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DEC 28 1994

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William Honker, Chief
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1445 Ross Avenue
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Dear Mr. Honker:

Enclosed are two copies of the Quarterly Technical Report for July-September 1994 for the Environmental Restoration (ER) Program at the Los Alamos National Laboratory.

If you have questions, please ask your staff to call me at (505) 665-7203.

Sincerely,

Theodore J. Taylor
Program Manager
Environmental Restoration Program

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Environmental Restoration

A Department of Energy environmental cleanup program

QUARTERLY TECHNICAL REPORT

JULY–SEPTEMBER 1994

LANL 05c

December 19, 1994

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LIST OF ACRONYMS AND ABBREVIATIONS

ADS	Activity data sheet
CST	Chemical Science and Technology (Division)
CST-9	Environmental Chemistry Group
DOE	US Department of Energy
EPA	US Environmental Protection Agency
ER	Environmental restoration
FIMAD	Facility for Information Management, Analysis, and Display
FY	Fiscal year
HSWA	Hazardous and Solid Waste Amendments
LACEF	Los Alamos Critical Experiments Facility
LANL	Los Alamos National Laboratory
LOD	Limit of detection
MDA	Material disposal area
NMED	New Mexico Environment Department
OU	Operable unit
PCB	Polychlorinated biphenyl
PRS	Potential release site
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
SAL	Screening action level
SVOC	Semivolatile organic compound
TA	Technical area
UST	Underground storage tank

QUARTERLY TECHNICAL REPORT
JULY–SEPTEMBER 1994
LOS ALAMOS NATIONAL LABORATORY
ENVIRONMENTAL RESTORATION PROJECT

ALBUQUERQUE OPERATIONS OFFICE

CONTRACTOR: University of California

PROJECT MANAGER: Jorg Jansen

NUMBER OF POTENTIAL RELEASE SITES (sampling sites): Approximately 1,700, of which 1,076 are solid waste management units

POTENTIAL WASTE: Radionuclides, High Explosives, Metals, Solvents, Organics

1.0 INTRODUCTION

This quarterly report describes the technical status of activities in the Los Alamos National Laboratory (the Laboratory) Environmental Restoration (ER) Project. The activities are divided according to field units. Each activity is then identified by an activity data sheet (ADS) number and the technical area (TA) where the activity is located. The Hazardous and Solid Waste Amendments (HSWA) portion of the facility operating permit (Section P, Task V, C) requires the submission of a technical progress report on a quarterly basis. This report, submitted to fulfill the permit's requirement, summarizes much of the field work performed this quarter in the ER Project. Summaries of the field work not included in this report may be part of the next quarterly technical report.

The data provided in this report have not been validated. These data are considered "reviewed data."

In the summary tables of this report, each individual measurement was classified as being either greater than or equal to the limit of detection (LOD) or below the LOD for that analyte. The LOD varies for analytes and for individual measurements. For analytes with measured values greater than or equal to the LOD, the measured concentration range is given. For analytes for which no values greater than or equal to the LOD were observed, the LOD range is given. Some of the LOD values for plutonium, strontium-90, and tritium radionuclides are means rather than actual LODs. Screening action levels (SALs) have been developed for many, but not all, analytes. The SALs are explained in the Installation Work Plan for Environmental Restoration, Revision 3 (LANL 1993, 1017). The SALs listed in the tables are those given in that revision of the Installation Work Plan. The summary data tables in this report provide comparisons of the analytical data with the SALs. The comparison process placed each measurement into one of three categories: (1) values greater than or equal to SAL, (2) values below SAL, including analyses less than the LOD, where the LOD is less than the SAL, and (3) values below the LOD, with the LOD greater than or equal to the SAL.

A compilation of the information in the summary tables is given in Table 1-1. This table shows that information from 91,686 analyses are summarized this quarter, where an analysis is a measurement of a given analyte. Information concerning tentatively identified compounds is not included, because it is not quantitative. Of the total number of analyses, 59.6% are below the SALs. No SALs are available for 30,892 (33.7%) measurements. An additional 5.8% of the measurements are below the LOD for the analysis method that was used, with the LOD being greater than or equal to the SAL. The remaining 1.0% of the measured values are above the SALs. The majority of these values (539 out of 951) are from arsenic and beryllium measurements, where the SALs are below the natural background concentrations for these elements in soils at Los Alamos. The remaining values above SALs are associated with the following constituents (with the number of measurements above SALs in parentheses): hydrocarbons (132), thorium-232 (120), radium-226 (16), strontium-90 (15), cesium-137 (14), polychlorinated biphenyls (14), mercury (12), americium-241 (10), plutonium-239 (8), lead (7), uranium (5), uranium-235 (4), copper (2), uranium-234 (2), uranium-238 (2), antimony (1), barium (1), plutonium-238 (1), and thorium-230 (1).

