49	0.0001
1,2-Dichloroethylene (cis)	0.002 (J)	59	0.00003
Acetone	0.056	2 000	0.00004
1,2-Dichloroethylene (trans)	0.003 (J)	170	0.00002
Di-n-butyl phthalate	0.081 (J)	6 500	0.00001
Butyl benzyl phthalate	0.15 (J)	13 000	0.00001
Ethyl benzene	0.003 (J)	690	$2x10^{-6}$
Xylene (Total)	0.004 (J)	990	$4x10^{-6}$
Benzoic Acid	0.31 (J)	100 000	$3x10^{-6}$
Toluene	0.002	1 900	$1x10^{-6}$
	NORMALIZED SUM		**1.5**

a SAL = Screening action level.

The normalized sum for noncarcinogens is greater than one at 1.5, indicating a potential for adverse human health effects. All noncarcinogens with normalized values greater than 0.1 in Table 5.1.7-2 were retained as COPCs pending further evaluation.

The remaining five chemicals have no SALs for comparison. Detected concentrations of the four organic chemicals without SALs are presented in Table 5.1.7-2. Concentrations of calcium above its background screening value are shown in Table 5.1.5-2. However, intakes associated with these concentrations of calcium in soil are within nutritional ranges, and calcium is therefore eliminated as a COPC.

TABLE 5.1.7-2

PRS 0-030(b) DETECTED CONCENTRATIONS OF ORGANIC CHEMICALS WITH NO SAL[a]

SAMPLE ID	4-ISOPROPYL-TOLUENE (mg/kg)	BUTYLBENZENE [SEC-] (mg/kg)	N-BUTYLBENZENE (mg/kg)	PROPYLBENZENE (mg/kg)
0100-95-0705	–[b]	0.004(J)[c]	0.006	–
0100-95-0707	0.06	0.033(J)	–	0.015
0100-95-0712	–	–	–	–
0100-95-0716	–	–	–	–
0100-95-0719	–	–	–	–
0100-95-0721	–	–	–	–
0100-95-0723	–	–	–	–
0100-95-0727	–	–	–	–
0100-95-0729	–	–	–	–
0100-95-0730	–	–	–	–
0100-95-0731	–	–	–	–
0100-95-0735	–	–	–	–
0100-95-0740	–	–	–	–
0100-95-0744	–	–	0.004(J)	–
0100-95-0749	0.02	–	–	0.004(J)

a SAL= Screening action level.
b – = Result below EQL.
c (J) = Estimated quantity.

5.1.7.2 Risk Assessment

No risk assessment was performed for PRS 0-030(b).

5.1.8 Ecological Assessment

5.1.8.1 Ecotoxicological Screening Assessment

PRS 0-030(b) is located on East Mesa in the Los Alamos townsite. Because the mesa top has heavy commercial development and urban disturbance from the townsite, biological surveys were not performed for this area. The preurban natural overstory for the mesa was a ponderosa pine community. The habitats on the mesa top can be characterized as manmade urban plant and animal communities and therefore do not need to be addressed further from the ecotoxicological screening perspective.

5.1.8.2 Ecological Risk Assessment

No ecological risk assessment was performed for PRS 0-030(b).

5.1.9 Extent of Contamination

In general, the leach field area and the areas outside and below septic tanks #1 and #2 contained very few detected COPCs, and these at concentrations well below SALs. Radionuclides were detected above background screening values only within the diversion box, the septic tanks, and in the outfall area (none in the leach field area, or below the septic tanks). Aroclor 1260™ was detected at a concentration 2.1 times its SAL in the diversion box.

5.1.10 Conclusions and Recommendations

Because adverse human health effects may be possible in this area, PRS 0-030(b) is recommended for VCA. A VCA plan for this site will be submitted at a later date.

5.2 PRS 0-004

5.2.1 History

PRS 0-004 is a container storage area located inside the 6th Street Warehouses 3 and 4. The area was primarily used to store solvents; however, other chemicals that may have been stored at this site by The Zia Company include asphalt, lubricants, pesticides, and herbicides. The containers and storage areas were regularly inspected (LANL 1989, 0444). On March 15, 1984, an undocumented quantity of methyl ethyl ketone peroxide (MEKP) spilled in one of the warehouses. The potential interaction of the MEKP with other chemicals posed a high-explosive risk. Several drums were temporarily removed from the warehouse to the parking lot and the entire area was hosed down by the fire department. Another incident in the warehouses involved the release of an unspecified crystallized solvent that was also washed down with water. It is assumed that in both incidences, the wash water was discharged to the unlined storm water drainage ditch, whose outfall discharged into Los Alamos Canyon (LANL 1990, 0145).

5.2.2 Description

The mesa top at TA-0 is mantled with a thin layer of reworked colluvium and fill material that ranges from less than 1 ft to as much as 10 ft thick. At the 6th Street warehouses site, the mesa is characterized by heavy commercial and urban development and wildlife habitats are urban plant and animal communities.

For a description of geological setting, soils, and hydrology pertinent to the location of PRS 0-004, see Section 2.0 of this report.

5.2.3 Previous Investigations

There were no known previous investigations at this site.

5.2.4 Field Investigation

Past spills that may have occurred in PRS 0-004 would have been washed, or drained, to the unlined storm water drainage ditch whose outfall discharges into Los Alamos Canyon. Two samples were collected from locations upgradient of the outfall within obvious sediment catchments of the drainage channel. A third surface sample was collected from near the head of the drainage ditch approximately 25 ft south of the culvert. Two surface samples were collected from a sediment catchment below the rim of the mesa in a natural drainage that may have existed prior to the storm drain being manually redirected to the west. Sample information is summarized in Table 5.2.4-1 and sample locations are shown on Fig. 5.2.4-1.

TABLE 5.2.4-1

SUMMARY OF SAMPLES COLLECTED AT PRS 0-004

SAMPLE INFORMATION				ANALYTICAL SUITE AND REQUEST NUMBER[a,b]								
LOCATION ID	SAMPLE ID	LOCATION/ DEPTH (ft)	MATRIX	VOCs[c]	SVOCs[d]	PCBs[e]	PESTI-CIDES	BTEX[f]	TPH[g]	XRF[h] METALS	TAL[i] METALS	RAD[j]
00-04238	0100-95-0457	Storm Drain, 25 ft South of Culvert/ 0–0.5	Soil	X	865	865	865	NA[k]	NA	X	NA	X
00-04224	0100-95-0515	Possible Outfall Channel from MTL[l]/ 0–0.5	Soil	NA	822	822	822	NA	NA	X	NA	823
00-04223	0100-95-0516	Possible Outfall Channel from MTL/ 0–0.5	Soil	NA	822	822	822	NA	NA	X	NA	823
00-04221	0100-95-0517	Storm Drain Outfall/ 0–0.5	Soil	NA	822	822	822	NA	NA	X	NA	823
00-04225	0100-95-0518	Storm Drain Outfall/ 0–0.5	Soil	NA	822	822	822	NA	NA	X	NA	823

[a] X = Analyzed, but not assigned a request number. All samples sent to MCAL and MRAL were not assigned a request number.
[b] Request number. Only samples sent to SMO for off-site analysis were assigned request numbers.
[c] VOCs = Volatile organic compounds.
[d] SVOCs = Semivolatile organic compounds.
[e] PCBs = Polychlorinated biphenyls.
[f] BTEX = Benzene, toluene, ethylene, and xylene.
[g] TPH = Total petroleum hydrocarbons.
[h] XRF = X-ray fluoroscence.
[i] TAL = Target analyte list metals: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, thallium, and uranium.
[j] Radiological analyses consisted of any one or all of the following: gross alpha/beta/gamma, tritium, gamma spectroscopy/ scan, americium-241, isotopic plutonium, and isotopic uranium.
[k] NA = Not analyzed.
[l] MTL = Materials testing laboratory.

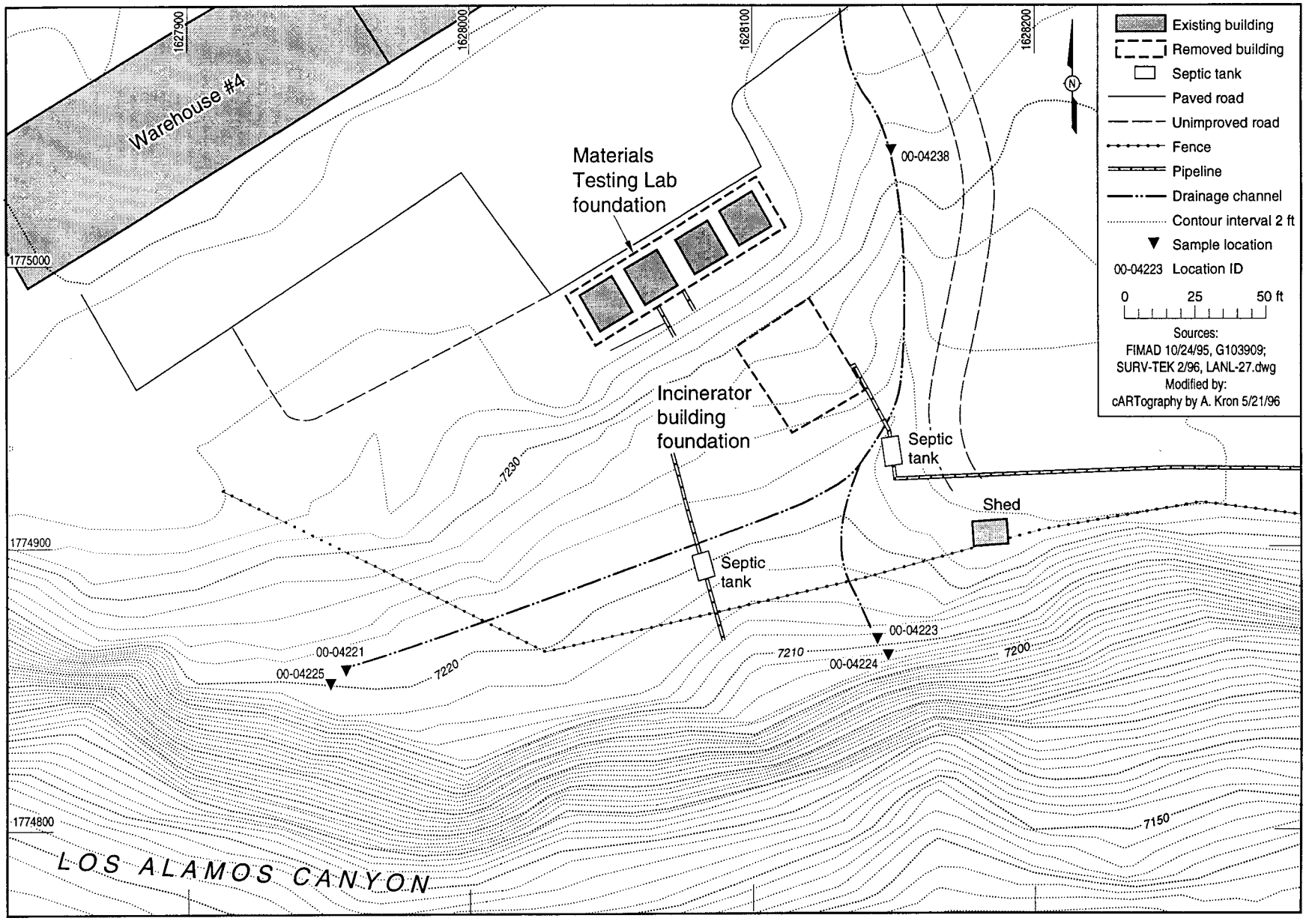

Fig. 5.2.4-1. PRS 0-004 sample locations.

5.2.4.1 Screening Results

Field screening results are summarized in Table C-2 of Appendix C.

5.2.5 Screening Assessment

5.2.5.1 Background Comparison

5.2.5.1.1 Inorganics

Fixed laboratory analyses for inorganics were not requested at this site. However, three soil samples were analyzed for metals by XRF. Copper, nickel, lead, uranium, and zinc were above their respective background screening values. The data are presented in Table 5.2.5-1 (See Table D-4 for all data associated with the samples in Table 5.2.5-1) and sample locations are shown in Fig. 5.2.5-1.

TABLE 5.2.5-1

PRS 0-004 INORGANICS WITH CONCENTRATIONS ABOVE BACKGROUND SCREENING VALUES

LOCATION ID	SAMPLE ID	COPPER (mg/kg)	LEAD (mg/kg)	NICKEL (mg/kg)	URANIUM (mg/kg)	ZINC (mg/kg)
UTL[a]	n/a[b]	15.5	56[c]	15.2	6.73[c]	146.2[c]
SAL[d]	n/a	2 800	400	1 500	230	23 000
00-04238	0100-95-0457	–[e]	151	–	56.9	199
00-04224	0100-95-0515	39.9	65.2	–	–	–
00-04223	0100-95-0516	44.9	69.2	–	10.3	–
00-04221	0100-95-0517	26	–	–	11.3	–
00-04225	0100-95-0518	28.5	72.6	20.5	–	–

[a] UTL = Upper tolerance limit.
[b] n/a = Not applicable.
[c] For background screening data, see Longmire et al. 1993, 0958.
[d] SAL = Screening action level.
[e] – = Analyte was not detected or was detected below UTL.

Because there are not sufficient background data available to perform further statistical tests, copper, nickel, lead, uranium, and zinc are carried forward through the screening assessment process.

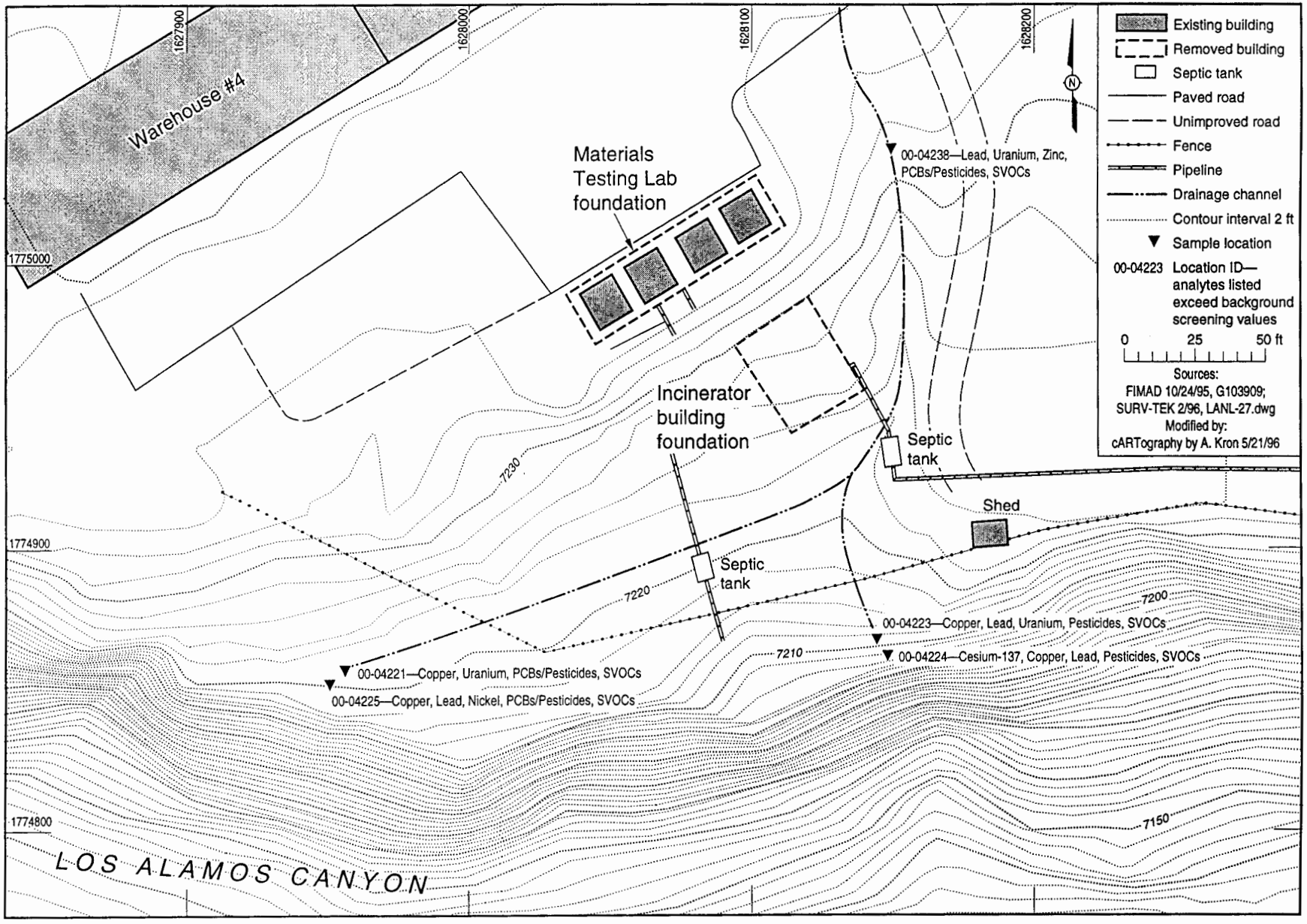

Fig. 5.2.5-1. PRS 0-004 sample locations with organics, inorganics, and radionuclides that exceed background screening values.

5.2.5.1.2 Radionuclides

Four samples collected from PRS 0-004 were analyzed for radionuclides. Cesium-137 was the only radionuclide that was detected above its background screening value. The cesium-137 data above its background screening value is presented in Table 5.2.5-2 (See Table D-5 for all data associated with the samples in Table 5.2.5-2) and the associated sample location is shown in Fig. 5.2.5-1.

TABLE 5.2.5-2

PRS 0-004 RADIONUCLIDES WITH CONCENTRATIONS ABOVE BACKGROUND SCREENING VALUES

LOCATION ID	SAMPLE ID	CESIUM-137 (pCi/g)
UTL[a,b]	n/a[c]	1.4
SAL[d]	n/a	5.1
00-04224	0100-95-0515	1.49

[a] UTL = Upper threshold limit.
[b] Value is maximum reported background value from LANL Environmental Surveillance Reports.
[c] n/a = Not applicable.
[d] SAL = Screening action level.

Cesium-137 is carried forward through the screening assessment process.

5.2.6 Evaluation of Organics

Five soil samples collected for PRS 0-004 were analyzed for SVOCs [including polynuclear aromatic hydrocarbons (PAHs)], PCBs, and pesticides. Twenty three organic analytes were detected in these soil samples.The detected organic concentrations for each sample are provided in Table 5.2.6-1 (See Table D-6 for all data associated with the samples in Table 5.2.6-1). and sample locations for these organic chemicals are shown in Fig. 5.2.5-1. All 23 detected organic analytes are carried forward through the screening assessment process.

Of the organics that were not detected in any soil sample collected from PRS 0-004, eight had EQLs that were higher than their respective SALs [i.e., 3,3-dichlorobenzene, benzidine, bis(2-chloroethyl)ether, dibenzo[a,h]anthracene, hexachlorobenzene, N-nitrosodi-n-propylamine, N-nitrosodimethylamine, and pentachlorophenol]. Fourteen other organics do not have SALs to which the EQLs can be compared [i.e., 4-chloro-3-methylphenol, 4,6-dinitro-o-cresol, 2-methylnaphthalene, 2-nitrophenol, 3-Nitroaniline, 4-bromophenyl-phenylether, 4-chloro-3-methylphenol, 4-chlorophenylphenylether, 4-nitroaniline, 4-nitrophenol, acenaphthylene, benzo[g,h,i]perylene, bis(2-chloroethoxy)methane, delta-BHC]. Of the 22 nondetected organics, 18 are not expected to be present at this site based on available knowledge of historical operations.

The remaining four organics are the PAHs acenaphthylene, benzo[g,h,i]perylene, dibenzo[a,h]anthracene, and 2-methylnaphthalene. These four PAHs could have potentially been present at the site, but were not detected. Other PAHs that were detected, were detected at concentrations well below their respective EQLs. Because some PAHs were detected, it is likely that the four undetected PAHs listed above, would have been detected also, had they actually been present at the site.

There are no other organics carried forward through the screening assessment process.

TABLE 5.2.6-1

PRS 0-004 SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

LOCATION ID	SAMPLE ID	AROCLOR 1260™ (mg/kg)	ALDRIN (mg/kg)	BENZOIC ACID (mg/kg)	BENZO[A]PYRENE (mg/kg)	BENZO[B]FLUORANTHENE (mg/kg)	BENZO[K]FLUORANTHENE (mg/kg)
SAL[b]	n/a[c]	1	0.026	100 000	0.061	0.61	6.1
00-04238	0100-95-0457	0.0685	–[d]	–	0.078(J)[e]	0.096(J)	0.096(J)
00-04224	0100-95-0515	–	0.00075(J)	–	–	–	–
00-04223	0100-95-0516	–	0.00039(J)	–	–	–	–
00-04221	0100-95-0517	0.19	0.00047(J)[c]	0.14(J)	0.092(J)	0.15(J)	–
00-04225	0100-95-0518	0.21	0.00063(J)	–	0.21(J)	0.35(J)	–

LOCATION ID	SAMPLE ID	BENZO[A]ANTHRACENE (mg/kg)	BIS(2-ETHYLHEXYL) PHTHALATE (mg/kg)	CHLORDANE [ALPHA-] (mg/kg)	CHLORDANE [GAMMA-] (mg/kg)	CHRYSENE (mg/kg)	DIELDRIN (mg/kg)
SAL		0.61	32	0.34	0.34	24	0.028
00-04238	0100-95-0457	–	0.1(J)	0.00201	–	0.097(J)	–
00-04224	0100-95-0515	–	–	–	0.0033	–	0.0035(J)
00-04223	0100-95-0516	–	–	–	–	–	0.0024(J)
00-04221	0100-95-0517	–	–	–	–	0.12(J)	0.0041
00-04225	0100-95-0518	0.16(J)	3.1	0.0029	–	0.29(J)	0.0096

LOCATION ID	SAMPLE ID	DI-N-BUTYLPHTHALATE (mg/kg)	DDD[g] (mg/kg)	DDE[h] (mg/kg)	DDT[i] (mg/kg)	ENDRIN (mg/kg)	FLUORANTHENE (mg/kg)
SAL		1.9	1.9	1.3	1.3	20	2 600
00-04238	0100-95-0457	–	–	0.0348	0.18	–	0.19(J)
00-04224	0100-95-0515	–	–	0.3	0.36	–	–
00-04223	0100-95-0516	0.12(J)	–	1.3	1.8	0.0018(J)	–
00-04221	0100-95-0517	–	0.0024(J)	0.0081	0.036	–	0.15(J)
00-04225	0100-95-0518	–	–	0.0083	–	0.011	–

TABLE 5.2.6-1

PRS 0-004 SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

LOCATION ID	SAMPLE ID	HEPTACHLOR (mg/kg)	HEPTACHLOR EPOXIDE (mg/kg)	METHOXYCHLOR (mg/kg)	PHENANTHRENE (mg/kg)	PYRENE (mg/kg)
SAL		0.099			N/A	2 000
00-04238	0100-95-0457	–	–	0	0.086(J)	0.14(J)
00-04224	0100-95-0515	–	0.00068(J)	0.017(J)	–	0.082(J)
00-04223	0100-95-0516	0.00061(J)	–	–	–	0.081(J)
00-04221	0100-95-0517	0.00083(J)	–	–	0.084(J)	0.19(J)
00-04225	0100-95-0518	–	–	–	0.17(J)	0.45(J)

[a] EQL = Estimated quantitation limit.
[b] SAL = Screening action level.
[c] n/a = Not applicable.
[d] – = Analyte undetected or detected below EQL.
[e] (J)= Estimated quantity.
[f] N/A = Not available.
[g] DDD = Dichlorodiphenyldichloroethane.
[h] DDE = Dichlorodiphenyldichloroethylene.
[i] DDT = Dichlorodiphenyltrichloroethane.

5.2.7 Human Health Assessment

5.2.7.1 Human Health Screening Assessment

Twenty-nine chemicals, the radionuclide cesium -137, 5 inorganic metals and the 23 detected organic analytes were carried forward from the background and reporting limit comparisons. Of these, benzo[a]pyrene, DDE, DDT, and uranium were detected at concentrations above their respective SALs (Table 5.2.7-1) and therefore are retained as COPCs pending further evaluation. The remaining 26 chemicals are included in the following MCE.

TABLE 5.2.7-1

PRS 0-004 CHEMICALS WITH CONCENTRATIONS ABOVE SALs

LOCATION ID	SAMPLE ID	BENZO[A]PYRENE (mg/kg)	DDE[a] (mg/kg)	DDT[b] (mg/kg)	URANIUM (mg/kg)
SAL[c]	n/a[d]	0.061	1.3	1.3	29
00-04238	0100-95-0457	0.078	–[e]	–	56.9
00-04223	0100-95-0516	–	1.3	1.8	–
00-04221	0100-95-0517	0.092	–	–	–
00-04225	0100-95-0518	0.21	–	–	–

[a] DDE = Dichlorodiphenyldichloroethylene.
[b] DDT = Dichlorodiphenyltrichloroethane.
[c] SAL = Screening action level.
[d] n/a = Not applicable.
[e] – = Analyte not detected or detected at a concentration less than SAL.

A preliminary dose calculation for uranium was performed using standard LANL defaults for residential exposure. Based on the assumption that the total uranium identified by XRF is natural uranium, a SAL of 29 mg/kg was used to evaluate the radionuclide effects of uranium. The maximum detected concentration of uranium is 56.9 mg/kg, which is less than twice this SAL. The estimated annual dose from this maximum concentration is about 20 mrem/year. The average of all of the uranium data at PRS 0-004 is 18.9 mg/kg which results in an estimated annual dose of 6.5 mrem/year. These preliminary dose calculations indicate no significant radiological problem at this PRS. Therefore uranium is eliminated as a COPC based on radiological effects.

DDE and DDT were detected at low concentrations throughout the drain ditches and at concentrations above SAL in a small catchment at the edge of the mesa. Using EPA Region IX standard defaults for residential exposure, excess carcinogenic risk at this location is estimated to be 2×10^{-6} (EPA 1995, 1307). This is within the 1×10^{-4} to 1×10^{-6} risk range generally considered to be acceptable. Therefore, DDE and DDT are eliminated as COPCs.

An MCE is performed separately for three classes of analytes: carcinogens, noncarcinogens (nonradioactive), and radionuclides. In this case, all three classes of chemicals were identified for the MCE.

TABLE 5.2.6-1

PRS 0-004 SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

LOCATION ID	SAMPLE ID	HEPTACHLOR (mg/kg)	HEPTACHLOR EPOXIDE (mg/kg)	METHOXYCHLOR (mg/kg)	PHENANTHRENE (mg/kg)	PYRENE (mg/kg)
SAL		0.099			N/A	2 000
00-04238	0100-95-0457	–	–	0	0.086(J)	0.14(J)
00-04224	0100-95-0515	–	0.00068(J)	0.017(J)	–	0.082(J)
00-04223	0100-95-0516	0.00061(J)	–	–	–	0.081(J)
00-04221	0100-95-0517	0.00083(J)	–	–	0.084(J)	0.19(J)
00-04225	0100-95-0518	–	–	–	0.17(J)	0.45(J)

[a] EQL = Estimated quantitation limit.
[b] SAL = Screening action level.
[c] n/a = Not applicable.
[d] – = Analyte undetected or detected below EQL.
[e] (J)= Estimated quantity.
[f] N/A = Not available.
[g] DDD = Dichlorodiphenyldichloroethane.
[h] DDE = Dichlorodiphenyldichloroethylene.
[i] DDT = Dichlorodiphenyltrichloroethane.

5.2.7 Human Health Assessment

5.2.7.1 Human Health Screening Assessment

Twenty-nine chemicals, the radionuclide cesium -137, 5 inorganic metals and the 23 detected organic analytes were carried forward from the background and reporting limit comparisons. Of these, benzo[a]pyrene, DDE, DDT, and uranium were detected at concentrations above their respective SALs (Table 5.2.7-1) and therefore are retained as COPCs pending further evaluation. The remaining 26 chemicals are included in the following MCE.

TABLE 5.2.7-1

PRS 0-004 CHEMICALS WITH CONCENTRATIONS ABOVE SALs

LOCATION ID	SAMPLE ID	BENZO[A]PYRENE (mg/kg)	DDE[a] (mg/kg)	DDT[b] (mg/kg)	URANIUM (mg/kg)
SAL[c]	n/a[d]	0.061	1.3	1.3	29
00-04238	0100-95-0457	0.078	–[e]	–	56.9
00-04223	0100-95-0516	–	1.3	1.8	–
00-04221	0100-95-0517	0.092	–	–	–
00-04225	0100-95-0518	0.21	–	–	–

[a] DDE = Dichlorodiphenyldichloroethylene.
[b] DDT = Dichlorodiphenyltrichloroethane.
[c] SAL = Screening action level.
[d] n/a = Not applicable.
[e] – = Analyte not detected or detected at a concentration less than SAL.

A preliminary dose calculation for uranium was performed using standard LANL defaults for residential exposure. Based on the assumption that the total uranium identified by XRF is natural uranium, a SAL of 29 mg/kg was used to evaluate the radionuclide effects of uranium. The maximum detected concentration of uranium is 56.9 mg/kg, which is less than twice this SAL. The estimated annual dose from this maximum concentration is about 20 mrem/year. The average of all of the uranium data at PRS 0-004 is 18.9 mg/kg which results in an estimated annual dose of 6.5 mrem/year. These preliminary dose calculations indicate no significant radiological problem at this PRS. Therefore uranium is eliminated as a COPC based on radiological effects.

DDE and DDT were detected at low concentrations throughout the drain ditches and at concentrations above SAL in a small catchment at the edge of the mesa. Using EPA Region IX standard defaults for residential exposure, excess carcinogenic risk at this location is estimated to be 2×10^{-6} (EPA 1995, 1307). This is within the 1×10^{-4} to 1×10^{-6} risk range generally considered to be acceptable. Therefore, DDE and DDT are eliminated as COPCs.

An MCE is performed separately for three classes of analytes: carcinogens, noncarcinogens (nonradioactive), and radionuclides. In this case, all three classes of chemicals were identified for the MCE.

Table 5.2.7-2 summarizes the results of the MCE for PRS 0-004. The total normalized value is 0.6 for noncarcinogens. Because the result of the noncarcinogenic MCE was less than 1, these constituents should not pose an unacceptable health risk. Therefore, these chemicals are eliminated as COPCs.

TABLE 5.2.7-2

PRS 0-004 MULTIPLE CHEMICAL EVALUATION (MCE)

ANALYTE	ANALYSIS RESULTS (mg/kg)	SAL[a] (mg/kg)	NORMALIZED VALUE
Aroclor 1260™	0.21	1	0.2
Aldrin	0.00075	0.026	0.02
Benzo[b]fluoranthene	0.35(J)	0.61	0.6
Benzo[k]fluoranthene	0.096(J)	6.1	0.016
Benzo[a]anthracene	0.16(J)	0.61	0.3
Bis(2-ethylhexyl)phthalate	3.1	32	0.1
Chlordane [alpha-]	0.0029	0.34	0.009
Chlordane [gamma-]	0.0033	0.34	0.01
Chrysene	0.29(J)	88	0.003
DDD[b]	0.0024(J)	1.9	0.001
Heptachlor	0.00083(J)	0.099	0.008
Heptachlor epoxide	0.00031	0.049	0.06
		TOTAL:	**1.4**
NONCARCINOGENIC EFFECTS			
Benzoic Acid	0.14(J)	100 000	0.000001
Copper	44.9	2 800	0.02
Di-n-butylphthalate	0.12	6 500	0.00002
Endrin	0.11	20	0.006
Fluoranthene	0.19(J)	2 600	0.00007
Lead	151	400	0.4
Methoxychlor	0.017	330	0.00005
Nickel	20.5	1500	0.01
Pyrene	0.45(J)	2 000	0.0002
Uranium	56.9	230	0.2
Zinc	199	23 000	0.009
		TOTAL:	**0.6**

[a] SAL= Screening action level.
[b] DDD = Dichlorodiphenyldichloroethane.

The total normalized value for the carcinogenic MCE is 1.4. Of this value, the normalized sum of the four PAHs (benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]anthracene, and chrysene) included in the evaluation is 0.9. PAHs are found in asphalt used in paving, as well as being products of incomplete combustion from sources including motor vehicles. These samples were collected in an unlined storm water drainage ditch that drains the parking lot of the warehouses. The low concentrations of these four PAHs, as well as benzo(a)pyrene are most likely a result of runoff from the parking lot, and not PRS 0-004 related contamination. Therefore, all PAHs are eliminated as COPCs. With PAHs eliminated from the MCE, the total normalized sum for carcinogens is 0.5. Therefore, all of the remaining carcinogens are also eliminated as COPCs.

Uranium was detected at a concentration of 56.9 mg/kg, approximately twice the natural uranium SAL of 29 mg/kg. The uranium metal SAL is 230 mg/kg. This same sample, 0100-95-0457, also contained the highest levels of lead and zinc detected at PRS 0-004. Because no radionuclide analysis were performed for this sample, which SAL the uranium should be compared with cannot be definitely prescribed. The sample is being rerun for both isotopic uranium analysis and TAL metal analysis. If the radionuclide data suggest there is a problem at this site, either a Phase II sampling plan or a VCA plan will be developed to address the issue.

Because lead and zinc were also detected at higher levels in this sample than the other samples collected at PRS 0-004, it is assumed for now that the uranium detected in sample 0100-95-0457 should be compared to the metal uranium SAL of 230 mg/kg, therefore, uranium is eliminated at a COPC.

5.2.7.2 Risk Assessment

No risk assessment was performed for PRS 0-004 because no COPCs were retained by the human health screening assessment.

5.2.8 Ecological Assessment

5.2.8.1 Ecotoxicological Screening Assessment

PRS 0-004 is located on East Mesa in the Los Alamos townsite. Because the mesa top has heavy commercial development and urban disturbance from the townsite, biological surveys were not performed for this area. The preurban natural overstory for the mesa was a ponderosa pine community. The habitats on the mesa top can be characterized as man-made urban plant and animal communities and therefore do not need to be addressed further from the ecotoxicological screening perspective.

5.2.8.2 Ecological Risk Assessment

No ecological risk assessment was performed for PRS 0-004.

5.2.9 Extent of Contamination

Extent of contamination was not determined for PRS 0-004 because no COPCs were retained by the human health screening assessment.

5.2.10 Conclusions and Recommendations

Based on NFA criterion 4, a Class III permit modification is requested to remove this site from the Hazardous and Solid Waste Amendments Module of the Laboratory's RCRA operating permit .

5.3 PRS 0-033(b)

5.3.1 History

PRS 0-033(b) consists of potential soil contamination related to operations associated with the 6th Street warehouses materials testing laboratory. Potential environmental concerns at this PRS include floor drains and drain lines associated with the materials testing laboratory.The storm sewers, blow-off tank, and floor drains that drained to the unlined ditch were sampled as part of PRS 0-004 and are discussed in Section 5.2.

The materials testing laboratory was constructed south of Warehouses 3 and 4 in 1948 (LANL 1990, 0145). Operations at the materials testing laboratory involved the use of solvents, asphalt leaching, destructive testing of concrete cylinders, and sieve tests of aggregates for roadwork. The materials testing laboratory had three floor drains, which discharged to an outfall in Los Alamos Canyon.

5.3.2 Description

The mesa top at TA-0 is mantled with a thin layer of reworked colluvium and fill material that ranges from less than 1 ft to as much as 10 ft thick. At the 6th Street warehouses site, the mesa is characterized by heavy commercial and urban development and wildlife habitats are urban plant and animal communities.

For a description of geological setting, soils, and hydrology pertinent to the location of PRS 0-033(b), see Section 2.0 of this report.

5.3.3 Previous Investigations

There were no known previous investigations at this site.

5.3.4 Field Investigation

The field investigation concentrated on potential soil contamination surrounding the drain lines that served the materials testing lab. Spills that may have occurred in the past would have drained to the storm drains or to the unlined storm water drainage ditch whose outfall discharges into Los Alamos Canyon.

The investigation of the materials testing laboratory septic system was initiated on July 28, 1995, and involved the excavation of five trenches totaling over 110 ft in length. These trenches were strategically positioned to locate the pipelines and alleged septic tank, and were excavated at a minimum to the top of tuff unless a septic system component was located at a shallower depth. Neither the excavation activities nor the site or geophysical surveys could locate the septic tank, outlet pipeline, or outfall that was shown on Fig. 5-5 of the RFI Work Plan for OU 1071 (LANL 1992, 0781)(see Figs. 5.1.4-1 and 5.1.4-2).

A closer examination of the waste plan detail on sheet 5 of 5 of the materials testing laboratory blueprints revealed that two liquid waste lines exited the south side of the building and that both apparently ended at the surface of the embankment immediately south of the building (The Zia Company 1993, 05-0183). There was no indication of a septic tank attached to either pipeline. The only evidence that a septic tank may have existed was on sheet 1 of 5 of the same set of blueprints. This was a general utilities site plan showing a possible septic tank positioned less than 10 ft from the building and attached to the eastern waste line. However, this drawing refers to sheet 5 of 5 for waste plan details and, as previously stated, no septic tank is shown on that sheet. Our investigation activities essentially proved that no septic tank exists. However, both waste lines were finally located. The waste lines terminated at the embankment approximately 13 ft to 15 ft south of the materials testing laboratory foundation in much the same way as shown on sheet 5 of 5. The western pipeline was constructed of 4-in. diameter VCP and the eastern pipeline was constructed of 4-in. diameter cast iron pipe. It has been concluded that if a septic tank ever existed, it was removed long ago and not recorded in any of the available information.

Three samples were collected from within and below the waste lines. Table 5.3.4-1 summarizes the samples collected and Fig. 5.3.4-1 shows the sampling locations.

The excavations were immediately backfilled and the area was restored to its original contours after the samples were collected.

TABLE 5.3.4-1

SUMMARY OF SAMPLES COLLECTED AT PRS 0-033(b)

SAMPLE INFORMATION				ANALYTICAL SUITE AND REQUEST NUMBER[a,b]										
LOCATION ID	SAMPLE ID	LOCATION DESCRIPTION AND DEPTH (ft)	MATRIX	VOCs[c]	SVOCs[d]	PCBs[e]	PESTI-CIDES	BTEX[f]	TPH[g]	XRF[h] METALS	TAL[i] METALS	RAD[j]	TCLP[k] METALS	TCLP ORGANICS
00-04227	0100-95-0451	Below MTL W. Outlet Pipe, 2.5-3	Soil	X	885	885	885	NA[l]	NA	X	NA	886	NA	NA
00-04228	0100-95-0452	Inside MTL W. Outlet Pipe, 2.5-3	Soil	X	885	885	885	NA	NA	X	NA	886	NA	NA
00-04229	0100-95-0453	Below MTL E. Outlet Pipe, 2.5-3	Soil	X	865	865	865	NA	NA	X	NA	X	NA	NA

[a] X = Analyzed, but not assigned a request number. All samples sent to MCAL and MRAL were not assigned a request number.
[b] Request number. Only samples sent to SMO for off-site analysis were assigned request numbers.
[c] VOCs = Volatile organic compounds.
[d] SVOCs = Semivolatile organic compounds.
[e] PCBs = Polychlorinated biphenyls.
[f] BTEX = Benzene, toluene, ethylene, and xylene.
[g] TPH = Total petroleum hydrocarbons.
[h] XRF = X-ray fluoroscopy.
[i] TAL = Target analyte list metals: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, thallium, and uranium.
[j] Radiological analyses consisted of any one or all of the following: gross alpha/beta/gamma, tritium, gamma spectroscopy/scan, americium-241, isotopic plutonium, and isotopic uranium.
[k] TCLP = Toxicity characteristic leaching procedure.
[l] NA = Not analyzed.