TABLE 1-1

COMPILATION OF DATA FROM SUMMARY TABLES

Table Number	Number of Values	Number of Values >=LOD	Number of Values < LOD	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
2-1	7,298	720	6,578	54	4,174	152
2-3	1,955	384	1,568	46	1,238	64
2-4	6,766	1,326	5,440	125	4,609	290
2-5	1,596	991	605	121	1,100	5
2-6	60	39	21	3	40	0
2-7	208	151	57	23	111	4
2-8	11,123	855	10,268	40	4,669	2,573
2-9	7,841	707	7,134	100	5,103	294
2-10	19,428	1,208	18,220	81	11,933	633
2-11	7,177	3,571	3,606	103	4,618	328
2-12	21,085	2,902	18,183	227	12,878	399
2-14	157	45	112	2	155	0
2-15	6,992	314	6,678	26	3,892	181
Totals	**91,686**	**13,213**	**78,470**	**951**	**54,520**	**5,323**

2.0 FIELD UNITS

2.1 Field Unit 1 (Field Project Leader: Garry Allen)

2.1.1 ADS 1071—TAs-0, -19, -26, -73, -74

The primary focus for ADS 1071 during this past quarter has been to perform field work at several potential release sites (PRSs).

PRS 0-016. The lead-contaminated soil from the wooded area behind the inactive firing range has been removed and added to the firing range material for processing (soil-washing). Site restoration has been completed in this back area (see Figure 2-1). Soil-washing activities continued at the inactive firing range. Of the estimated 10,000 yds^3 of lead-contaminated soil, approximately 5,500 yds^3 have been processed to date. Approximately 17 tons of lead have been recovered from this processed soil. At the completion of the soil-processing operation, all of the recovered lead will be recycled.

PRS Group 0-3. The locations of the townsite septic tanks are shown in Figure 2-2. The location of Septic Tank 0-030(q), as shown in Figure 2-3, was confirmed during initial excavation activities at this site; the tank was removed in mid-June. Final analytical results for waste characterization were received by the end of August. No results were above normal background levels for the area. The staged soil was returned to the excavation, and the concrete rubble and other debris were hauled to the county landfill.

The location of the two septic tanks at 0-030(e) north, as shown in Figure 2-4, was confirmed by hand augering. The hand augering also confirmed that the concrete encountered was the floor of each tank

and that the tank roofs and walls were absent. Sample results from the hand-auger borings did not exceed normal background levels for the area.

The outfall pipe for the 0-030(e) south septic tank was traced upstream from its endpoint using geophysical surveying, hand augering, and trenching in order to determine the tank location. In mid-September, the pipe was found to dead-end in the middle of 22nd Street beside the Chappel Apartments (see Figure 2-4). Additional geophysical surveying, hand augering, and hollow-stem drilling in this area failed to locate the tank. A subsequent search of the Los Alamos County Engineer's archives resulted in the discovery of a 1949 drawing indicating that the tank had been removed before the construction of the Chappel Apartments.

Additional samples were collected by hand augering around the two tanks at 0-030(f), which are located partly beneath the United Church School playground and school building (see Figure 2-5).

Results received to date for chemical analyses of samples taken from excavation soils and borehole cores at 0-030(c), (e) north, (g), and (q) are presented in Table 2-1 (see Section 1.0 for an explanation of this summary table). The analyses also resulted in 31 tentatively identified compounds, most of which are believed to be saturated hydrocarbons.

PRS Group 0-4. Field activities at the former motorpool continued through the quarter. Removal of soils containing elevated total petroleum hydrocarbon constituents and low levels of volatile organic compounds (VOCs) was completed in early July; these soils were excavated from the junction box area, PRS 0-032, and from concrete debris from the former service station fuel pump island adjacent to Building 3, PRS 0-031(b). Surface soil samples were collected from the former fuel pump island east of Building 3 in mid-July to assess the extent of contamination south of Borehole SS-1 (see Figure 2-6). Analytical results indicated the presence of elevated total petroleum hydrocarbon concentrations ranging from 100 to 1,800 parts per million along the island. The east fill pipe area, PRS 0-031(b), was overexcavated in the bottom and northeast corner to further delineate the extent of subsurface contamination. Analytical results indicated low concentrations of total petroleum hydrocarbon in these areas after overexcavation.