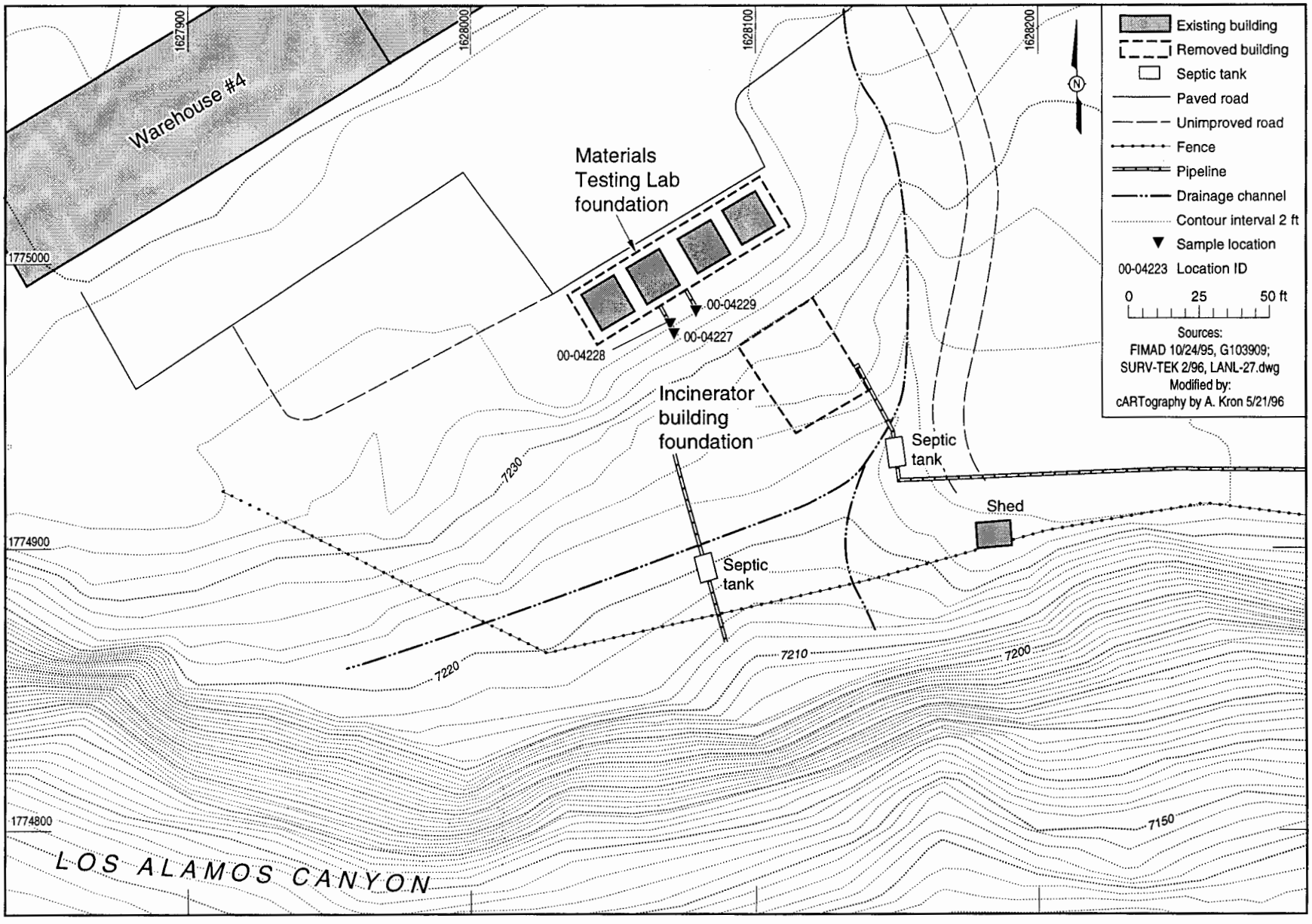

Fig. 5.3.4-1. PRS 0-033(b) sample locations.

5.3.4.1 Screening Results

Field screening results are summarized in Table C-3 of Appendix C.

5.3.5 Screening Assessment

5.3.5.1 Background Comparisons

5.3.5.1.1 Inorganics

Three soil samples collected from PRS 0-033(b) were analyzed for metals by XRF. Barium, copper, nickel, lead, and zinc were above their respective background screening values. The data are presented in Table 5.3.5-1 (See Table D-7 for all data associated with the samples in Table 5.3.5-1) and associated sample locations are shown in Fig. 5.3.5-1.

TABLE 5.3.5-1

PRS 0-033(b) INORGANICS WITH CONCENTRATIONS ABOVE BACKGROUND SCREENING VALUES

LOCATION ID	SAMPLE ID	BARIUM (mg/kg)	COPPER (mg/kg)	LEAD (mg/kg)	NICKEL (mg/kg)	ZINC (mg/kg)
UTL[a]	n/a[b]	828.9[c]	15.5	56[c]	15.2	146.2[c]
SAL[d]	n/a	5 300	2 800	400	1 500	23 000
00-04227	0100-95-0451	–[e]	23.2	96.5	25.3	170
00-04228	0100-95-0452	1 164	49.2	140	18.5	391
00-04229	0100-95-0453	–	–	1 492	–	–

[a] UTL = Upper threshold limit.
[b] n/a = Not applicable.
[c] For background screening value see Longmire et al. 1993, 0958.
[d] SAL = Screening action level.
[e] – = Analyte not detected or detected at contrations less than SAL.

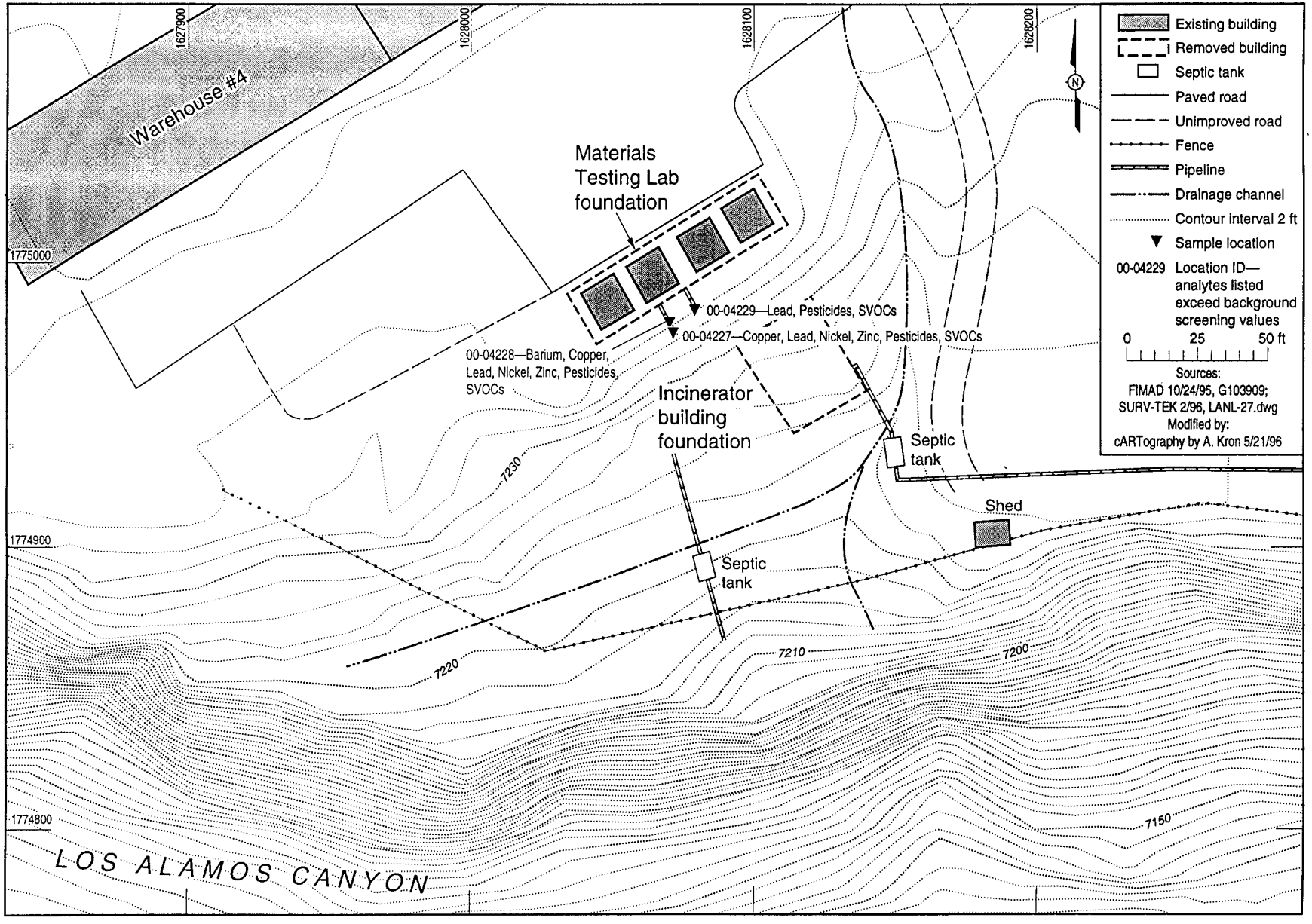

Fig. 5.3.5-1. PRS 0-033(b) sample locations with organics and inorganics that exceed background screening values.

Because there are insufficient data available to perform further statistical tests, barium, copper, nickel, lead, and zinc are carried forward through screening assessment process.

5.3.5.1.2 Radionuclides

Two samples collected from PRS 0-033(b) were analyzed for radionuclides. No radionuclides were detected above their background screening value.

5.3.6 Evaluation of Organic Constituents

Three soil samples collected for PRS 0-033(b) were analyzed for SVOCs, PCBs, and pesticides. The chemicals that were detected in these soil samples are shown in Table 5.3.6-1 (See Table D-8 for all data associated with the samples in Table 5.3.6-1) and the sample locations are provided in Fig. 5.3.5-1. All detected organics are carried forward through the screening assessment process.

Of the organics that were not detected in any soil sample collected from PRS 0-033(b), nine had EQLs that were higher than their respective SALs [i.e., m-benzidine, benzo[a]pyrene, bis(2-chloroethyl)ether, dibenzo[a,h]anthracene, dieldrin, hexachlorobenzene, N-nitrosodi-n-propylamine, N-nitrosodimethylamine, and toxaphene]. Fourteen other organics do not have SALs to which the EQLs can be compared [i.e., acenaphthylene, benzo[g,h,i]perylene, delta-BHC, bis(2-chloroethoxy)methane, 4-bromophenylphenyl ether, 4-chloro-3-methylphenol, 4-chlorophenylphenyl ether, 2-methyl-4,6-dinitrophenol, 2-methylnaphthalene, 3-nitroaniline, 4-nitroaniline, 2-nitrophenol, 4-nitrophenol, and phenanthrene]. These 23 organics are not expected to be present at this site based on available knowledge of historical operations. Therefore, none of the nondetected organics are carried forward through the screening assessment process.

TABLE 5.3.6-1

PRS 0-033(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	ACENAPHTHENE (mg/kg)	ANTHRACENE (mg/kg)	BENZO[A] ANTHRACENE (mg/kg)	BENZO[A] PYRENE (mg/kg)	BENZO[B] FLUORANTHENE (mg/kg)	BENZO[GHI] PERYLENE (mg/kg)
SAL[b]	360	19	0.61	0.061	0.61	N/A
0100-95-0451	–	0.082(J)	0.18(J)	0.14(J)	0.14(J)	0.093(J)
0100-95-0452	0.074(J)	0.18(J)	0.47	0.45	0.52	0.32(J)
0100-95-0453	–	–	–	–	–	–

SAMPLE ID	BENZO[K] FLUORANTHENE (mg/kg)	BIS(2-ETHYLHEXYL) PHTHALATE (mg/kg)	BUTYL BENZYL PHTHALATE (mg/kg)	CHLORDANE [ALPHA-] (mg/kg)	CHLORDANE [GAMMA-] (mg/kg)	CHRYSENE (mg/kg)
SAL	6.1	32	13000	0.34	0.34	24
0100-95-0451	0.12(J)	–	–	0.054	0.056	0.17(J)
0100-95-0452	0.49	0.2(J)	0.053(J)	0.078	0.079	0.69
0100-95-0453	–	–	–	0.0069	0.00457	–

SAMPLE ID	DDD [p,p'-] (mg/kg)	DDT[p,p'-] (mg/kg)	DI-n BUTYL PHTHALATE (mg/kg)	DIBENZOFURAN (mg/kg)	DIBENZO[A,H] ANTHRACENE (mg/kg)	FLUORANTHENE (mg/kg)	FLUORENE (mg/kg)
SAL	1.9	1.3	6 500	260	0.061	2600	300
0100-95-0451	–	0.01	–	–	–	0.39	–
0100-95-0452	–	0.0047	0.13(J)	0.17(J)	0.1(J)	1.5	0.15(J)
0100-95-0453	0.00749	0.00913	–	–	–	–	–

SAMPLE ID	HEPTACHLOR EPOXIDE (mg/kg)	INDENO[1,2,3-CD]PYRENE (mg/kg)	METHYLNAPHTHALENE [2-] (mg/kg)	NAPHTHALENE (mg/kg)	PHENANTHRENE (mg/kg)	PYRENE (mg/kg)
SAL	0.049	0.61	n/a	800	n/a	2000
0100-95-0451	0.0031	0.084(J)	–	–	0.16(J)	0.36
0100-95-0452	0.0025	0.29(J)	0.11(J)	0.47	1.5	1.3
0100-95-0453	–	–	–	–	–	–

[a] EQL = Estimated quantitation limit.
[b] SAL = Screening action level.
[c] N/A = Not available.
[d] (J) = Estimated quantity.
[e] DDD = Dichlorodiphenylethane.
[f] DDT = Dichlorotriphenylethane.

5.3.7 Human Health Assessment

5.3.7.1 Human Health Screening Assessment

Five metals and all detected organics were carried forward from the background and EQL comparisons. All five metals were analyzed by XRF in the MCAL; a method of analyses more conservative than the ICP method used by fixed laboratories (See Section 1.3.5).

Lead, benzo(a)pyrene, and dibenzo(a,h)anthracene, were detected at concentrations above their respective SALs. All are retained as COPCs. Concentrations above SAL for these chemicals are shown in Table 5.3.7-1 and in Fig. 5.3.7-1.

TABLE 5.3.7-1

CHEMICALS WITH CONCENTRATIONS EXCEEDING SALs FOR PRS 0-033(b)

LOCATION ID	SAMPLE ID	BENZO[A] PYRENE (mg/kg)	DIBENZO(A,H) ANTHRACENE (mg/kg)	LEAD (mg/kg)
SAL[a]	n/a[b]	0.061	0.061	400
00-04227	0100-95-0451	0.14 (J)[c]	–	–[d]
00-04228	0100-95-0452	0.45	0.1 (J)	–
00-04229	0100-95-0453	–	–	1 492

[a] SAL = Screening action level.
[b] n/a = Not applicable.
[c] (J) = Estimated quantity.
[d] – = Analyte not detected or detected at contrations less than SAL.

Chemicals that were detected at concentrations below their respective SALs were evaluated for multiple chemical effects, as described in Section 3.4.1. MCEs are performed separately for two classes of chemicals: noncarcinogens and carcinogens. The MCE is presented in Table 5.3.7-2.

TABLE 5.3.7-2

MULTIPLE CHEMICAL EVALUATION (MCE) FOR PRS 0-033(b)

CHEMICAL	SAL[a] (mg/kg)	SAMPLE VALUE (mg/kg)	NORMALIZED VALUE
NONCARCINOGENS			
Acenaphthene	360	0.074	0.0002
Anthracene	19	0.18	0.009
Barium	5 300	1164	0.2
Butyl benzyl phthalate	13 000	0.053	0.000004
Copper	2 800	49.2	0.02
Di-n-butyl phthalate	6 500	0.13	0.00002
Dibenzofuran	260	0.17	0.0007
Fluoranthene	2 600	1.5	0.0006
Fluorene	300	0.15	0.0005
Naphthalene	800	0.47	0.0006
Nickel	1 500	25.3	0.02
Pyrene	2 000	1.3	0.0007
Zinc	23 000	391	0.02
		NORMALIZED SUM	**0.3**
CARCINOGENS			
Benzo[a]anthracene	0.61	0.47	0.8
Benzo[b]fluoranthene	0.61	0.52	0.9
Benzo[k]fluoranthene	6.1	0.49	0.08
Bis(2-ethylhexyl)phthalate	32	0.2	0.006
Chlordane [alpha-]	0.34	0.078	0.2
Chlordane [gamma-]	0.34	0.079	0.2
Chrysene	24	0.69	0.03
DDD[b] [p,p'-]	1.9	0.0075	0.004
Heptachlor epoxide	0.049	0.0031	0.06
Indeno[1,2,3-cd]pyrene	0.61	0.29	0.5
		NORMALIZED SUM	**2.8**

[a] SAL = Screening action level.
[b] DDD = Dichlorodiphenyldichloroethane.

The results of the MCE were less than one for noncarcinogens (0.3), indicating that adverse human health effects from exposure are unlikely. Therefore, noncarcinogens with concentrations below their respective SALs are eliminated as COPCs. Carcinogens, however, were above a normalized sum of 1 at 2.8. All carcinogens with normalized values greater than 0.1 are therefore retained as COPCs. These carcinogens are: benzo(a)anthracene, benzo[b]fluoranthene, alpha-chlordane, gamma-chlordane, and indeno[1,2,3-cd]pyrene.

Three PAHs that have no SAL [benzo(g,h,i)perylene, 2-methylnaphthalene, and phenanthrene] were also detected in conjunction with the other PAHs. Because several other PAHs are already retained as COPCs, no further evaluation of these three PAHs was conducted.

5.3.7.2 Risk Assessment

RFI risk assessment has not been performed for this PRS.

5.3.8 Ecological Assessment

5.3.8.1 Ecotoxicological Screening Assessment

PRS 0-033(b) is located on East Mesa in the Los Alamos townsite. Because the mesa top has heavy commercial development and urban disturbance from the townsite, biological surveys were not performed for this area. The preurban natural overstory for the mesa was a ponderosa pine community. The habitats on the mesa top can be characterized as man-made urban plant and animal communities and therefore do not need to be addressed further from the ecotoxicological screening perspective.

5.3.8.2 Ecological Risk Assessment

No ecological risk assessment was performed for PRS 0-033(b).

5.3.9 Extent of Contamination

Phase I sampling at PRS 0-033(b) did not determine extent of contamination.

5.3.10 Conclusions and Recommendations

The results of the screening assessment for PRS 0-033(b) show that several COPCs are present at concentrations above SAL, and the MCE for carcinogens is greater than one. These concentrations indicate the potential for adverse human health effects. Therefore, PRS 0-033(b) is recommended for VCA. Lead, pesticides, and PAHs are the chemicals of concern. A VCA plan will be submitted for this site at a later date.

5.4 PRS 0-010(b)

5.4.1 History

PRS 0-010(b) is a purported excavation to the east of the 6th street warehouses 1-4, as described in the RFI Work Plan for OU 1071 (LANL 1994, 0781). Aerial photographs taken in 1946 were observed during the archival research (the location appears as a dark area). During preparation of the RFI work plan, it was assumed that if an excavation existed adjacent to a warehouse building, it may have been used for some sort of waste disposal activity. However, no evidence of a waste disposal pit was available (LANL 1992, 0781).

During the field preparation process, two aerial photos from November and December 1946 were closely examined and revealed no evidence of an excavation in the area as previously concluded during the RFI. Furthermore, no records or data were discovered suggesting that such an excavation existed or was used for waste disposal purposes. A visual survey of the area also revealed no clues as to the existence of a former excavation. Based on this lack of concrete evidence, it is highly probable that this excavation never existed.

5.4.2 Description

Because it is highly probable that PRS 0-010(b) never existed, this section does not apply.

5.4.3 Previous Investigations

There were no previous investigations associated with this site.

5.4.4 Field Investigation

As previously discussed in Subsection 5.4.1., there was a total lack of historical or current information regarding the location of the reported excavation. The initial site survey revealed no depression in the area nor any exposed debris that might indicate a former disposal area. Because of the major confluence of natural gas pipelines, chain link fences, and sewer pipelines, geophysical anomalies would have been unlikely due to these probable interferences. These buried utility lines would also have made drilling a very risky proposition and excavating with a backhoe highly inadvisable. Without some concrete evidence that the excavation actually existed, there was little purpose in conducting further field investigation activities that had a low probability of success and a relatively high probability of property damage or personal injury.

5.4.5 Screening Assessment

Because it is highly probable that PRS 0-010(b) never existed, this section does not apply.

5.4.6 Evaluation of Organics

Because it is highly probable that PRS 0-010(b) never existed, this section does not apply.

5.4.7 Human Health Screening Assessment

Because it is highly probable that PRS 0-010(b) never existed, there was no human health screening assessment associated with this site. Therefore, this section does not apply.

5.4.8 Ecological Assessment

Because it is highly probable that PRS 0-010(b) never existed, there was no ecological assessment associated with this site. Therefore, this section does not apply.

5.4.9 Extent of Contamination

Because it is highly probable that PRS 0-010(b) never existed, this section does not apply.

5.4.10 Conclusions and Recommendations

The evidence for listing this supposed excavation as a PRS in the first place was insufficient, consisting of nothing more than an interpretation of a single aerial photograph that now cannot be found. Two aerial photos taken in the same year as the original photo show no evidence of an excavation. Given the nature of the location and the lack of evidence for its existence, it is recommended that this PRS be proposed for NFA.

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APPENDIX A ANALYTICAL DATA

All analytical data are available in the Facility for Information Management, Analysis, and Display (FIMAD). If FIMAD is not accessible, data will be provided upon request. A hard copy of the data is available from Records Processing Facility (RPF) under "Analytical Data for the Phase I Investigation for TA-0, PRSs 0-030(b), 0-004, 0-033(b), and 0-010(b).

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APPENDIX B DATA QUALITY EVALUATION TABLE

TABLE B-1

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
RAD[a]	985	0100-95-0479	Soil	Plutonium-239 qualified "J"[b] for high % RDP[c] for duplicate analysis.
RAD	1256	0100-95-0684	Soil	All data valid without qualification (tracer recovery low for americium-241, however, within control limits for duplicate analysis.
RAD	1496	0100-95-0716	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1496	0100-95-0717	Soil	Americium-241 qualified "J" for low tracer recovery. Tritium qualified "J" for low spike recovery.
RAD	1496	0100-95-0718	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1496	0100-95-0719	Soil	Americium-241 qualified "R"[d] for low tracer recovery <10%.
RAD	1507	0100-95-0721	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1507	0100-95-0722	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1507	0100-95-0723	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1507	0100-95-0724	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1507	0100-95-0725	Soil	Americium-241 qualified "R" for tracer recovery <10%.
RAD	1516	0100-95-0726	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1516	0100-95-0727	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1516	0100-95-0728	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1516	0100-95-0729	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1516	0100-95-0730	Soil	Americium-241 qualified "R" for tracer recovery <10%.
RAD	1516	0100-95-0731	Soil	Americium-241 qualified "J" for low tracer recovery.

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
RAD	1516	0100-95-0732	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1516	0100-95-0733	Soil	Americium-241 qualified "J" for low tracer recovery.
RAD	1516	0100-95-0734	Soil	Americium-241 qualified "R" for tracer recovery <10%.
RAD	1516	0100-95-0735	Soil	Americium-241 qualified "J" for low tracer recovery.
TAL[e] metals	984	0100-95-0479	Soil	Aluminum, arsenic, calcium, iron, lead, magnesium, manganese, molybdenum, potasium, silver, and zinc qualified "-J"[f] for low recovery of matrix spike sample. Uranium qualified "+J"[g] for high recovery of matrix spike sample. Antimony and selenium qualified as "UJ" for low recovery of matrix spike sample.
TAL metals	1478	0100-95-0704	Soil	Mercury qualified "+J" for high recovery of matrix spike sample and high % RPD for duplicate sample. Selenium qualified "UJ" for low recovery of matrix spike sample. Calcium qualified "J" for high % RPD for duplicate sample.
TAL metals	1478	0100-95-0705	Soil	Mercury qualified "+J" for high recovery of matrix spike sample and high % RPD for duplicate sample. Selenium qualified "UJ" for low recovery of matrix spike sample. Calcium qualified "J" for high % RPD for duplicate sample.
TAL metals	1478	0100-95-0706	Soil	Mercury qualified "+J" for high recovery of matrix spike sample and high % RPD for duplicate sample. Selenium qualified "UJ" for low recovery of matrix spike sample. Calcium qualified "J" for high % RPD for duplicate sample.

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
TAL metals	1478	0100-95-0707	Soil	Mercury qualified "+J" for high recovery of matrix spike sample and high % RPD for duplicate sample. Selenium qualified "UJ" for low recovery of matrix spike sample. Calcium qualified "J" for high % RPD for duplicate sample.
TAL metals	1488	0100-95-0709	Soil	Selenium qualified as "UJ" for low recovery in matrix spike sample. Calcium qualified "J" for high % RSD in duplicate sample.
TAL metals	1488	0100-95-0710	Soil	Selenium qualified as "UJ" for low recovery in matrix spike sample. Calcium qualified "J" for high % RSD in duplicate sample.
TAL metals	1488	0100-95-0712	Soil	Selenium qualified as "UJ" for low recovery in matrix spike sample. Calcium qualified "J" for high % RSD in duplicate sample.
TAL metals	1488	0100-95-0713	Soil	Selenium qualified as "UJ" for low recovery in matrix spike sample. Calcium qualified "J" for high % RSD in duplicate sample.
TAL metals	1488	0100-95-0714	Soil	Selenium qualified as "UJ" for low recovery in matrix spike sample. Calcium qualified "J" for high % RSD in duplicate sample.
TAL metals	1488	0100-95-0715	Soil	Selenium qualified as "UJ" for low recovery in matrix spike sample. Calcium qualified "J" for high % RSD in duplicate sample.
TAL metals	1495	0100-95-0716	Soil	Silver, mercury and zinc qualified "+J" for high recovery in matrix spike sample. Barium qualified "-J" for low recovery in matrix spike sample. Selenium qualified "UJ" for low recovery in matrix spike sample.
TAL metals	1495	0100-95-0717	Soil	Silver, mercury and zinc qualified "+J" for high recovery in matrix spike sample. Barium qualified "-J" for low recovery in matrix spike sample. Selenium qualified "UJ" for low recovery in matrix spike sample.

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
TAL metals	1495	0100-95-0718	Soil	Silver, mercury and zinc qualified "+J" for high recovery in matrix spike sample. Barium qualified "-J" for low recovery in matrix spike sample. Selenium qualified "UJ" for low recovery in matrix spike sample.
TAL metals	1495	0100-95-0719	Soil	Silver, mercury, and zinc qualified "+J" for high recovery in matrix spike sample. Barium qualified "-J" for low recovery in matrix spike sample. Selenium qualified "UJ" for low recovery in matrix spike sample.
TAL metals	1506	0100-95-0721	Soil	Selenium qualified "UJ" for low recovery in matrix spike sample. Barium, copper, and lead qualified "-J" for low recovery in matrix spike sample.
TAL metals	1506	0100-95-0722	Soil	Selenium qualified "UJ" for low recovery in matrix spike sample. Barium, copper, and lead qualified "-J" for low recovery in matrix spike sample.
TAL metals	1506	0100-95-0723	Soil	Selenium qualified "UJ" for low recovery in matrix spike sample. Barium, copper, and lead qualified "-J" for low recovery in matrix spike sample.
TAL metals	1506	0100-95-0724	Soil	Selenium qualified "UJ" for low recovery in matrix spike sample. Barium, copper, and lead qualified "-J" for low recovery in matrix spike sample.
TAL metals	1506	0100-95-0725	Soil	Selenium qualified "UJ" for low recovery in matrix spike sample. Barium, copper, and lead qualified "-J" for low recovery in matrix spike sample.
TAL metals	1515	0100-95-0726	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
TAL metals	1515	0100-95-0727	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0728	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0729	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0730	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0731	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0732	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0733	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0734	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1515	0100-95-0735	Soil	Manganese qualified "+J" for high recovery from matrix spike sample, selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0740	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
TAL metals	1572	0100-95-0741	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0742	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0743	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0744	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0745	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0746	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0749	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0750	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0911	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0912	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1572	0100-95-0913	Soil	Selenium qualified as "UJ" for low recovery from matrix spike sample
TAL metals	1720	0100-96-0001	Soil	Antimony qualified 'UJ' for low recovery in matrix spike sample. Manganese qualified "J" for high % RPD for duplicate sample. Potassiumqualified "J" for high % RPD for serial dilution sample.
Pesticides/PCBs[h]	1497	0100-95-0719	Soil	All target analytes qualified "UJ" for low recovery of surrogate.
Pesticides/PCBs	1514	0100-95-0726	Soil	All analytes are qualified "UJ" because the percent recovery of the surrogate compound was below the LCL.

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
Pesticides/PCBs	1514	0100-95-0730	Soil	All analytes are qualified "UJ" because the percent recovery of the surrogate compound was below the LCL.
VOCsj	1497	0100-95-0716	Soil	Blank contamination caused the EQL to be raised for methylene chloride.
VOCs	1497	0100-95-0717	Soil	Blank contamination caused the EQL to be raised for methylene chloride
VOCs	1497	0100-95-0718	Soil	Blank contamination caused the EQL to be raised for methylene chloride. 23 analytes qualified "UJ" for low internal standard area.
VOCs	1497	0100-95-0719	Soil	Blank contamination caused the EQL to be raised for methylene chloride
VOCs	1505	0100-95-0721	Soil	Tetrachloroethene qualified "J" for low internal standard areas and high recovery of system monitoring compound. Remaining analytes qualified "UJ" for low internal standard areas.
VOCs	1505	0100-95-0722	Soil	All analytes qualified "UJ" for low recovery of system monitoring compound.
VOCs	1505	0100-95-0723	Soil	Tetrachloroethene qualified "J" for high recovery of system monitoring compound.
VOCs	1514	0100-95-0726	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised.
VOCs	1514	0100-95-0727	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised. All target analytes are qualified "UJ" because internal standard areas were above the UCL.
VOCs	1514	0100-95-0728	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised.
VOCs	1514	0100-95-0729	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised.

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
VOCs	1514	0100-95-0730	Soil	Blank contamination caused EQL of methylene chloride to be raised. Because the area count for one internal standard was below the LCL, 17 target analytes are qualified "UJ."
VOCs	1514	0100-95-0731	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised.
VOCs	1514	0100-95-0732	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised.
VOCs	1514	0100-95-0733	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised.
VOCs	1514	0100-95-0735	Soil	Blank contamination caused EQL of methylene chloride and acetone to be raised.
VOCs	1571	0100-95-0740	Soil	All target analytes qualified "J" for low internal standard areas. Blank contamination caused the EQL to be raised for acetone.
VOCs	1571	0100-95-0741	Soil	Blank contamination caused the EQL to be raised for methylene chloride.
VOCs	1571	0100-95-0742	Soil	Blank contamination caused the EQL to be raised for methylene chloride.
VOCs	1571	0100-95-0743	Soil	Blank contamination caused the EQL to be raised for methylene chloride and acetone.
VOCs	1571	0100-95-0744	Soil	Blank contamination caused the EQL to be raised for methylene chloride and acetone.
VOCs	1571	0100-95-0745	Soil	Blank contamination caused the EQL to be raised for methylene chloride and acetone.
VOCs	1571	0100-95-0746	Soil	Blank contamination caused the EQL to be raised for methylene chloride.
VOCs	1571	0100-95-0749	Soil	Blank contamination caused the EQL to be raised for methylene chloride and acetone.

TABLE B-1 (CONTINUED)

DATA QUALITY EVALUATION FOR PRS 0-030(b)

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
VOCs	1571	0100-95-0750	Soil	Blank contamination caused the EQL to be raised for methylene chloride and acetone.
VOCs	1571	0100-95-0911	Soil	Blank contamination caused the EQL to be raised for methylene chloride and acetone.
VOCs	1571	0100-95-0912	Soil	Blank contamination caused the EQL to be raised for acetone.

[a] RAD = Radionuclides.
[b] "J" = Estimated quantity.
[c] RDP = Relative percent difference.
[d] "R" = Rejected data.
[e] TAL = Target Analyte list.
[f] "-J" = Low biased estimated quantity.
[g] "+J" = High biased estimated quantity.
[h] PCBs = Polychlorinated biphenyls.
[i] LCL = Lower control limits.
[j] VOCs = Volatile organic compounds.
[k] EQL = Estimated quantitation limit.

TABLE B-2

DATA QUALITY EVALUATION FOR PRS 0-004

ANALYTE SUITE	REQUEST NUMBER	SAMPLE ID	MATRIX	QUALITY CONTROL (QC) COMMENTS
SVOCs[a]	822	0100-95-0517	Soil	Seven analytes qualified "U[b]J[c]" for low internal standard area.
SVOCs	822	0100-95-0518	Soil	Seven analytes qualified "UJ" for low internal standard area.
Pesticides/PCBs[d]	822	0100-95-0518	Soil	All analytes qualified "UJ" for low surrogate recovery.

[a] SVOCs = Semivolatile organic compounds.
[b] "U" = Undetected quantity.
[c] "J" = Estimated quantity.
[d] PCBs = Polychlorinated biphenyls.

DATA QUALITY EVALUATION FOR PRS 0-033(b)

All data for PRS 0-033(b) were valid without exception.

APPENDIX C FIELD SCREENING RESULTS

TABLE C-1

PRS 0-030(b) FIELD SCREENING RESULTS

SAMPLE ID	PID[a] (ppm)[b]	ALPHA (cpm)[c]	BETA/GAMMA (cpm)	CGI [d] (% LEL)[e]	OXYGEN (%)
0100-95-0468	0	NDA[f]	100	0	20.3
0100-95-0471	0	NDA	100	0	20.3
0100-95-0472	0	NDA	100	0	20.3
0100-95-0473	0	NDA	90	0	20.4
0100-95-0475	0	NDA	100	0	20.3
0100-95-0478	0	NDA	100	0	20.4
0100-95-0479	0	NDA	NDA	NA[g]	NA
0100-95-0484	0	NDA	NDA	NA	NA
0100-95-0485	0	NDA	NDA	NA	NA
0100-95-0487	0	NDA	NDA	NA	NA
0100-95-0488	0	NDA	NDA	NA	NA
0100-95-0489	0	NDA	NDA	NA	NA
0100-95-0491	0	NDA	NDA	NA	NA
0100-95-0684	0	NDA	100	NA	NA
0100-95-0685	0	NDA	100	NA	NA
0100-95-0686	0	NDA	100	NA	NA
0100-95-0687	0	NDA	100	NA	NA
0100-95-0688	0	NDA	100	NA	NA
0100-95-0689	0	NDA	100	NA	NA
0100-95-0704	0	NDA	NDA	NA	NA
0100-95-0705	0	NDA	NDA	NA	NA
0100-95-0706	0	NDA	NDA	NA	NA
0100-95-0707	0	NDA	NDA	NA	NA
0100-95-0708	0	NDA	NDA	NA	NA
0100-95-0709	0	NDA	NDA	NA	NA
0100-95-0710	0	NDA	NDA	NA	NA
0100-95-0711	0	NDA	NDA	NA	NA
0100-95-0712	0	NDA	NDA	NA	NA
0100-95-0713	0	NDA	NDA	NA	NA
0100-95-0714	0	NDA	NDA	NA	NA
0100-95-0715	0	NDA	NDA	NA	NA
0100-95-0716	0	NDA	NDA	NA	NA
0100-95-0717	0	NDA	NDA	NA	NA
0100-95-0718	0	NDA	NDA	NA	NA

TABLE C-1 (CONTINUED)

PRS 0-030(b) FIELD SCREENING RESULTS

SAMPLE ID	PID[a] (ppm)[b]	ALPHA (cpm)[c]	BETA/GAMMA (cpm)	CGI [d] (% LEL)[e]	OXYGEN (%)
0100-95-0719	0	NDA	NDA	NA	NA
0100-95-0720	0	NDA	NDA	NA	NA
0100-95-0721	0	NDA	NDA	NA	NA
0100-95-0722	0	NDA	NDA	NA	NA
0100-95-0723	0	NDA	NDA	NA	NA
0100-95-0724	0	NDA	NDA	NA	NA
0100-95-0725	0	NDA	NDA	NA	NA
0100-95-0726	0	NDA	NDA	NA	NA
0100-95-0727	0	NDA	NDA	NA	NA
0100-95-0728	0	NDA	NDA	NA	NA
0100-95-0729	0	NDA	NDA	NA	NA
0100-95-0730	0	NDA	NDA	NA	NA
0100-95-0731	0	NDA	NDA	NA	NA
0100-95-0732	0	NDA	NDA	NA	NA
0100-95-0733	0	NDA	NDA	NA	NA
0100-95-0734	0	NDA	NDA	NA	NA
0100-95-0735	0	NDA	NDA	NA	NA
0100-95-0740	0	NDA	NDA	NA	NA
0100-95-0741	0	NDA	NDA	NA	NA
0100-95-0742	0	NDA	NDA	NA	NA
0100-95-0743	0	NDA	NDA	NA	NA
0100-95-0744	0	NDA	NDA	NA	NA
0100-95-0745	0	NDA	NDA	NA	NA
0100-95-0746	0	NDA	NDA	NA	NA
0100-95-0749	0	NDA	NDA	NA	NA
0100-95-0750	0	NDA	NDA	NA	NA
0100-95-0911	0	NDA	NDA	NA	NA
0100-95-0912	0	NDA	NDA	NA	NA
0100-95-0913	0	NDA	NDA	NA	NA
0100-96-0001	0	0	163	NA	NA
0100-96-0002	0	0	175	NA	NA
0100-96-0003	0	0	185	NA	NA
0100-96-0004	0	0	190	NA	NA

[a] PID = Photoionization detector.
[b] ppm = Parts per million.
[c] cpm = Counts per minute.
[d] CGI = Combustible gas indicator.
[e] LEL = Lower explosive limit.
[f] NDA = No detectable activity.
[g] NA = Not analyzed.