Samples for waste characterization of soil from the east fill pipe area were collected during mid-July. The soil samples, which were collected from the east fill pipe excavation, other excavated soils, and the borehole-cuttings drums, exceeded holding times; therefore, these areas were resampled in early- to mid-August.

Waste profiles were prepared for 183 drums containing plastic, personal protective equipment, soil cuttings, and decontamination water from PRS 0-032 and PRS 0-031(b) as analytical data became available. These drums were transported off-site for disposal in July and September.

During the site investigation, VOCs were discovered in some of the tuff samples. It was determined that the analytical methods being used (which involved crushing the tuff) may result in reported levels that are lower than the actual *in situ* levels. In order to gather representative data for the risk assessment, it was decided that vapor samples would be collected from the boreholes and the ground surface, utilizing three different methods. These methods are flux chamber sampling, downhole packer sampling, and AcuVac system sampling. Preparation and coordination of equipment, personnel, and an outside laboratory for risk assessment vapor sampling from existing boreholes adjacent to Building 3, PRS 0-031(b), began in late August. Vapor sampling with the downhole packer system and the AcuVac system were completed in late September. The flux chamber sampling will be completed as soon as weather conditions permit these activities.

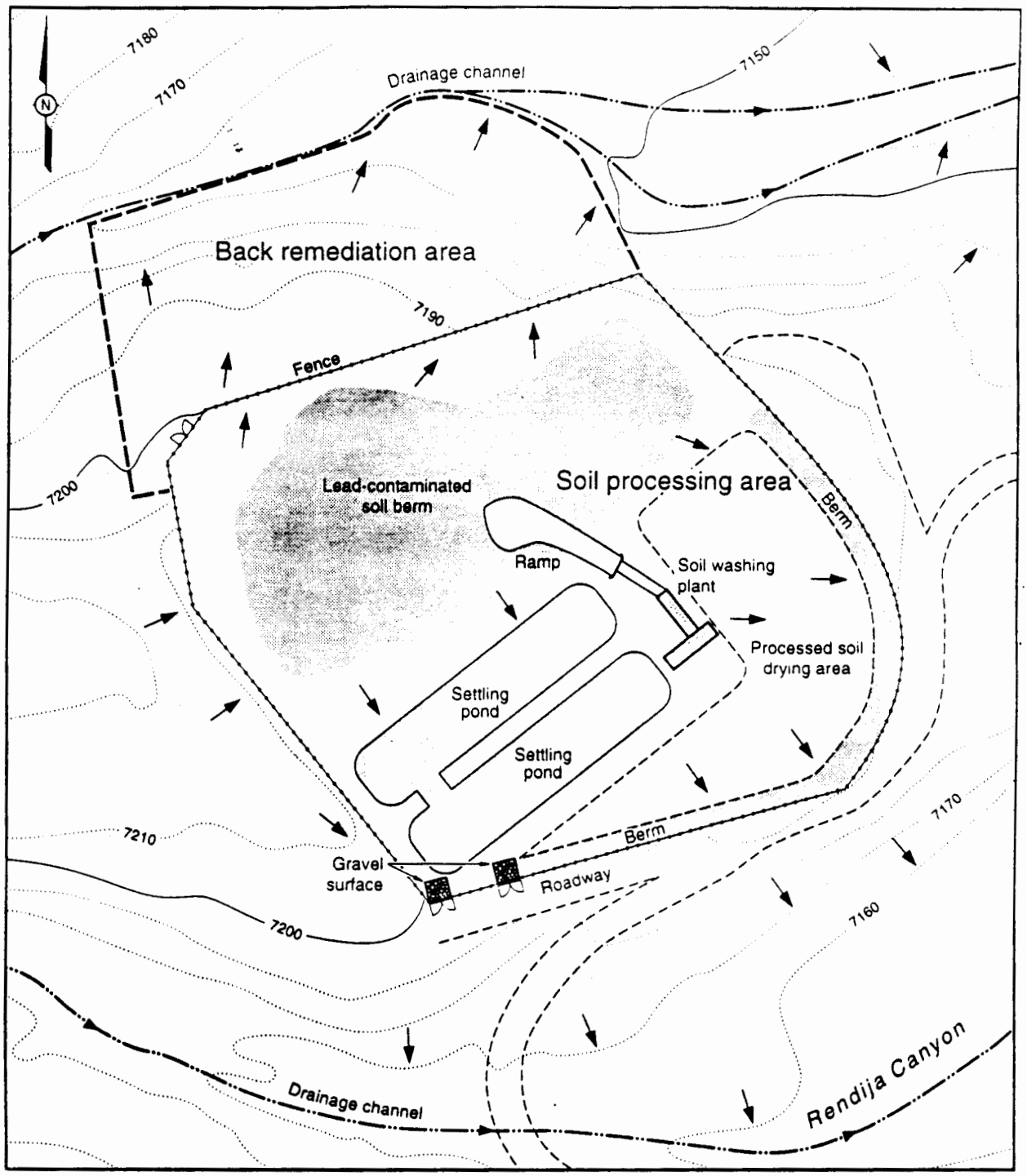
Analytical results received to date for samples collected from excavated soils, borehole cores, and surface samples are presented in Table 2-1. The analyses also resulted in 20 tentatively identified compounds believed to be saturated hydrocarbons, unknown polynuclear hydrocarbons, and unknown alkanes.

PRS Aggregate 73-A. Surface geophysical surveys, including towed array magnetometry, micro-gravity, resistivity, seismic refraction, and ground-penetrating radar, were conducted in the area of the main airport landfill to determine the areal extent of the landfill and its thickness. A contour map showing variations in the total magnetic field strength provides a good estimate of the size and shape of the landfill

(see Figure 2-7). In shallower portions of the landfill, seismic refraction provided useful thickness determinations (thicknesses up to 25 ft). In areas of thicker landfill material, the seismic refraction method will require much larger energy sources. The absorption of energy by the fill material and the low contrast in seismic velocity between fill and Bandelier Tuff bedrock make seismic wave propagation difficult. Ground-penetrating radar provided depth information in some portions of the landfill. Gravity profiling did not successfully map landfill thickness. Because of the small density contrast between the Bandelier Tuff bedrock and the landfill material, depth to bedrock could not be determined from the gravity data. Schlumberger resistivity depth sounding provided good depth determinations for the thicker portions of the landfill. Landfill thicknesses of up to 70 ft were measured with this method.

Approximately 175 soil gas samples were collected from probe sampling at 6 ft below ground surface in the area of the airport landfill. These samples were analyzed on-site for benzene, 1,4-dichlorobenzene, 1,1-dichloroethylene, Freon-113, methane, tetrachloroethylene, toluene, 1,1,1-trichloroethane, trichloroethylene, total xylenes, and vinyl chloride. The concentration ranges of the detected analytes are displayed in Table 2-2. The lateral extent of contamination from four of the main analytes detected from the landfill during the soil gas investigation is shown in Figure 2-8.

The geophysical and soil gas survey results provided a more definite picture of the landfill geometry and associated lateral extent and concentration of organic vapors and methane. This information will be used to determine borehole locations. Eight landfill perimeter boreholes, ranging in depth from approximately 20 ft to 100 ft, will be drilled and completed in the next quarter (see Figure 2-9).



→ Arrow indicates direction of surface water flow

0 100 200 ft

cARTography by A. Kron 10/20/94

Figure 2-1. Inactive Firing Range, soil-washing site, and back remediation area, PRS 0-016, ADS 1071.