TABLE C-2

PRS 0-004 FIELD SCREENING RESULTS

SAMPLE ID	PID[a] (ppm)[b]	ALPHA (cpm)[c]	BETA/GAMMA (cpm)	CGI[d] (% LEL)[e]	OXYGEN (%)
0100-95-0457	0	NDA[f]	90	0	20.4
0100-95-0515	0	0	85	NA	NA
0100-95-0516	NA	DA	110	NA	NA
0100-95-0517	NA[g]	NDA	100	NA	NA
0100-95-0518	NA	NDA	100	NA	NA

[a] PID = Photoionization detector.
[b] ppm = Parts per million.
[c] cpm = Counts per million.
[d] CGI = Combustible gas indicator.
[e] LEL = Lower explosive limit.
[g] NDA = No detectable activity.
[f] NA = Not analyzed.

TABLE C-3

PRS 0-030(b) FIELD SCREENING RESULTS

SAMPLE ID	PID[a] (ppm)[b]	ALPHA (cpm)[c]	BETA/GAMMA (cpm)	CGI[d] (% LEL)[e]	OXYGEN (%)
0100-95-0451	0	0	90	0	20.3
0100-95-0452	0	0	90	NA[f]	NA
0100-95-0453	0	0	85	NA	NA

[a] PID = Photoionization detector.
[b] ppm = Parts per million.
[c] cpm = Counts per million.
[d] CGI = Combustible gas indicator.
[e] LEL = Lower explosive limit.
[f] NA = Not analyzed.

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APPENDIX D SAMPLE DATA TABLES

The following chemical analyses data tables provide all data for all samples with one or more analytes greater than background screening values. The organic analyses tables provide all data for all samples with one or more analytes greater than the estimated quantitation limit (EQL). To review tables showing only those concentrations of inorganic and radionuclide analytes greater than background screening values and concentrations of organic analytes greater than EQLs, see Section 5.0 of this RFI Report. Samples with analyte concentrations greater than screening action levels (SALs) are also presented in Section 5.0.

TABLE D-1

INORGANICS WITH CONCENTRATIONS GREATER THAN BACKGROUND SCREENING VALUES FOR PRS 0-030(b)

ANALYTE	ANTIMONY (mg/kg)	BARIUM (mg/kg)	BERYLLIUM (mg/kg)	CALCIUM (mg/kg)	CHROMIUM (mg/kg)	COPPER (mg/kg)	LEAD (mg/kg)	MANGANESE (mg/kg)	MERCURY (mg/kg)	SILVER (mg/kg)	URANIUM (mg/kg)	ZINC (mg/kg)
UTL[a]	1	315	1.95	6 120	19.3	15.5	23.3	714	0.1	N/A[b]	5.45	50.8
SAL[c]	31	5 300	N/A	N/A	211	2 800	400	N/A	23	380	230	23 000
0100-95-0479	0.25(B)[d,e]	251[e]	1.7	2 510[e]	21.1[e]	77.2[e]	169[e]	110[e]	8.4	32.9177[e]	8.8[e]	110[e]
0100-95-0485	NA[f]	NA	NA	NA	NA	NA	NA	NA	0.044[e]	NA	NA	NA
0100-95-0704	5.651	101[e]	0.715[e]	3 690[e]	9.63[e]	6.73[e]	21.11[e]	308[e]	0.653[e]	0.567(U)[g]	2.35[e]	63.7[e]
0100-95-0705	5.71(U)	108	0.718	4 030	8.21	6.26	15.5	329	0.056(U)	0.571(U)	3.31	32.6
0100-95-0706	6.38(U)	90.6	0.789	2 070	8.83	5.45	25.4	372	0.064(U)	0.638(U)	3.69	37.8
0100-95-0707	6.46(U)	82.4	0.764	2 010	8.29	5.63	15.4	310	0.079(B)	0.646(U)	3.47	44.4
0100-95-0709	5.73(U)	119	0.81	2 500	15.3	6.3	12.2	357	0.06(U)	0.573(U)	3.18	35.9
0100-95-0710	6.26(U)	105	0.795	2 990	8.6	6.2	21.8	335	0.062(U)	0.63(U)	3.66	52.2
0100-95-0712	6(U)	107	0.82	2 890	9.1	7	15.5	326	0.072(B)	0.6(U)	3.25	35.8
0100-95-0713	5.91(U)	113	0.81	2 430	8.6	9.42	12.8	340	0.092(B)	0.711(B)	3.69	38.6
0100-95-0714	6.41(U)	69.9	0.71	3 030	9.1	6.6	15.2	302	0.07(U)	0.641(U)	3.93	33.9
0100-95-0715	5.44(U)	92.1	0.65	9 170	6.3	4.7	8.43	411	0.06(U)	0.544(U)	2.99	42
0100-95-0716	5.84[e](U)	263[e]	1.87[e]	4 430[e]	10.7[e]	14.8[e]	30.5[e]	346[e]	0.468	13.8[e]	4.57	87.2[e]
0100-95-0717	5.76(U)	126	1.63	2 930	10.2	9.98	28.5	257	0.239	13.3	2.93	53.9
0100-95-0718	5.52(U)	84.2	0.655	2 920	10.1	7.93	17.8	189	0.642	4.57	4.4	41.6
0100-95-0719	5.6	99.8	0.45(B)	2 590	6.03	6.43	14.3	321	0.068(B)	1.08	3.75	31.1
0100-95-0721	5.7071	440[e]	0.565(B)	11 500[e]	20.291[e]	113[e]	123.46[e]	263[e]	5.2(J)	48.8[e]	3.32	268[e]
0100-95-0722	5.6(U)	81.3	0.462(B)	3 980	5.56	8.04	8.4	248	0.069(B)	1.37	3.15	36.3
0100-95-0723	5.73(U)	95.9	0.521(B)	4 660	6.66	8.06	7.12	308	0.07(B)	0.761(B)	3.2	42.7
0100-95-0724	6.34(U)	133	0.507(U)	3 320	6.86	6.63	10.3	274	0.061(U)	0.634(U)	2.96	25.2
0100-95-0725	6.38(U)	127	0.51(U)	2 940	6	5.61	6.79	415	0.063(U)	0.638(U)	2.8	24.4

TABLE D-1 (CONTINUED)

INORGANICS WITH CONCENTRATIONS GREATER THAN BACKGROUND SCREENING VALUES FOR PRS 0-030(b)

ANALYTE	ANTIMONY (mg/kg)	BARIUM (mg/kg)	BERYLLIUM (mg/kg)	CALCIUM (mg/kg)	CHROMIUM (mg/kg)	COPPER (mg/kg)	LEAD (mg/kg)	MANGANESE (mg/kg)	MERCURY (mg/kg)	SILVER (mg/kg)	URANIUM (mg/kg)	ZINC (mg/kg)
UTL	1	315	1.95	6 120	19.3	15.5	23.3	714	0.1	N/A	5.45	50.8
SAL	31	5 300	N/A	N/A	211	2 800	400	N/A	23	380	230	23 000
0100-95-0726	6.5	125[e]	0.67	2 882[e]	9.2[e]	6	11.7[e]	252[e]	0.06(U)	0.65(U)	2.6[e]	35.4[e]
0100-95-0727	6.9(U)	120	0.76	2 580	8.6	6	10.7	238	0.07(U)	0.69(U)	2.68	31.3
0100-95-0728	6.7(U)	301	0.67	3 170	8.3	5.6	10.9	258	0.07(B)	0.67(U)	3.51	32.1
0100-95-0729	5.8(U)	136	0.6	2 120	8.9	5.6	15	624	0.06(B)	0.58(U)	2.51	34.5
0100-95-0730	5.9(U)	99.7	0.65	2 060	10.3	4.7	14.3	298	0.06(B)	0.59(U)	3.1	32.3
0100-95-0731	5.8(U)	101	0.69	2 410	8.7	5.5	13	370	0.06(U)	0.58(U)	2.67	31.9
0100-95-0732	5.5(U)	110	0.8	2 840	9.7	5.9	19.1	319	0.05(U)	0.55(U)	2.72	40.6
0100-95-0733	5.9(U)	117	0.61	2 580	9.1	5.7	13.1	316	0.06(U)	0.59(U)	2.63	36.1
0100-95-0734	5.7(U)	118	0.6	2 450	9.2	5.5	15.7	261	0.06(U)	0.57(U)	2.73	36.2
0100-95-0735	5.5(U)	146	0.57	2 600	12.9	7	16.8	375	0.05(U)	0.55(U)	2.19	36.2
0100-95-0740	5.6(U)	86.8	0.47(B)	2 210	5.7	6.9	15.9	283	0.45	3.9	3.8a	37.8
0100-95-0741	5.3(U)	27.1	0.43(U)	879	4.5	2.5(B)	4.7	205	0.07(B)	0.53(U)	2.73	31.7
0100-95-0742	5.6(U)	36.9	0.45(U)	2 650	4.9	2.7(B)	7.7	234	0.06(U)	0.56(U)	2.11	35.2
0100-95-0743	5.6(U)	74.8	0.52(B)	1 280	6	4.7	9.4	329	0.06(U)	0.56(U)	3.05	17
0100-95-0744	6.2(U)	97.3	0.5(U)	2 000	6.6	5.5	9.5	233	0.06(U)	0.62(U)	3.14	29.2
0100-95-0745	6.4(U)	121	0.77	2 510	9.4	7.7	24.5	214	0.07(U)	0.64(U)	3	34.4
0100-95-0746	6.9(U)	112	0.67(B)	4 440	6.7	6.2	17.3	713	0.07(U)	0.69(U)	3.15	33.3
0100-95-0749	6.3(U)	172	0.58(B)	2 700	8.9	9.4	14.5	951	0.06(U)	0.63(U)	2.71	29.2
0100-95-0750	5.8(U)	120	0.64	3 070	9.1	6.3	12.6	419	0.06(U)	0.58(U)	3.1	25.4
0100-95-0911	6.7(U)	165	1	3 710	7.2	6.9	11.8	204	0.07(U)	0.67(U)	2.7	25.1
0100-95-0912	6.2(U)	157	0.5(U)	3 580	7	6.6	11.4	236	0.06(U)	0.62(U)	2.67	25.2
0100-95-0913	6.6(U)	129	0.6(B)	3 240	8.2	9.8	12.3	195	0.066	0.66(U)	2.89	26.8

TABLE D-1 (CONTINUED)

INORGANICS WITH CONCENTRATIONS GREATER THAN BACKGROUND SCREENING VALUES FOR PRS 0-030(b)

ANALYTE	ANTIMONY (mg/kg)	BARIUM (mg/kg)	BERYLLIUM (mg/kg)	CALCIUM (mg/kg)	CHROMIUM (mg/kg)	COPPER (mg/kg)	LEAD (mg/kg)	MANGANESE (mg/kg)	MERCURY (mg/kg)	SILVER (mg/kg)	URANIUM (mg/kg)	ZINC (mg/kg)
UTL	1	315	1.95	6 120	19.3	15.5	23.3	714	0.1	N/A	5.45	50.8
SAL	31	5 300	N/A	N/A	211	2 800	400	N/A	23	380	230	23 000
0100-96-0001	0.42	138.69	0.6557(B)	2 437.69	13.07	8.69	20.48	387.20	NA	2.87(B)	NA	47.21
0100-96-0002	12	110	0.72	2 000	7.2	11	46	410	0.12(U)	2.7(U)	NA	61
0100-96-0003	14	350	2.8	4 200	35	57	160	580	6.1	72	NA	300
0100-96-0004	12	120	0.81	2 000	7	9.3	24	380	0.12(U)	2.3(U)	NA	40

[a] UTL = Upper tolerance limit.
[b] N/A = Not applicable.
[c] SAL = Screening action level.
[d] (B) = Analyte detected above above the instrument level of detection but below the estimated quantitation limit (EQL).
[e] Maximum of the reported values for a sample and a laboratory duplicate of that sample.
[f] NA = Not analyzed.
[g] (U) = Undetected quantity.

TABLE D-2

RADIONUCLIDES WITH CONCENTRATIONS GREATER THAN BACKGROUND CONCENTRATIONS FOR PRS 0-030(b)

SAMPLE ID	AMERICIUM-241 (pCi/L)	PLUTONIUM-238 (pCi/L)	PLUTONIUM-239 (pCi/L)	RADIUM-226 (pCi/L)
UTL[a]	0.336	0.014	0.052	N/A[b]
SAL[c]	22	27	24	0.1
0100-95-0479	0.049	0.02	7.232(J)[d]	NA[e]
0100-95-0487	0.004	0.001	0.008	1.68
0100-95-0488	0.003	0.004	0.009	1.83
0100-95-0491	0.034	0.002	0.056	NA
0100-95-0684	0.018	0.0158	0.45	3.33
0100-95-0685	0.0473	0.02	2.25	4.2
0100-95-0687	0.014	0.003	0.004	1.27
0100-95-0688	0.025	0.01	0.12	1.19
0100-95-0689	0.014	0.009	0.086	2.65
0100-95-0704	0.003	0.001	0.001	4.29
0100-95-0705	0.006	0.001	0.044	4.84
0100-95-0706	0.004	0.002	0.024	4.45
0100-95-0707	0.016	0.005	0.03	5.41
0100-95-0709	0.005	0.002	0.052	4.83
0100-95-0710	0.006	0.002	0.039	4.58
0100-95-0712	0.004	0.001	0.078	4.85
0100-95-0713	0.006	0.001	0.179	5.89
0100-95-0714	0.002	NA	NA	6.54
0100-95-0715	0.004	0.001	0	5.84
0100-95-0721	0.081	0.009	0.953	NA

TABLE D-2 (CONTINUED)

RADIONUCLIDES WITH CONCENTRATIONS GREATER THAN BACKGROUND CONCENTRATIONS FOR PRS 0-030(b)

SAMPLE ID	AMERICIUM-241 (pCi/L))	PLUTONIUM-238 (pCi/L)	PLUTONIUM-239 (pCi/L)	RADIUM-226 (pCi/L)
UTL	0.336	0.014	0.052	N/A
SAL	22	27	24	0.1
0100-95-0722	0.064	0	0.098	NA
0100-95-0723	0.015	0	0.083	NA
0100-95-0724	0.345	0.1	0.11	NA
0100-95-0732	0.466	NA	NA	NA
0100-95-0734	0.963	NA	NA	NA
0100-95-0740	0.026	0.0001	0.219	NA
0100-96-0001	0	0.03	0.08	3.23

[a] UTL = Upper tolerance limit.
[b] N/A = Not applicable.
[c] SAL = Screening action level.
[d] (J) = Estimated quantity
[e] NA = Not analyzed.

TABLE D-3

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

SAMPLE ID	1,2,4-TRIMETHYLBENZENE (mg/kg)	1,2-DICHLOROETHYLENE (CIS) (mg/kg)	1,2-DICHLOROETHYLENE (TRANS) (mg/kg)	1,3,5-TRIMETHYLBENZENE (mg/kg)	1,4-DICHLOROBENZENE (mg/kg)	1314 XYLENE (mg/kg)	2-BUTANONE (mg/kg)
SAL[b]	8	59	170	6.4	7.4	N/A[c]	8 700
0100-95-0472	NA[d]	NA	NA	NA	0.35(U)[e]	NA	NA
0100-95-0473	NA	NA	NA	NA	0.35(U)	NA	NA
0100-95-0478	NA	NA	NA	NA	0.35(U)	NA	NA
0100-95-0479	NA	NA	NA	NA	0.36(U)	NA	NA
0100-95-0487	NA	NA	NA	NA	0.36(U)	NA	NA
0100-95-0488	NA	NA	NA	NA	0.36(U)	NA	NA
0100-95-0489	NA	NA	NA	NA	0.35(U)	NA	NA
0100-95-0491	NA	NA	NA	NA	0.36(U)	NA	NA
0100-95-0684	NA	NA	NA	NA	0.35(U)	NA	NA
0100-95-0685	NA	NA	NA	NA	0.36(U)	NA	NA
0100-95-0687	NA	NA	NA	NA	0.4(U)	NA	NA
0100-95-0688	NA	NA	NA	NA	0.36(U)	NA	NA
0100-95-0689	NA	NA	NA	NA	0.36(U)	NA	NA
0100-95-0704	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.38(U)	NA	0.023(U)
0100-95-0705	0.003(J)[f]	0.006(U)	0.006(U)	0.006(U)	0.1	NA	0.025(U)
0100-95-0706	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.4(U)	NA	0.024(U)
0100-95-0707	0.14	0.033(U)	0.033(U)	0.066	1	NA	0.015(J)
0100-95-0709	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.38(U)	NA	0.023(U)
0100-95-0710	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.007	NA	0.025(U)
0100-95-0711	NA	NA	NA	NA	0.42(U)	NA	NA
0100-95-0712	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.43(U)	NA	0.026(U)
0100-95-0713	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.4(U)	NA	0.024(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	1,2,4-TRIMETHYLBENZENE (mg/kg)	1,2-DICHLOROETHYLENE (CIS) (mg/kg)	1,2-DICHLOROETHYLENE (TRANS) (mg/kg)	1,3,5-TRIMETHYLBENZENE (mg/kg)	1,4-DICHLOROBENZENE (mg/kg)	1314 XYLENE (mg/kg)	2-BUTANONE (mg/kg)
SAL	8	59	170	6.4	7.4	N/A	8 700
0100-95-0714	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.41(U)	NA	0.025(U)
0100-95-0715	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.37(U)	NA	0.023(U)
0100-95-0716	0.006(UJ)	0.006(U)	0.006(U)	0.006(U)	0.006(UJ)	NA	0.022(U)
0100-95-0717	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.38(U)	NA	0.022(U)
0100-95-0718	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.37(U)	NA	0.022(U)
0100-95-0719	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.38(U)	NA	0.022(U)
0100-95-0721	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.35(U)	NA	0.022(U)
0100-95-0722	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.36(U)	NA	0.022(U)
0100-95-0723	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.38(U)	NA	0.022(U)
0100-95-0724	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.39(U)	NA	0.024(U)
0100-95-0725	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.4(U)	NA	0.024(U)
0100-95-0726	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.42(U)	0.006(U)	0.026(U)
0100-95-0727	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.43(U)	0.006(U)	0.024(U)
0100-95-0728	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.43(U)	0.006(U)	0.026(U)
0100-95-0729	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.39(U)	0.006(U)	0.022(U)
0100-95-0730	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.4(U)	0.006(U)	0.024(U)
0100-95-0731	0.006(U)	0.006(U)	0.006(U)	0.006(U	0.41(U)	0.006(U)	0.026(U)
0100-95-0732	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.37(U)	0.006(U)	0.024(U)
0100-95-0733	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.39(U)	0.006(U)	0.026(U)
0100-95-0734	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.39(U)	0.006(U)	0.022(U)
0100-95-0735	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.4(U)	0.006(U)	0.022(U)
0100-95-0740	0.006(U)	0.006(U)	0.006(U)	0.006(U)	1.8(U)	0.006(U)	0.022(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	1,2,4-TRIMETHYLBENZENE (mg/kg)	1,2-DICHLOROETHYLENE (CIS) (mg/kg)	1,2-DICHLOROETHYLENE (TRANS) (mg/kg)	1,3,5-TRIMETHYLBENZENE (mg/kg)	1,4-DICHLOROBENZENE (mg/kg)	1314 XYLENE (mg/kg)	2-BUTANONE (mg/kg)
SAL[b]	8	59	170	6.4	7.4	N/A[c]	8 700
0100-95-0741	0.005(U)	0.005(U)	0.005(U)	0.005(J)	0.37(U)	0.005(U)	0.02(U)
0100-95-0742	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.38(U)	0.006(U)	0.022(U)
0100-95-0743	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.37(U)	0.006(U)	0.022(U)
0100-95-0744	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.019	0.006(U)	0.026(U)
0100-95-0745	0.006(U)	0.002(J)	0.003(J)	0.006(U)	0.44(U)	0.006(U)	0.026(U)
0100-95-0746	0.004(J)	0.006(U)	0.006(U)	0.006(U)	0.025	0.004(U)	0.026(U)
0100-95-0749	0.039	0.002(J)	0.006(U)	0.013	0.11	0.006(J)	0.024(U)
0100-95-0750	0.006(U)	0.006(U)	0.006(U)	0.006(U)	0.4(U)	0.006(U)	0.024(U)
0100-95-0911	0.006(U)	0.002(J)	0.006(U)	0.006(U)	0.42(U)	0.006(U)	0.022(U)
0100-95-0912	0.002(J)	0.006(U)	0.006(U)	0.006(U)	0.009	0.006(U)	0.026(U)
0100-95-0913	1.1(U)	1.1(U)	1.1(U)	1.1(U)	2.2(U)	1.1(U)	4.4(U)
0100-96-0003	NA	NA	NA	NA	NA	NA	NA
0100-96-0002	NA	NA	NA	NA	NA	NA	NA