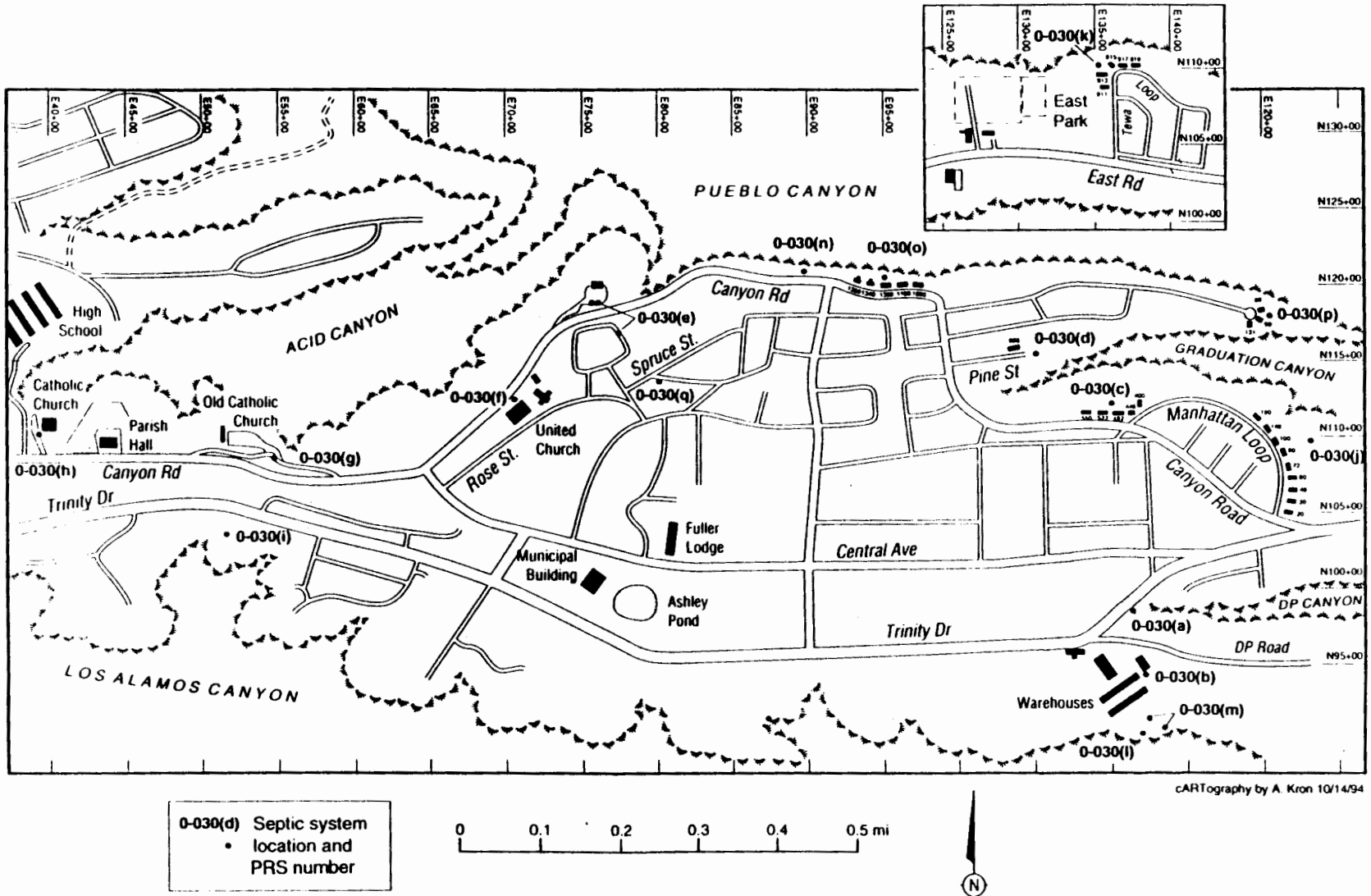