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	2-METHYL NAPHTHALENE (mg/kg)	4-ISOPROPYLTOLUENE (mg/kg)	ACENAPHTHYLENE (mg/kg)	ACETONE (mg/kg)	ANTHRACENE (mg/kg)	AROCLOR 1260 (mg/kg)	AZOBENZENE (mg/kg)
SAL	N/A	N/A	N/A	2 000	19	1	4
0100-95-0472	0.35(U)	NA	0.35(U)	NA	0.35(U)	0.0354(U)	0.35(U)
0100-95-0473	0.35(U)	NA	0.35(U)	NA	0.35(U)	0.0348(U)	0.35(U)
0100-95-0478	0.35(U)	NA	0.35(U)	NA	0.35(U)	0.035(U)	0.35(U)
0100-95-0479	0.36(U)	NA	0.36(U)	NA	0.36(U)	0.0819	0.36(U)
0100-95-0487	0.36(U)	NA	0.36(U)	NA	0.36(U)	0.036(U)	0.36(U)
0100-95-0488	0.36(U)	NA	0.36(U)	NA	0.36(U)	0.036(U)	0.36(U)
0100-95-0489	0.35(U)	NA	0.35(U)	NA	0.35(U)	0.0352(U)	0.35(U)
0100-95-0491	0.36(U)	NA	0.36(U)	NA	0.36(U)	0.0364(U)	0.36(U)
0100-95-0684	0.35(U)	NA	0.35(U)	NA	0.35(U)	0.035(U)	0.71(U)
0100-95-0685	0.36(U)	NA	0.36(U)	NA	0.36(U)	0.036(U)	0.73(U)
0100-95-0687	0.4(U)	NA	0.4(U)	NA	0.4(U)	0.04(U)	0.4(U)
0100-95-0688	0.36(U)	NA	0.36(U)	NA	0.36(U)	0.036(U)	0.36(U)
0100-95-0689	0.36(U)	NA	0.36(U)	NA	0.36(U)	0.18(U)	0.36(U)
0100-95-0704	0.38(U)	0.006(J)	0.38(U)	0.023(U)	0.38(U)	0.0379(U)	0.38(U)
0100-95-0705	0.4(U)	0.006(J)	0.4(U)	0.056	0.4(U)	0.0404(U)	0.4(U)
0100-95-0706	0.4(U)	0.006(J)	0.4(U)	0.024(U)	0.4(U)	0.0403(U)	0.4(U)
0100-95-0707	0.53	0.06	0.43(U)	0.079	0.43(U)	0.0433(U)	0.43(U)
0100-95-0709	0.38(U)	0.006(J)	0.38(U)	0.023(U)	0.38(U)	0.0381(U)	0.38(U)
0100-95-0710	0.41(U)	0.006(J)	0.41(U)	0.025(U)	0.41(U)	0.0408(U)	0.41(U)
0100-95-0711	0.42(U)	NA	0.42(U)	NA	0.42(U)	NA	0.42(U)
0100-95-0712	0.43(U)	0.006(J)	0.43(U)	0.026(U)	0.43(U)	0.043(U)	0.43(U)
0100-95-0713	0.4(U)	0.006(J)	0.4(U)	0.024(U)	0.4(U)	0.0404(U)	0.4(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	2-METHYL NAPHTHALENE (mg/kg)	4-ISOPROPYLTOLUENE (mg/kg)	ACENAPHTHYLENE (mg/kg)	ACETONE (mg/kg)	ANTHRACENE (mg/kg)	AROCLOR 1260 (mg/kg)	AZOBENZENE (mg/kg)
SAL	N/A	N/A	N/A	2 000	19	1	4
0100-95-0714	0.41(U)	0.006(J)	0.41(U)	0.025(U)	0.41(U)	0.0414(U)	0.41(U)
0100-95-0715	0.37(U)	0.006(J)	0.37(U)	0.023(U)	0.37(U)	0.0373(U)	0.37(U)
0100-95-0716	0.38(U)	0.006(U)	0.38(U)	0.022(U)	0.38(U)	0.038(U)	0.38(U)
0100-95-0717	0.38(U)	0.006(J)	0.38(U)	0.022(U)	0.38(U)	0.038(U)	0.38(U)
0100-95-0718	0.37(U)	0.006(J)	0.37(U)	0.022(U)	0.37(U)	0.037(U)	0.37(U)
0100-95-0719	0.38(U)	0.006(J)	0.38(U)	0.022(U)	0.06(J)	0.037(U)	0.38(U)
0100-95-0721	0.35(U)	0.006(J)	0.39	0.022(U)	0.25(J)	0.18(U)	0.35
0100-95-0722	0.36(U)	0.006(J)	0.36(U)	0.019(J)	0.36(U)	0.037(U)	0.36(U)
0100-95-0723	0.38(U)	0.006(J)	0.38(U)	0.012(J)	0.085(J)	0.039(U)	0.38
0100-95-0724	0.39(U)	0.006(J)	0.39(U)	0.046	0.39(U)	0.042(U)	0.39
0100-95-0725	0.4(U)	0.006(J)	0.4(U)	0.024(U)	0.4(U)	0.041(U)	0.4
0100-95-0726	0.42(U)	0.006(J)	0.42(U)	0.027	0.42(U)	0.043(U)	0.42(U)
0100-95-0727	0.43(U)	0.006(J)	0.43(U)	0.073	0.43(U)	0.042(U)	0.43(U)
0100-95-0728	0.43(U)	0.006(J)	0.43(U)	0.028	0.43(U)	0.042(U)	0.43(U)
0100-95-0729	0.39(U)	0.006(J)	0.39(U)	0.036	0.038(J)	0.039(U)	0.39(U)
0100-95-0730	0.4(U)	0.006(J)	0.4(U)	0.024(U)	0.4(U)	0.039(U)	0.4(U)
0100-95-0731	0.41(U)	0.006(J)	0.41(U)	0.037	0.41(U)	0.041(U)	0.41(U)
0100-95-0732	0.37(U)	0.006(J)	0.37(U)	0.024(U)	0.37(U)	0.036(U)	0.37(U)
0100-95-0733	0.39(U)	0.006(J)	0.39(U)	0.026(U)	0.39(U)	0.039(U)	0.39(U)
0100-95-0734	0.39(U)	0.006(J)	0.39(U)	0.022(U)	0.39(U)	0.039(U)	0.39(U)
0100-95-0735	0.4(U)	0.006(J)	0.4(U)	0.022(U)	0.4(U)	0.037(U)	0.4(U)
0100-95-0740	1.8(U)	0.006(J)	1.8(U)	0.022(U)	0.19(J)	0.18(U)	1.8(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	2-METHYL NAPHTHALENE (mg/kg)	4-ISOPROPYLTOLUENE (mg/kg)	ACENAPHTHYLENE (mg/kg)	ACETONE (mg/kg)	ANTHRACENE (mg/kg)	AROCLOR 1260 (mg/kg)	AZOBENZENE (mg/kg)
SAL	N/A	N/A	N/A	2 000	19	1	4
0100-95-0741	0.37(U)	0.005(J)	0.37(U)	0.029(B)[9]	0.37(U)	0.037(U)	0.37(U)
0100-95-0742	0.38(U)	0.006(J)	0.38(U)	0.016(J)	0.38(U)	0.038(U)	0.38(U)
0100-95-0743	0.37(U)	0.006(J)	0.37(U)	0.022(U)	0.37(U)	0.037(U)	0.37(U)
0100-95-0744	0.42(U)	0.006(J)	0.42(U)	0.034(B)	0.42(U)	0.039(U)	0.42(U)
0100-95-0745	0.44(U)	0.006(J)	0.44(U)	0.029(B)	0.44(U)	0.071(U)	0.44(U)
0100-95-0746	0.43(U)	0.006(J)	0.43(U)	0.017(J)	0.43(U)	0.059(U)	0.43(U)
0100-95-0749	0.42(U)	0.02	0.42(U)	0.038(B)	0.42(U)	0.058(U)	0.42(U)
0100-95-0750	0.4(U)	0.006(J)	0.4(U)	0.013(J)	0.4(U)	0.033(U)	0.4(U)
0100-95-0911	0.42(U)	0.006(J)	0.42(U)	0.056(B)	0.42(U)	0.059(U)	0.42(U)
0100-95-0912	0.44(U)	0.006(J)	0.44(U)	0.06(B)	0.44(U)	0.039(U)	0.44(U)
0100-95-0913	2.2(U)	1.1(J)	2.2(U)	4.4(U)	2.2(U)	0.061(U)	2.2(U)
0100-96-0003	NA	NA	NA	NA	NA	2.1	NA
0100-96-0002	NA	NA	NA	NA	NA	NA	NA

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	BENZOIC ACID (mg/kg)	BENZO[A] PYRENE (mg/kg)	BENZO[B] FLUORANTHENE (mg/kg)	BENZO[G,H,I] PERYLENE (mg/kg)	BENZO[K] FLUORANTHENE (mg/kg)	BENZO[A] ANTHRACENE (mg/kg)	BIS(2-ETHYLHEXYL) PHTHALATE (mg/kg)
SAL	100 000	0.061	0.61	N/A	6.1	0.61	32
0100-95-0472	1.7(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)
0100-95-0473	1.7(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)
0100-95-0478	1.7(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)
0100-95-0479	1.7(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.16(J)
0100-95-0487	0.9(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)
0100-95-0488	0.89(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)
0100-95-0489	1.7(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)	0.35(U)
0100-95-0491	1.8(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)
0100-95-0684	1.7(U)	0.36(U)	0.35(U)	0.36(U)	0.36(U)	0.35(U)	0.35(U)
0100-95-0685	1.8(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)
0100-95-0687	2(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)
0100-95-0688	1.8(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)
0100-95-0689	1.8(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)
0100-95-0704	1.8(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)
0100-95-0705	2(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)
0100-95-0706	2(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)
0100-95-0707	2.1(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)
0100-95-0709	1.8(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)
0100-95-0710	2(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)
0100-95-0711	2(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)
0100-95-0712	2.1(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)
0100-95-0713	2(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	BENZOIC ACID (mg/kg)	BENZO[A] PYRENE (mg/kg)	BENZO[B] FLUORANTHENE (mg/kg)	BENZO[G,H,I] PERYLENE (mg/kg)	BENZO[K] FLUORANTHENE (mg/kg)	BENZO[A] ANTHRACENE (mg/kg)	BIS(2-ETHYLHEXYL) PHTHALATE (mg/kg)
SAL	100 000	0.061	0.61	N/A	6.1	0.61	32
0100-95-0714	2(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)
0100-95-0715	1.8(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)
0100-95-0716	1.9(U)	0.051(J)	0.049(J)	0.38(U)	0.051(J)	0.06(J)	0.38(U)
0100-95-0717	0.31(J)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)
0100-95-0718	1.9(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)
0100-95-0719	1.9(U)	0.086(J)	0.079(J)	0.061(J)	0.076(J)	0.1(J)	0.38(U)
0100-95-0721	1.8(U)	1.6	1.1	1.3	1.2	1.3	0.35(U)
0100-95-0722	1.8(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)
0100-95-0723	1.9(U)	0.11(J)	0.1(J)	0.074(J)	0.099(J)	0.12(J)	0.38(U)
0100-95-0724	2(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)
0100-95-0725	2(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)
0100-95-0726	2.1(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)
0100-95-0727	2.2(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)
0100-95-0728	2.1(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)
0100-95-0729	2(U)	0.042(J)	0.038(J)	0.39(U)	0.04(J)	0.054(J)	0.39(U)
0100-95-0730	2(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)
0100-95-0731	2.1(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)	0.41(U)
0100-95-0732	1.8(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)
0100-95-0733	1.9(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)
0100-95-0734	2(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)	0.39(U)
0100-95-0735	2(U)	0.4(U)	0.031(J)	0.4(U)	0.046(J)	0.043(J)	0.054(J)
0100-95-0740	9(U)	1.2(J)	1.4(J)	1.1(J)	1.2(J)	1.1(J)	1.8(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	BENZOIC ACID (mg/kg)	BENZO[A] PYRENE (mg/kg)	BENZO[B] FLUORANTHENE (mg/kg)	BENZO[G,H,I] PERYLENE (mg/kg)	BENZO[K] FLUORANTHENE (mg/kg)	BENZO[A] ANTHRACENE (mg/kg)	BIS(2-ETHYLHEXYL) PHTHALATE (mg/kg)
SAL	100 000	0.061	0.61	N/A	6.1	0.61	32
0100-95-0741	1.9(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)
0100-95-0742	1.9(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)	0.38(U)
0100-95-0743	1.9(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)	0.37(U)
0100-95-0744	2.1(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)
0100-95-0745	2.2(U)	0.44(U)	0.44(U)	0.44(U)	0.44(U)	0.44(U)	0.44(U)
0100-95-0746	2.2(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)	0.43(U)
0100-95-0749	2.1(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)
0100-95-0750	2(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.4(U)	0.06(J)
0100-95-0911	2.1(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)	0.42(U)
0100-95-0912	2.2(U)	0.44(U)	0.44(U)	0.44(U)	0.44(U)	0.44(U)	0.44(U)
0100-95-0913	11(U)	2.2(U)	2.2(U)	2.2(U)	2.2(U)	2.2(U)	2.2(U)
0100-96-0003	NA	NA	NA	NA	NA	NA	NA
0100-96-0002	NA	NA	NA	NA	NA	NA	NA

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	BROMOCHLORO-METHANE (mg/kg)	BUTYL BENZYL PHTHALATE (mg/kg)	BUTYLBENZENE [SEC-] (mg/kg)	CARBON DISULFIDE (mg/kg)	CHLORDANE [ALPHA-] (mg/kg)	CHLORDANE [GAMMA-] (mg/kg)	CHRYSENE (mg/kg)	CUMENE (mg/kg)
SAL	N/A	13 000	N/A	16	0.34	0.34	24	49
0100-95-0472	NA	0.35(U)	NA	NA	0.00304	0.00182(U)	0.35(U)	NA
0100-95-0473	NA	0.35(U)	NA	NA	0.00179(U)	0.00179(U)	0.35(U)	NA
0100-95-0478	NA	0.35(U)	NA	NA	0.0018(U)	0.0018(U)	0.35(U)	NA
0100-95-0479	NA	0.36(U)	NA	NA	0.0036	0.0183(U)	0.36(U)	NA
0100-95-0487	NA	0.36(U)	NA	NA	0.0018(U)	0.0018(U)	0.36(U)	NA
0100-95-0488	NA	0.36(U)	NA	NA	0.0019(U)	0.0019(U)	0.36(U)	NA
0100-95-0489	NA	0.35(U)	NA	NA	0.00181(U)	0.00181(U)	0.35(U)	NA
0100-95-0491	NA	0.36(U)	NA	NA	0.00187(U)	0.00187(U)	0.36(U)	NA
0100-95-0684	NA	0.35(U)	NA	NA	0.0017(U)	NA	0.35(U)	NA
0100-95-0685	NA	0.36(U)	NA	NA	0.0018(U)	NA	0.36(U)	NA
0100-95-0687	NA	0.4(U)	NA	NA	0.002(U)	0.002(U)	0.4(U)	NA
0100-95-0688	NA	0.36(U)	NA	NA	0.0018(U)	0.0018(U)	0.36(U)	NA
0100-95-0689	NA	0.36(U)	NA	NA	0.009(U)	0.009(U)	0.36(U)	NA
0100-95-0704	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.00195(U)	0.00195(U)	0.38(U)	0.006(U)
0100-95-0705	0.006(U)	0.4(U)	0.004(J)	0.006(U)	0.00208(U)	0.00208(U)	0.4(U)	0.006(U)
0100-95-0706	0.006(U)	0.4(U)	0.006(U)	0.006(U)	0.00208(U)	0.00208(U)	0.4(U)	0.006(U)
0100-95-0707	0.033(U)	0.43(U)	0.033(J)	0.033(U)	0.00223(U)	0.00223(U)	0.43(U)	0.007
0100-95-0709	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.00196(U)	0.00196(U)	0.38(U)	0.006(U)
0100-95-0710	0.006(U)	0.41(U)	0.006(U)	0.006(U)	0.0021(U)	0.0021(U)	0.41(U)	0.006(U)
0100-95-0711	NA	0.14(J)	NA	NA	NA	NA	0.42(U)	NA
0100-95-0712	0.006(U)	0.43(U)	0.006(U)	0.006(U)	0.00221(U)	0.00221(U)	0.43(U)	0.006(U)
0100-95-0713	0.006(U)	0.15(J)	0.006(U)	0.006(U)	0.00208(U)	0.00208(U)	0.4(U)	0.006(U)
0100-95-0714	0.006(U)	0.41(U)	0.006(U)	0.006(U)	0.00214(U)	0.00214(U)	0.41(U)	0.006(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	BROMOCHLORO-METHANE (mg/kg)	BUTYL BENZYL PHTHALATE (mg/kg)	BUTYLBENZENE [SEC-] (mg/kg)	CARBON DISULFIDE (mg/kg)	CHLORDANE [ALPHA-] (mg/kg)	CHLORDANE [GAMMA-] (mg/kg)	CHRYSENE (mg/kg)	CUMENE (mg/kg)
SAL	N/A	13 000	N/A	16	0.34	0.34	24	49
0100-95-0715	0.006(U)	0.37(U)	0.006(U)	0.006(U)	0.00192(U)	0.00192(U)	0.37(U)	0.006(U)
0100-95-0716	0.006(U)	0.38(U)	0.006(UJ)	0.006(U)	0.0019(U)	0.0019(U)	0.064(J)	0.006(U)
0100-95-0717	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.38(U)	0.006(U)
0100-95-0718	0.006(U)	0.37(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.37(U)	0.006(U)
0100-95-0719	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.094(J)	0.006(U)
0100-95-0721	0.006(U)	0.35(U)	0.006(U)	0.006(U)	0.009(U)	0.009(U)	1.4	0.006(U)
0100-95-0722	0.006	0.36(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.36(U)	0.006(U)
0100-95-0723	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.11(J)	0.006(U)
0100-95-0724	0.006(U)	0.39(U)	0.006(U)	0.006(U)	0.0021(U)	0.0021(U)	0.39(U)	0.006(U)
0100-95-0725	0.006(U)	0.4(U)	0.006(U)	0.006(U)	0.0021(U)	0.0021(U)	0.4(U)	0.006(U)
0100-95-0726	0.006(U)	0.42(U)	0.006(U)	0.006(U)	0.0021(U)	0.0021(U)	0.42(U)	0.006(U)
0100-95-0727	0.006(U)	0.43(U)	0.006(U)	0.006(U)	0.0021(U)	0.0021(U)	0.43(U)	0.006(U)
0100-95-0728	0.006(U)	0.43(U)	0.006(U)	0.006(U)	0.0021(U)	0.0021(U)	0.43(U)	0.006(U)
0100-95-0729	0.006(U)	0.39(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.051(J)	0.006(U)
0100-95-0730	0.006(U)	0.4(U)	0.006(U)	0.006(U)	0.002(U)	0.002(U)	0.4(U)	0.006(U)
0100-95-0731	0.006(U)	0.41(U)	0.006(U)	0.006(U)	0.002(U)	0.002(U)	0.41(U)	0.006(U)
0100-95-0732	0.006(U)	0.37(U)	0.006(U)	0.006(U)	0.0018(U)	0.0018(U)	0.37(U)	0.006(U)
0100-95-0733	0.006(U)	0.39(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.39(U)	0.006(U)
0100-95-0734	0.006(U)	0.39(U)	0.006(U)	0.006(U)	0.002(U)	0.002(U)	0.04(J)	0.006(U)
0100-95-0735	0.006(U)	0.4(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.053(J)	0.006(U)
0100-95-0740	0.006(U)	1.8(U)	0.006(U)	0.006(U)	0.0092(U)	0.0092(U)	1.6(J)	0.006(U)
0100-95-0741	0.005(U)	0.37(U)	0.005(U)	0.005(U)	0.0018(U)	0.0018(U)	0.37(U)	0.005(U)
0100-95-0742	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.0019(U)	0.0019(U)	0.38(U)	0.006(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	BROMOCHLORO-METHANE (mg/kg)	BUTYL BENZYL PHTHALATE (mg/kg)	BUTYLBENZENE [SEC-] (mg/kg)	CARBON DISULFIDE (mg/kg)	CHLORDANE [ALPHA-] (mg/kg)	CHLORDANE [GAMMA-] (mg/kg)	CHRYSENE (mg/kg)	CUMENE (mg/kg)
SAL	N/A	13 000	N/A	16	0.34	0.34	24	49
0100-95-0743	0.006(U)	0.37(U)	0.006(U)	0.006(U)	0.0018(U)	0.0018(U)	0.37(U)	0.006(U)
0100-95-0744	0.006(U)	0.42(U)	0.006(U)	0.006(U)	0.002(U)	0.002(U)	0.42(U)	0.006(U)
0100-95-0745	0.006(U)	0.44(U)	0.006(U)	0.013	0.0035(U)	0.0035(U)	0.44(U)	0.006(U)
0100-95-0746	0.006(U)	0.43(U)	0.006(U)	0.006(U)	0.0029(U)	0.0029(U)	0.43(U)	0.006(U)
0100-95-0749	0.006(U)	0.42(U)	0.006(U)	0.006(U)	0.0029(U)	0.0029(U)	0.42(U)	0.006(U)
0100-95-0750	0.006(U)	0.4(U)	0.006(U)	0.006(U)	0.0017(U)	0.0017(U)	0.4(U)	0.006(U)
0100-95-0911	0.006(U)	0.42(U)	0.006(U)	0.006(U)	0.003(U)	0.003(U)	0.42(U)	0.006(U)
0100-95-0912	0.006(U)	0.44(U)	0.006(U)	0.002(J)	0.0019(U)	0.0019(U)	0.44(U)	0.006(U)
0100-95-0913	1.1(U)	2.2(U)	1.1(U)	1.1(U)	0.003(U)	0.003(U)	2.2(U)	1.1(U)
0100-96-0003	NA	NA	NA	NA	NA	NA	NA	NA
0100-96-0002	NA	NA	NA	NA	0.0052	0.0045	NA	NA