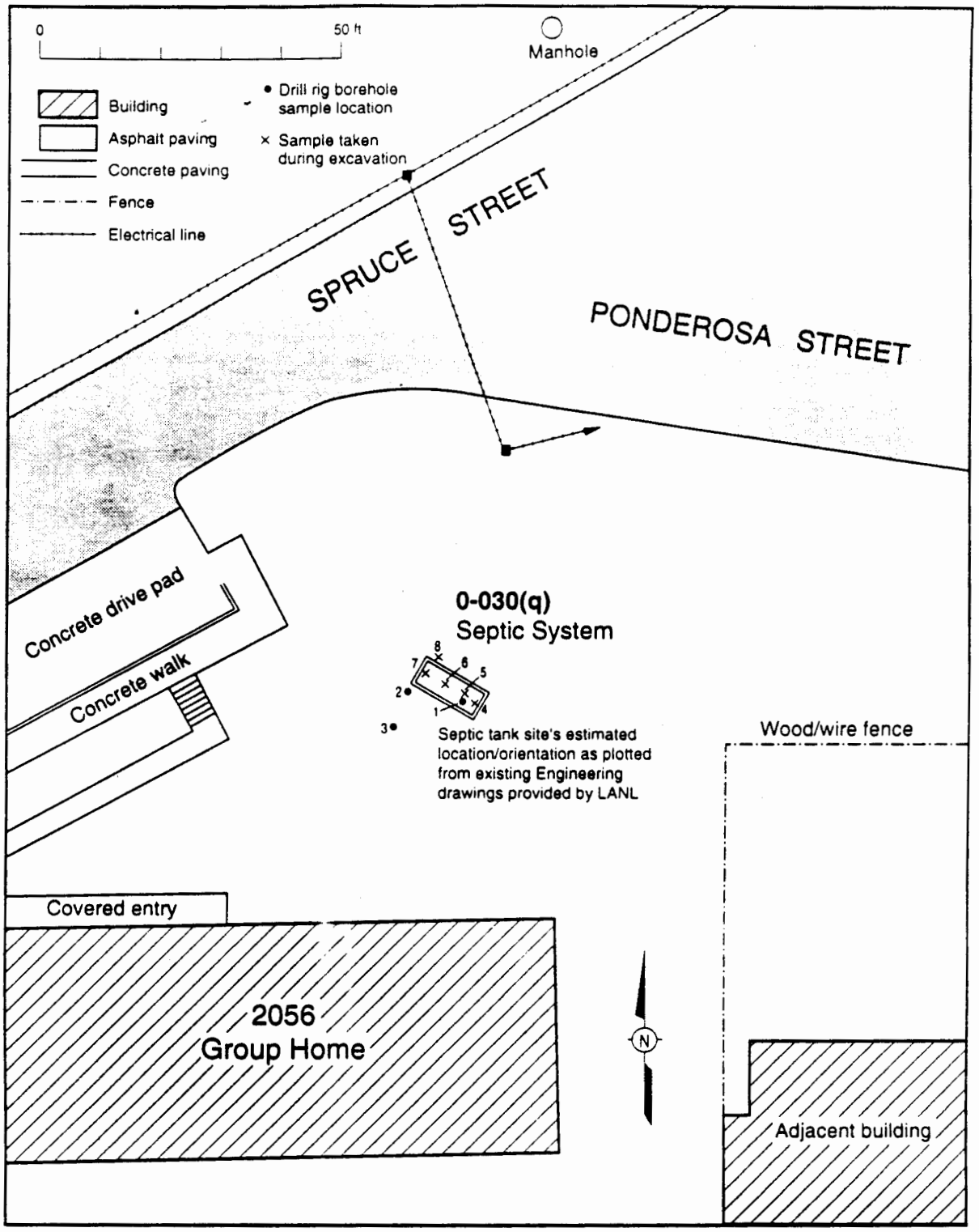