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	DDD[h] (mg/kg)	DDE[i] (mg/kg)	DDT[j] (mg/kg)	DI-N-BUTYL PHTHALATE (mg/kg)	DIBENZO[A,H] ANTHRACENE (mg/kg)	DIELDRIN (mg/kg)	ETHYL BENZENE (mg/kg)	FLUORANTHENE (mg/kg)
SAL	1.9	1.3	1.3	6 500	0.061	0.028	690	2 600
0100-95-0472	0.00354(U)	0.00354(U)	0.00523	0.35(U)	0.35(U)	0.00354(U)	NA	0.35(U)
0100-95-0473	0.00348(U)	0.00348(U)	0.00348(U)	0.35(U)	0.35(U)	0.00348(U)	NA	0.35(U)
0100-95-0478	0.0035(U)	0.0035(U)	0.0035(U)	0.35(U)	0.35(U)	0.0035(U)	NA	0.35(U)
0100-95-0479	0.121	0.0096	0.255	0.36(U)	0.36(U)	0.0079	NA	0.36(U)
0100-95-0487	0.0036(U)	0.0036(U)	0.0036(U)	0.36(U)	0.36(U)	0.0036(U)	NA	0.36(U)
0100-95-0488	0.0036(U)	0.0036(U)	0.0036(U)	0.36(U)	0.36(U)	0.0036(U)	NA	0.36(U)
0100-95-0489	0.00352(U)	0.00352(U)	0.00352(U)	0.35(U)	0.35(U)	0.00352(U)	NA	0.35(U)
0100-95-0491	0.00364(U)	0.00364(U)	0.0038	0.36(U)	0.36(U)	0.00364(U)	NA	0.36(U)
0100-95-0684	0.015(U)	0.0035(U)	0.089(U)	0.35(U)	0.36(U)	0.0035(U)	NA	0.35(U)
0100-95-0685	0.076(U)	0.0036(U)	0.3(U)	0.36(U)	0.36(U)	0.0036(U)	NA	0.36(U)
0100-95-0687	0.004(U)	0.004(U)	0.004(U)	0.4(U)	0.4(U)	0.004(U)	NA	0.4(U)
0100-95-0688	0.0036(U)	0.0036(U)	0.011	0.36(U)	0.36(U)	0.0036(U)	NA	0.36(U)
0100-95-0689	0.018(U)	0.018(U)	0.018(U)	0.36(U)	0.36(U)	0.018(U)	NA	0.36(U)
0100-95-0704	0.00379(U)	0.00379(U)	0.00379(U)	0.38(U)	0.38(U)	0.00379(U)	0.006(U)	0.38(U)
0100-95-0705	0.00404(U)	0.00404(U)	0.00404(U)	0.4(U)	0.4(U)	0.00404(U)	0.006(U)	0.4(U)
0100-95-0706	0.00403(U)	0.00403(U)	0.00403(U)	0.4(U)	0.4(U)	0.00403(U)	0.006(U)	0.4(U)
0100-95-0707	0.00433(U)	0.00433(U)	0.00433(U)	0.43(U)	0.43(U)	0.00433(U)	0.003(J)	0.43(U)
0100-95-0709	0.00381(U)	0.00381(U)	0.00381(U)	0.38(U)	0.38(U)	0.00381(U)	0.006(U)	0.38(U)
0100-95-0710	0.00408(U)	0.00408(U)	0.00408(U)	0.41(U)	0.41(U)	0.00408(U)	0.006(U)	0.41(U)
0100-95-0711	NA	NA	NA	0.42(U)	0.42(U)	NA	NA	0.42(U)
0100-95-0712	0.0043(U)	0.0043(U)	0.0043(U)	0.43(U)	0.43(U)	0.0043(U)	0.006(U)	0.23(J)
0100-95-0713	0.00404(U)	0.00404(U)	0.00404(U)	0.4(U)	0.4(U)	0.00404(U)	0.006(U)	0.4(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	DDD[h] (mg/kg)	DDE[i] (mg/kg)	DDT[j] (mg/kg)	DI-N-BUTYL PHTHALATE (mg/kg)	DIBENZO[A,H] ANTHRACENE (mg/kg)	DIELDRIN (mg/kg)	ETHYL BENZENE (mg/kg)	FLUORANTHENE (mg/kg)
SAL	1.9	1.3	1.3	6 500	0.061	0.028	690	2 600
0100-95-0714	0.00414(U)	0.00414(U)	0.00414(U)	0.41(U)	0.41(U)	0.00414(U)	0.006(U)	0.41(U)
0100-95-0715	0.00373(U)	0.00373(U)	0.00373(U)	0.37(U)	0.37(U)	0.00373(U)	0.006(U)	0.37(U)
0100-95-0716	0.014	0.0038(U)	0.012	0.38(U)	0.38(U)	0.0038(U)	0.006(U)	0.11(J)
0100-95-0717	0.0038(U)	0.0072	0.024	0.38(U)	0.38(U)	0.0038(U)	0.006(U)	0.38(U)
0100-95-0718	0.0037(U)	0.0037(U)	0.0037(U)	0.37(U)	0.37(U)	0.0037(U)	0.006(U)	0.37(U)
0100-95-0719	0.0037(U)	0.0037(U)	0.0037(U)	0.38(U)	0.38(U)	0.0037(U)	0.006(U)	0.25(J)
0100-95-0721	0.018(U)	0.029	0.084	0.35(U)	0.34(J)	0.018(U)	0.006(U)	1.6
0100-95-0722	0.0037(U)	0.0037(U)	0.0037(U)	0.36(U)	0.36(U)	0.0037(U)	0.006(U)	0.36(U)
0100-95-0723	0.0039(U)	0.0039(U)	0.0073	0.38(U)	0.38(U)	0.0039(U)	0.006(U)	0.31(J)
0100-95-0724	0.0042(U)	0.0042(U)	0.0042(U)	0.39(U)	0.39(U)	0.0042(U)	0.006(U)	0.39(U)
0100-95-0725	0.0041(U)	0.0041(U)	0.0041(U)	0.4(U)	0.4(U)	0.0054	0.006(U)	0.4(U)
0100-95-0726	0.0043(U)	0.0043(U)	0.0043(U)	0.081(J)	0.42(U)	0.0043(U)	0.006(U)	0.42(U)
0100-95-0727	0.0042(U)	0.0042(U)	0.0042(U)	0.43(U)	0.43(U)	0.0042(U)	0.006(U)	0.43(U)
0100-95-0728	0.0042(U)	0.0042(U)	0.0042(U)	0.058(J)	0.43(U)	0.0042(U)	0.006(U)	0.43(U)
0100-95-0729	0.0039(U)	0.0039(U)	0.01	0.39(U)	0.39(U)	0.0039(U)	0.006(U)	0.14(J)
0100-95-0730	0.0039(U)	0.0039(U)	0.0039(U)	0.4(U)	0.4(U)	0.0039(U)	0.006(U)	0.4(U)
0100-95-0731	0.0041(U)	0.0041(U)	0.0041(U)	0.41(U)	0.41(U)	0.0041(U)	0.006(U)	0.059(J)
0100-95-0732	0.0036(U)	0.0036(U)	0.0036(U)	0.062(J)	0.37(U)	0.0036(U)	0.006(U)	0.37(U)
0100-95-0733	0.0039(U)	0.0039(U)	0.0039(U)	0.39(U)	0.39(U)	0.0039(U)	0.006(U)	0.39(U)
0100-95-0734	0.0039(U)	0.0039(U)	0.0039(U)	0.39(U)	0.39(U)	0.0039(U)	0.006(U)	0.076(J)
0100-95-0735	0.0037(U)	0.0037(U)	0.0037(U)	0.4(U)	0.4(U)	0.0037(U)	0.006(U)	0.091(J)
0100-95-0740	0.06	0.018(U)	0.026	1.8(U)	0.58(J)	0.018(U)	0.006(U)	1.3(J)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	DDD[h] (mg/kg)	DDE[i] (mg/kg)	DDT[j] (mg/kg)	DI-N-BUTYL PHTHALATE (mg/kg)	DIBENZO[A,H] ANTHRACENE (mg/kg)	DIELDRIN (mg/kg)	ETHYL BENZENE (mg/kg)	FLUORANTHENE (mg/kg)
SAL	1.9	1.3	1.3	6 500	0.061	0.028	690	2 600
0100-95-0741	0.0037(U)	0.0037(U)	0.0037(U)	0.37(U)	0.37(U)	0.0037(U)	0.005(U)	0.37(U)
0100-95-0742	0.0038(U)	0.0038(U)	0.0038(U)	0.38(U)	0.38(U)	0.0038(U)	0.006(U)	0.38(U)
0100-95-0743	0.0037(U)	0.0037(U)	0.0037(U)	0.37(U)	0.37(U)	0.0037(U)	0.006(U)	0.37(U)
0100-95-0744	0.0039(U)	0.0039(U)	0.0039(U)	0.42(U)	0.42(U)	0.0039(U)	0.006(U)	0.42(U)
0100-95-0745	0.0071(U)	0.0071(U)	0.0071(U)	0.44(U)	0.44(U)	0.0071(U)	0.006(U)	0.44(U)
0100-95-0746	0.0076	0.0059(U)	0.0059(U)	0.43(U)	0.43(U)	0.0059(U)	0.006(U)	0.43(U)
0100-95-0749	0.0058	0.0058(U)	0.0058(U)	0.42(U)	0.42(U)	0.0058(U)	0.002(J)	0.42(U)
0100-95-0750	0.0033(U)	0.0033(U)	0.0033(U)	0.4(U)	0.4(U)	0.0033(U)	0.006(U)	0.4(U)
0100-95-0911	0.0059(U)	0.0059(U)	0.0059(U)	0.42(U)	0.42(U)	0.0059(U)	0.006(U)	0.42(U)
0100-95-0912	0.0039(U)	0.0039(U)	0.0039(U)	0.44(U)	0.44(U)	0.0039(U)	0.006(U)	0.44(U)
0100-95-0913	0.055	0.0067	0.0061(U)	2.2(U)	2.2(U)	0.0061(U)	1.1(U)	2.2(U)
0100-96-0003	NA	NA	NA	NA	NA	NA	NA	NA
0100-96-0002	NA	NA	0.0094	NA	NA	NA	NA	NA

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	FLUORENE (mg/kg)	INDENO [1,2,3-CD] PYRENE (mg/kg)	METHYLENE CHLORIDE (mg/kg)	N-BUTYLBENZENE (mg/kg)	NAPHTHALENE (mg/kg)	PENTACHLORO-PHENOL (mg/kg)	PHENANTHRENE (mg/kg)
SAL	300	0.61	11	N/A	800	2.5	N/A
0100-95-0472	0.35(U)	0.35(U)	NA	NA	0.35(U)	0.86(U)	0.35(U)
0100-95-0473	0.35(U)	0.35(U)	NA	NA	0.35(U)	0.84(U)	0.35(U)
0100-95-0478	0.35(U)	0.35(U)	NA	NA	0.35(U)	0.85(U)	0.35(U)
0100-95-0479	0.36(U)	0.36(U)	NA	NA	0.36(U)	0.87(U)	0.36(U)
0100-95-0487	0.36(U)	0.36(U)	NA	NA	0.36(U)	0.9(U)	0.36(U)
0100-95-0488	0.36(U)	0.36(U)	NA	NA	0.36(U)	0.89(U)	0.36(U)
0100-95-0489	0.35(U)	0.35(U)	NA	NA	0.35(U)	0.85(U)	0.35(U)
0100-95-0491	0.36(U)	0.36(U)	NA	NA	0.36(U)	0.88(U)	0.36(U)
0100-95-0684	0.35(U)	0.36(U)	NA	NA	0.35(U)	1.7(U)	0.35(U)
0100-95-0685	0.36(U)	0.36(U)	NA	NA	0.36(U)	1.8(U)	0.36(U)
0100-95-0687	0.4(U)	0.4(U)	NA	NA	0.4(U)	2(U)	0.4(U)
0100-95-0688	0.36(U)	0.36(U)	NA	NA	0.36(U)	1.8(U)	0.36(U)
0100-95-0689	0.36(U)	0.36(U)	NA	NA	0.36(U)	1.8(U)	0.36(U)
0100-95-0704	0.38(U)	0.38(U)	0.006(U)	0.006(U)	0.38(U)	0.92(U)	0.38(U)
0100-95-0705	0.4(U)	0.4(U)	0.006(U)	0.006	0.4(U)	0.98(U)	0.4(U)
0100-95-0706	0.4(U)	0.4(U)	0.006(U)	0.006(U)	0.4(U)	0.98(U)	0.4(U)
0100-95-0707	0.43(U)	0.43(U)	0.033(U)	0.033(U)	0.22(J)	1(U)	0.13(J)
0100-95-0709	0.38(U)	0.38(U)	0.006(U)	0.006(U)	0.38(U)	0.92(U)	0.38(U)
0100-95-0710	0.41(U)	0.41(U)	0.006(U)	0.006(U)	0.41(U)	0.99(U)	0.41(U)
0100-95-0711	0.42(U)	0.42(U)	NA	NA	0.42(U)	1(U)	0.42(U)
0100-95-0712	0.43(U)	0.43(U)	0.006(U)	0.006(U)	0.43(U)	1(U)	0.29(J)
0100-95-0713	0.4(U)	0.4(U)	0.006(U)	0.006(U)	0.4(U)	0.98(U)	0.4(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	FLUORENE (mg/kg)	INDENO [1,2,3-CD] PYRENE (mg/kg)	METHYLENE CHLORIDE (mg/kg)	N-BUTYLBENZENE (mg/kg)	NAPHTHALENE (mg/kg)	PENTACHLORO-PHENOL (mg/kg)	PHENANTHRENE (mg/kg)
SAL	300	0.61	11	N/A	800	2.5	N/A
0100-95-0714	0.41(U)	0.41(U)	0.006(U)	0.006(U)	0.41(U)	1(U)	0.41(U)
0100-95-0715	0.37(U)	0.37(U)	0.006(U)	0.006(U)	0.37(U)	0.91(U)	0.37(U)
0100-95-0716	0.38(U)	0.38(U)	0.015(U)	0.006(UJ)	0.38(U)	1.9(U)	0.051(J)
0100-95-0717	0.38(U)	0.38(U)	0.017(U)	0.006(U)	0.38(U)	1.9(U)	0.38(U)
0100-95-0718	0.37(U)	0.37(U)	0.017	0.006(U)	0.37(U)	1.9(U)	0.37(U)
0100-95-0719	0.38(U)	0.054(J)	0.014(U)	0.006(U)	0.38(U)	1.9(U)	0.25(J)
0100-95-0721	0.35(U)	1.1	0.021	0.006(U)	0.35(U)	1.8(U)	0.51
0100-95-0722	0.36(U)	0.36(U)	0.017	0.006(U)	0.36(U)	1.8(U)	0.36(U)
0100-95-0723	0.046(J)	0.07(J)	0.019	0.006(U)	0.052(J)	1.9(U)	0.34(J)
0100-95-0724	0.39(U)	0.39(U)	0.01	0.006(U)	0.39(U)	2(U)	0.39(U)
0100-95-0725	0.4(U)	0.4(U)	0.01	0.006(U)	0.4(U)	2(U)	0.4(U)
0100-95-0726	0.42(U)	0.42(U)	0.01	0.006(U)	0.42(U)	2.1(U)	0.42(U)
0100-95-0727	0.43(U)	0.43(U)	0.008	0.006(U)	0.43(U)	2.2(U)	0.43(U)
0100-95-0728	0.43(U)	0.43(U)	0.004(J)	0.006(U)	0.43(U)	2.1(U)	0.43(U)
0100-95-0729	0.39(U)	0.39(U)	0.011	0.006(U)	0.39(U)	2(U)	0.15(J)
0100-95-0730	0.4(U)	0.4(U)	0.009	0.006(U)	0.4(U)	2(U)	0.042(J)
0100-95-0731	0.41(U)	0.41(U)	0.012	0.006(U)	0.41(U)	2.1(U)	0.071(J)
0100-95-0732	0.37(U)	0.37(U)	0.007	0.006(U)	0.37(U)	1.8(U)	0.37(U)
0100-95-0733	0.39(U)	0.39(U)	0.015	0.006(U)	0.39(U)	1.9(U)	0.39(U)
0100-95-0734	0.39(U)	0.39(U)	0.004(J)	0.006(U)	0.39(U)	2(U)	0.39(U)
0100-95-0735	0.4(U)	0.4(U)	0.007	0.006(U)	0.4(U)	2(U)	0.078(J)
0100-95-0740	1.8(U)	1.1(J)	0.002(J)	0.006(U)	1.8(U)	0.23(J)	0.72(J)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	FLUORENE (mg/kg)	INDENO [1,2,3-CD] PYRENE (mg/kg)	METHYLENE CHLORIDE (mg/kg)	N-BUTYLBENZENE (mg/kg)	NAPHTHALENE (mg/kg)	PENTACHLORO-PHENOL (mg/kg)	PHENANTHRENE (mg/kg)
SAL	300	0.61	11	N/A	800	2.5	N/A
0100-95-0741	0.37(U)	0.37(U)	0.01(B)	0.005(U)	0.37(U)	1.9(U)	0.37(U)
0100-95-0742	0.38(U)	0.38(U)	0.009(B)	0.006(U)	0.38(U)	1.9(U)	0.38(U)
0100-95-0743	0.37(U)	0.37(U)	0.01(B)	0.006(U)	0.37(U)	1.9(U)	0.37(U)
0100-95-0744	0.42(U)	0.42(U)	0.009(B)	0.004(J)	0.42(U)	2.1(U)	0.42(U)
0100-95-0745	0.44(U)	0.44(U)	0.006(B)	0.006(U)	0.44(U)	2.2(U)	0.44(U)
0100-95-0746	0.43(U)	0.43(U)	0.019(B)	0.006(U)	0.43(U)	2.2(U)	0.43(U)
0100-95-0749	0.42(U)	0.42(U)	0.007(B)	0.006(U)	0.42(U)	2.1(U)	0.42(U)
0100-95-0750	0.4(U)	0.4(U)	0.01(B)	0.006(U)	0.4(U)	2(U)	0.4(U)
0100-95-0911	0.42(U)	0.42(U)	0.002(J)	0.006(U)	0.42(U)	2.1(U)	0.42(U)
0100-95-0912	0.44(U)	0.44(U)	0.011(B)	0.006(U)	0.44(U)	2.2(U)	0.44(U)
0100-95-0913	2.2(U)	2.2(U)	1.1(U)	1.1(U)	2.2(U)	11(U)	2.2(U)
0100-96-0003	NA	NA	NA	NA	NA	NA	NA
0100-96-0002	NA	NA	NA	NA	NA	NA	NA