Figure 2-2. Locations of septic tanks in PRS Group 0-3, ADS 1071.



Source: Surv-Tek, Feb. 1994, LANL-11.DWG
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Figure 2-3. Plot plan and sampling locations for PRS 0-030(q), ADS 1071.

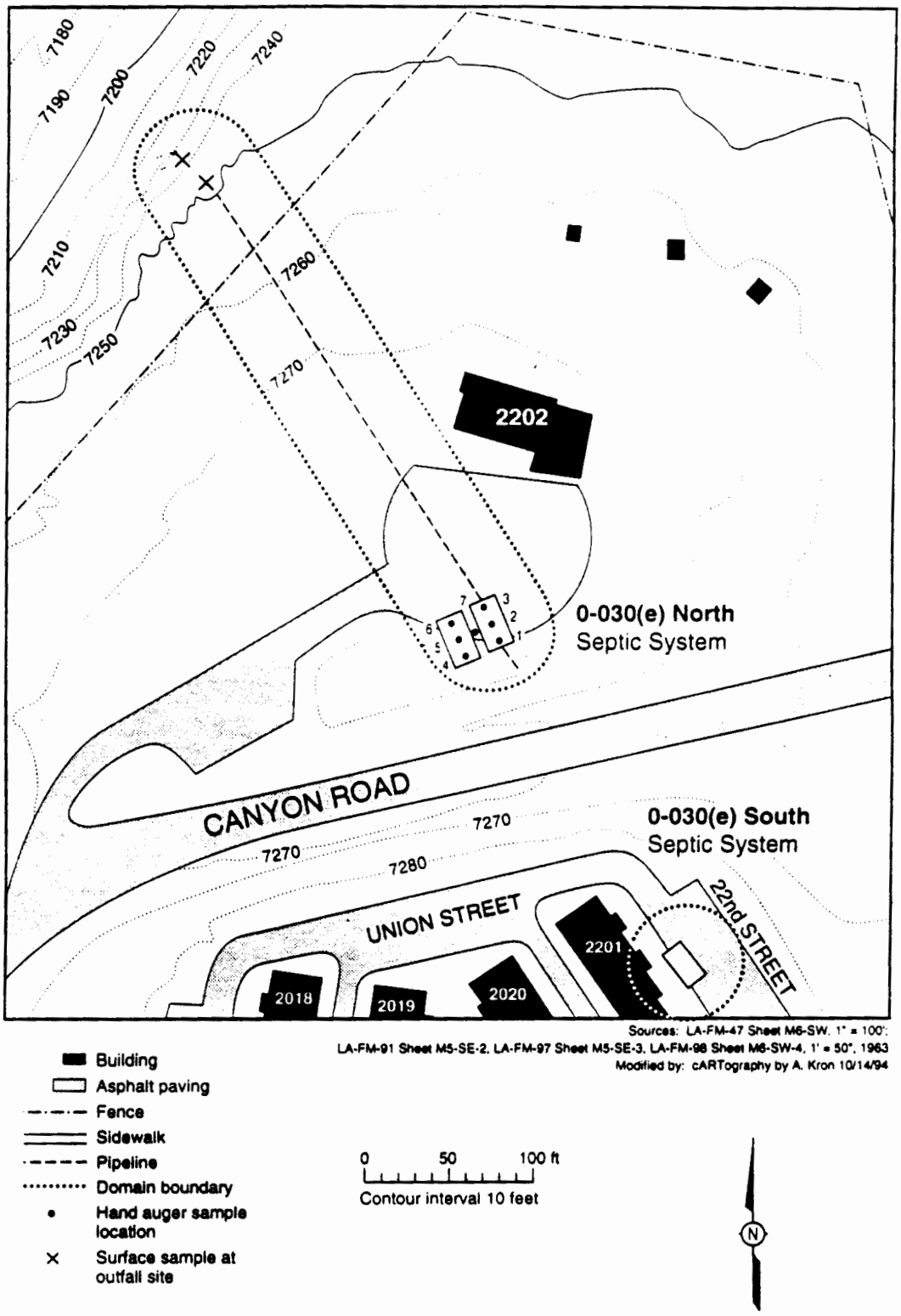

Figure 2-4. Plot plan and sampling locations for PRS 0-030(e), ADS 1071. (Two septic tanks are located north of Canyon Road, and one septic tank is located south of Canyon Road.)