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	PROPYLBENZENE (mg/kg)	PYRENE (mg/kg)	TETRACHLOROETHENE (mg/kg)	TOLUENE (mg/kg)	TOXAPHENE (mg/kg)	XYLENE (TOTAL) (mg/kg)
SAL	N/A	2 000	7	1 900	0.4	990
0100-95-0472	NA	0.35(U)	NA	NA	0.182(U)	NA
0100-95-0473	NA	0.35(U)	NA	NA	0.179(U)	NA
0100-95-0478	NA	0.35(U)	NA	NA	0.18(U)	NA
0100-95-0479	NA	0.36(U)	NA	NA	1.83(U)	NA
0100-95-0487	NA	0.36(U)	NA	NA	0.18(U)	NA
0100-95-0488	NA	0.36(U)	NA	NA	0.19(U)	NA
0100-95-0489	NA	0.35(U)	NA	NA	0.181(U)	NA
0100-95-0491	NA	0.36(U)	NA	NA	0.187(U)	NA
0100-95-0684	NA	0.35(U)	NA	NA	0.18(U)	NA
0100-95-0685	NA	0.36(U)	NA	NA	0.18(U)	NA
0100-95-0687	NA	0.4(U)	NA	NA	0.2(U)	NA
0100-95-0688	NA	0.36(U)	NA	NA	0.18(U)	NA
0100-95-0689	NA	0.36(U)	NA	NA	0.9(U)	NA
0100-95-0704	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.195(U)	0.006(U)
0100-95-0705	0.006(U)	0.4(U)	0.006(J)	0.006(U)	0.208(U)	0.006(U)
0100-95-0706	0.006(U)	0.4(U)	0.015	0.006(U)	0.208(U)	0.006(U)
0100-95-0707	0.015/0.014(J)	0.43(U)	0.033(U)	0.033(U)	0.223(U)	0.033(U)
0100-95-0709	0.006(U)	0.38(U)	0.007	0.006(U)	0.196(U)	0.006(U)
0100-95-0710	0.006(U)	0.41(U)	0.004(J)	0.006(U)	0.21(U)	0.006(U)
0100-95-0711	NA	0.42(U)	NA	NA	NA	NA
0100-95-0712	0.006(U)	0.14(J)	0.011	0.006(U)	0.221(U)	0.006(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	PROPYLBENZENE (mg/kg)	PYRENE (mg/kg)	TETRACHLOROETHENE (mg/kg)	TOLUENE (mg/kg)	TOXAPHENE (mg/kg)	XYLENE (TOTAL) (mg/kg)
SAL	N/A	2 000	7	1 900	0.4	990
0100-95-0713	0.006(U)	0.4(U)	0.17	0.006(U)	0.208(U)	0.006(U)
0100-95-0714	0.006(U)	0.41(U)	0.019	0.006(U)	0.214(U)	0.006(U)
0100-95-0715	0.006(U)	0.37(U)	0.003(J)	0.006(U)	0.192(U)	0.006(U)
0100-95-0716	0.006(UJ)	0.097(J)	0.006(U)	0.006(U)	0.19(U)	0.006(U)
0100-95-0717	0.006(U)	0.38(U)	0.001(J)	0.006(U)	0.19(U)	0.006(U)
0100-95-0718	0.006(U)	0.37(U)	0.006	0.006(U)	0.19(U)	0.006(U)
0100-95-0719	0.006(U)	0.19(J)	0.006(U)	0.006(U)	0.19(U)	0.006(U)
0100-95-0721	0.006(U)	1.7	0.01	0.006(U)	0.9(U)	0.006(U)
0100-95-0722	0.006(U)	0.36(U)	0.003(J)	0.006(U)	0.19(U)	0.006(U)
0100-95-0723	0.006(U)	0.21(J)	0.006	0.006(U)	0.19(U)	0.006(U)
0100-95-0724	0.006(U)	0.39(U)	0.004(J)	0.006(U)	0.21(U)	0.006(U)
0100-95-0725	0.006(U)	0.4(U)	0.006(U)	0.006(U)	0.21(U)	0.006(U)
0100-95-0726	0.006(U)	0.42(U)	0.006(U)	0.006(U)	0.21(U)	0.006(U)
0100-95-0727	0.006(U)	0.43(U)	0.006(U)	0.006(U)	0.21(U)	0.006(U)
0100-95-0728	0.006(U)	0.43(U)	0.006(U)	0.006(U)	0.21(U)	0.006(U)
0100-95-0729	0.006(U)	0.1(J)	0.006(U)	0.001(J)	0.19(U)	0.006(U)
0100-95-0730	0.006(U)	0.4(U)	0.006(U)	0.002(J)	0.2(U)	0.006(U)
0100-95-0731	0.006(U)	0.04(J)	0.01	0.002(J)	0.2(U)	0.006(U)
0100-95-0732	0.006(U)	0.37(U)	0.006(U)	0.001(J)	0.18(U)	0.006(U)
0100-95-0733	0.006(U)	0.39(U)	0.005(J)	0.006(U)	0.19(U)	0.006(U)
0100-95-0734	0.006(U)	0.065(J)	0.003(J)	0.006(U)	0.2(U)	0.006(U)
0100-95-0735	0.006(U)	0.097(J)	0.005(J)	0.002(J)	0.19(U)	0.006(U)

TABLE D-3 (CONTINUED)

PRS 0-030(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	PROPYLBENZENE (mg/kg)	PYRENE (mg/kg)	TETRACHLOROETHENE (mg/kg)	TOLUENE (mg/kg)	TOXAPHENE (mg/kg)	XYLENE (TOTAL) (mg/kg)
SAL	N/A	2 000	7	1 900	0.4	990
0100-95-0740	0.006(U)	1.8	0.032	0.002(J)	0.92(U)	0.006(U)
0100-95-0741	0.005(U)	0.37(U)	0.005(U)	0.005(U)	0.18(U)	0.005(U)
0100-95-0742	0.006(U)	0.38(U)	0.006(U)	0.006(U)	0.19(U)	0.006(U)
0100-95-0743	0.006(U)	0.37(U)	0.017	0.006(U)	0.18(U)	0.006(U)
0100-95-0744	0.006(U)	0.42(U)	0.006(U)	0.006(U)	0.2(U)	0.006(U)
0100-95-0745	0.006(U)	0.44(U)	0.006(U)	0.006(U)	0.35(U)	0.006(U)
0100-95-0746	0.006(U)	0.43(U)	0.006(U)	0.006(U)	0.29(U)	0.006(U)
0100-95-0749	0.004(J)	0.42(U)	0.006(U)	0.006(U)	0.29(U)	0.004(J)
0100-95-0750	0.006(U)	0.4(U)	0.006	0.006(U)	0.17(U)	0.006(U)
0100-95-0911	0.006(U)	0.42(U)	0.006(U)	0.006(U)	0.3(U)	0.006(U)
0100-95-0912	0.006(U)	0.44(U)	0.006(U)	0.006(U)	0.19(U)	0.006(U)
0100-95-0913	1.1(U)	2.2(U)	1.1(U)	1.1(U)	0.3(U)	1.1(U)
0100-96-0003	NA	NA	NA	NA	NA	NA
0100-96-0002	NA	NA	NA	NA	0.31	NA

[a] EQL = Estimated quantitation limit.
[b] SAL = Screening action level.
[c] N/A = Not available.
[d] NA = Not analyzed.
[e] (U) = Undetected quantity.
[e] DDD = Dichlorodiphenyldichloroethane.
[f] (J) = Estimated quantity.
[g] (B) = Analyte detected in method blank.
[h] DDD = Dichlorodiphenyldichloroethane.
[i] DDE = Dichlorodiphenyldichloroethylene.
[j] DDT = Dichlorodiphenyltrichloroethane.

TABLE D-4

PRS 0-004 INORGANICS WITH CONCENTRATIONS ABOVE BACKGROUND SCREENING VALUES FOR PRS 0-004

LOCATION ID	SAMPLE ID	COPPER (mg/kg)	NICKEL (mg/kg)	LEAD (mg/kg)	URANIUM (mg/kg)	ZINC (mg/kg)
UTL[a]	n/a[b]	15.5	15.2	56[d]	6.73[d]	146.2[d]
SAL[c]	n/a	2 800	1 500	400	230	23 000
00-04238	0100-95-0457	21.4	<13	151	56.9	199
00-04224	0100-95-0515	39.9	<13	65.2	<8	137
00-04223	0100-95-0516	44.9	<13	69.2	10.3	119
00-04221	0100-95-0517	26	<13	48.6	11.3	94.8
00-04225	0100-95-0518	28.5	20.5	72.6	<8	120

[a] UTL = Upper tolerance limit.
[b] n/a = Not applicable.
[c] SAL = Screening action level.
[d] For background screening value see (Longmire et al. 1993, 0958).

TABLE D-5

RADIONUCLIDES WITH CONCENTRATIONS ABOVE BACKGROUND SCREENING VALUES FOR PRS 0-004

LOCATION ID	SAMPLE ID	CESIUM-137 (pCi/L)
UTL[a]	n/a[b]	1.4
SAL[c]	n/a	5.1
00-04224	0100-95-0515	1.49

[a] UTL = Upper tolerance limit.
[b] n/a = Not applicable.
[c] SAL = Screening action level.

TABLE D-6

PRS 0-004 SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

SAMPLE ID	AROCLOR 1260 (mg/kg)	ALDRIN (mg/kg)	BENZOIC ACID (mg/kg)	BENZO[A]PYRENE (mg/kg)	BENZO[B]FLUORANTHENE (mg/kg)	BENZO[K]FLUORANTHENE (mg/kg)
SAL[b]	1	0.026	100 000	0.061	0.61	6.1
0100-95-0515	0.036(U)	0.00075(J)	3.7(U)	0.37(U)	0.37(U)	0.37(U)
0100-95-0516	0.036(U)	0.00039(J)	3.7(U)	0.37(U)	0.37(U)	0.37(U)
0100-95-0517	0.19	0.00047(J)[c]	0.14(J)	0.092(J)	0.15(J)	0.4(U)[d]
0100-95-0518	0.21	0.00063(J)	0.32(U)	0.21(J)	0.35(J)	0.57(U)
0100-95-0457	0.0685	0.0177(U)	1.7(U)	0.078(J)	0.096(J)	0.096(J)

SAMPLE ID	BENZO[A]ANTHRACENE (mg/kg)	BIS(2-ETHYLHEXYL) PHTHALATE (mg/kg)	CHLORDANE [ALPHA-] (mg/kg)	CHLORDANE [GAMMA-] (mg/kg)	CHRYSENE (mg/kg)	DIELDRIN (mg/kg)	DI-N-BUTYL PHTHALATE (mg/kg)	DDD[e] (mg/kg)
SAL	0.61	32	N/A[f]	0.34	24	0.028	6 500	1.9
0100-95-0515	0.37(U)	0.37(U)	0.0018(U)	0.0033	0.37(U)	0.0035(J)	0.37(U)	0.0036(U)
0100-95-0516	0.37(U)	0.37(U)	0.0018(U)	0.0018(U)	0.37(U)	0.0024(J)	0.12(J)	0.0036(U)
0100-95-0517	0.4(U)	0.4(U)	0.002(U)	0.002(U)	0.12(J)	0.0041	0.4(U)	0.0024(J)
0100-95-0518	0.16(J)	3.1	0.0029	0.0028(U)	0.29(J)	0.0096	0.57(U)	0.0057(U)
0100-95-0457	0.34(U)	0.1(J)	0.00201	0.0018(U)	0.097(J)	0.0344(U)	0.34(U)	0.0344(U)

TABLE D-6 (CONTINUED)

PRS 0-004 SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

SAMPLE ID	DDE[g] (mg/kg)	DDT[h] (mg/kg)	ENDRIN (mg/kg)	FLUORANTHENE (mg/kg)	HEPTACHLOR (mg/kg)	HEPTACHLOR EPOXIDE (mg/kg)	METHOXYCHLOR (mg/kg)	PHENANTHRENE (mg/kg)	PYRENE (mg/kg)
SAL	1.3	1.3	20	2 600	0.099	0.049	330	N/A	2 000
0100-95-0515	0.3	0.36	0.0036(U)	0.37(U)	0.0018(U)	0.00068(J)	0.017(J)	0.37(U)	0.082(J)
0100-95-0516	1.3	1.8	0.0018(J)	0.37(U)	0.00061(J)	0.0018(U)	0.018(U)	0.37(U)	0.081(J)
0100-95-0517	0.0081	0.036	0.0039(U)	0.15(J)	0.00083(J)	0.002(U)	0.02(U)	0.084(J)	0.19(J)
0100-95-0518	0.0083	0.0057(U)	0.011	0.34(U)	0.0028(U)	0.003(U)	0.028(U)	0.17(J)	0.45(J)
0100-95-0457	0.0348	0.18	0.0344(U)	0.19(J)	0.00177(U)	0.002(U)	0.0177(U)	0.086(J)	0.14(J)

[a] EQL = Estimated quantitation limit.
[b] SAL = Screening action level.
[c] (U) = Undetected quantity.
[d] (J)= Estimated quantity.
[e] DDD = Dichlorodiphenyldichloroethane.
[f] N/A = Not available.
[g] DDE = Dichlorodiphenyldichloroethylene.
[h] DDT = Dichlorodiphenyltrichloroethane.

TABLE D-7

INORGANICS WITH CONCENTRATIONS ABOVE BACKGROUND SCREENING VALUES FOR PRS 0-033(b)

LOCATION ID	SAMPLE ID	BARIUM (mg/kg)	COPPER (mg/kg)	LEAD (mg/kg)	NICKEL (mg/kg)	ZINC (mg/kg)
UTL[a]	n/a[b]	828.9[c]	15.5	56[c]	15.2	146.2[c]
SAL[d]	n/a	5 300	2 800	400	1 500	23 000
00-04227	0100-95-0451	676	23.2	96.5	25.3	170
00-04228	0100-95-0452	1 164	49.2	140	18.5	391
00-04229	0100-95-0453	749	12.2	1 492	<13	51.7

[a] UTL = Upper tolerance limit.
[b] n/a = Not applicable.
[c] For background screening value see (Longmire et al. 1993, 0958).
[d] SAL = Screening action level.

TABLE D-8

PRS 0-033(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL[a]

SAMPLE ID	ACENAPHTHENE (mg/kg)	ANTHRACENE (mg/kg)	BENZO[A] ANTHRACENE (mg/kg)	BENZO[A] PYRENE (mg/kg)	BENZO[B] FLUORANTHENE (mg/kg)	BENZO[GHI] PERYLENE (mg/kg)
SAL[b]	360	19	0.61	0.061	0.61	N/A[c]
0100-95-0451	0.34(U)[d]	0.082(J)	0.18(J)	0.14(J)	0.14(J)	0.093(J)
0100-95-0452	0.074(J)[e]	0.18(J)	0.47	0.45	0.52	0.32(J)
0100-95-0453	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)

SAMPLE ID	BENZO[K] FLUORANTHENE (mg/kg)	BIS(2-ETHYLHEXYL) PHTHALATE (mg/kg)	BUTYL BENZYL PHTHALATE (mg/kg)	CHLORDANE [ALPHA-] (mg/kg)	CHLORDANE [GAMMA-] (mg/kg)	CHRYSENE (mg/kg)
SAL	6.1	32	13000	0.34	0.34	24
0100-95-0451	0.12(J)	0.34(U)	0.34(U)	0.054	0.056	0.17(J)
0100-95-0452	0.49	0.2(J)	0.053(J)	0.078	0.079	0.69
0100-95-0453	0.36(U)	0.36(U)	0.36(U)	0.0069	0.00457	0.36(U)

SAMPLE ID	DDD[f] [p,p'-] (mg/kg)	DDT[g] [p,p'-] (mg/kg)	DI-n BUTYL PHTHALATE (mg/kg)	DIBENZOFURAN (mg/kg)	DIBENZO[A,H] ANTHRACENE (mg/kg)	FLUORANTHENE (mg/kg)	FLUORENE (mg/kg)
SAL	1.9	1.3	6 500	260	0.061	2600	300
0100-95-0451	0.035(U)	0.01	0.34(U)	0.34(U)	0.34(U)	0.39	0.34(U)
0100-95-0452	0.036(U)	0.0047	0.13(J)	0.17(J)	0.1(J)	1.5	0.15(J)
0100-95-0453	0.00749	0.00913	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)

SAMPLE ID	HEPTACHLOR EPOXIDE (mg/kg)	INDENO[1,2,3-CD]PYRENE (mg/kg)	METHYLNAPHTHALENE [2-] (mg/kg)	NAPHTHALENE (mg/kg)	PHENANTHRENE (mg/kg)	PYRENE (mg/kg)
SAL	0.049	0.61	n/a	800	n/a	2000
0100-95-0451	0.0031	0.084(J)	0.34(U)	0.34(U)	0.16(J)	0.36
0100-95-0452	0.0025	0.29(J)	0.11(J)	0.47	1.5	1.3
0100-95-0453	0.00186(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)	0.36(U)

TABLE D-8 (CONTINUED)

PRS 0-033(b) SOIL CONCENTRATIONS FOR ORGANIC ANALYTES WITH VALUES GREATER THAN THE EQL

[a] EQL = Estimated quantitation limit.
[b] SAL = Screening action level.
[c] N/A = Not available.
[d] (U) = Undetected quantity.
[e] (J) = Estimated quantity.
[f] DDD = Dichlorodiphenylethane.
[g] DDT = Dichlorotriphenylethane.