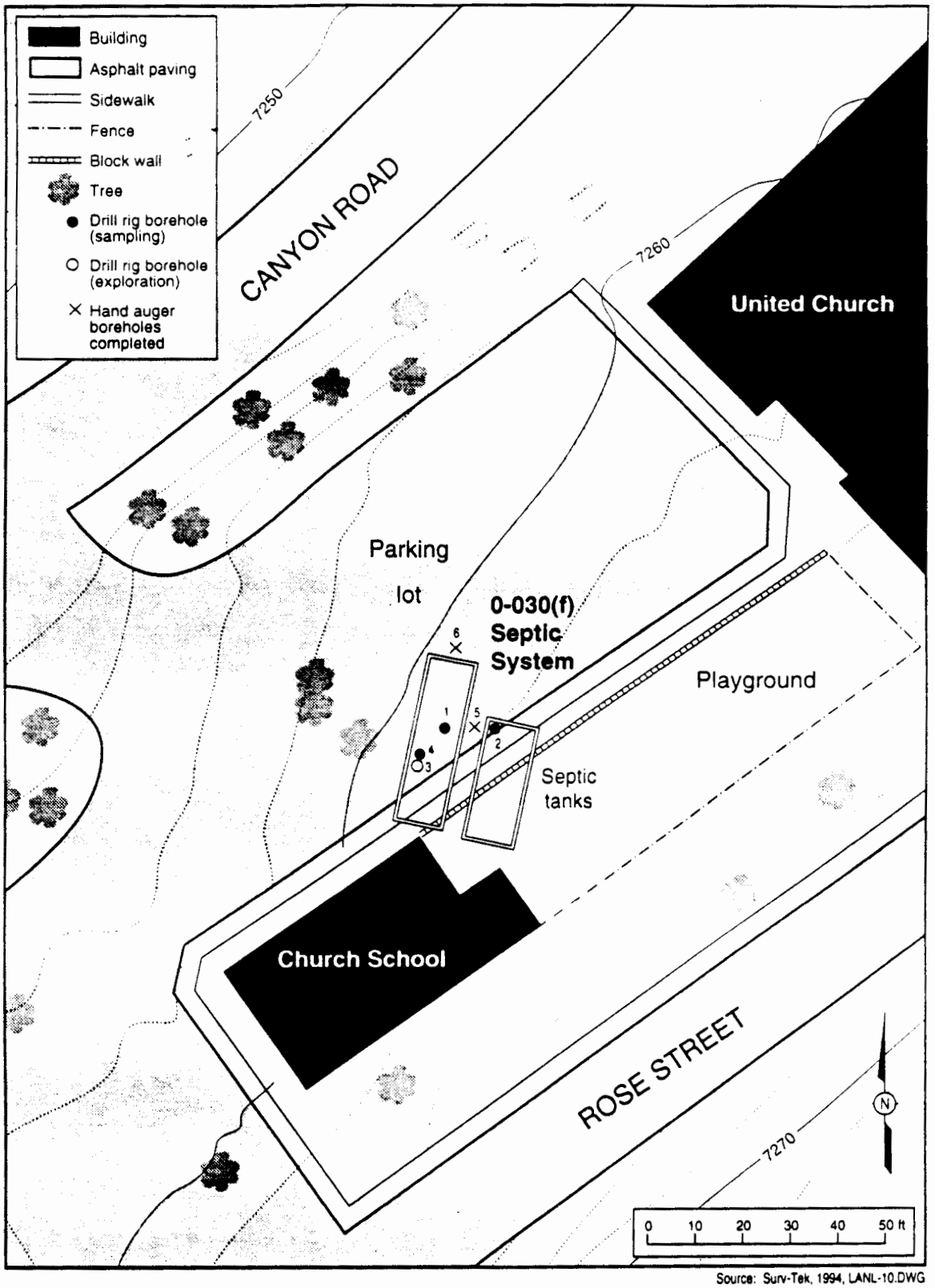

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Figure 2-5. Sampling locations for PRS 0-030(f), ADS 1071.

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
	0-016												
1	Copper	9	9	3	130	3,000	mg/kg					9	
2	Lead	9	9	46	340	500	mg/kg					9	
3	Zinc	9	9	18	30	24,000	mg/kg					9	
	0-030(c)												
4	Acenaphthene	8				4,800	mg/kg	8	0.36	0.45		8	
5	Acenaphthylene	8					mg/kg	8	0.36	0.45			
6	Acetone	7				8,000	mg/kg	7	0.02	0.023		7	
7	Aldrin	10	2	0.013	0.013		mg/kg	8	0.0018	0.0023			
8	Aluminum	2	2	4,080	5,490		mg/kg						
9	Americium-241	8				22	pCi/g	8	0.169	1.5		8	
10	Aniline	8					mg/kg	8	0.36	0.45			
11	Anthracene	8				24,000	mg/kg	8	0.36	0.45		8	
12	Antimony	6	1	34.8	34.8	32	mg/kg	5	0.25	6	1	5	
13	Aroclor 1016	10					mg/kg	10	0.036	0.045			
14	Aroclor 1221	10					mg/kg	10	0.073	0.091			
15	Aroclor 1232	10					mg/kg	10	0.036	0.045			
16	Aroclor 1242	10					mg/kg	10	0.036	0.045			
17	Aroclor 1248	10					mg/kg	10	0.036	0.045			
18	Aroclor 1254	10					mg/kg	10	0.036	0.045			
19	Aroclor 1260	10					mg/kg	10	0.036	0.045			
20	Aroclor [Mixed-]	1				0.09	mg/kg	1	0.036	0.036		1	
21	Arsenic	6	4	2	3.3	0.4	mg/kg	2	1.4	2.1	4		2
22	Azobenzene	8					mg/kg	8	0.36	0.45			
23	BHC [alpha-]	10				0.1	mg/kg	10	0.0018	0.0023		10	
24	BHC [beta-]	10	2	0.007	0.007	4	mg/kg	8	0.0018	0.0023		10	
25	BHC [delta-]	10					mg/kg	10	0.0018	0.0023			
26	Barium	6	6	43	149	5,600	mg/kg					6	
27	Benzene	7				0.67	mg/kg	7	0.005	0.006		7	
28	Benzo[a]anthracene	8				0.64	mg/kg	8	0.36	0.45		8	
29	Benzo[a]pyrene	8				0.1	mg/kg	8	0.36	0.45			8
30	Benzo[b]fluoranthene	8				0.7	mg/kg	8	0.36	0.45		8	
31	Benzo[g,h,i]perylene	8				44	mg/kg	8	0.36	0.45		8	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
32	Benzo[k]fluoranthene	8				1.5	mg/kg	8	0.36	0.45		8	
33	Benzoic acid	8				320,000	mg/kg	8	1.7	2.2		8	
34	Benzyl alcohol	8					mg/kg	8	0.36	0.92			
35	Beryllium	6	4	0.54	0.86	0.16	mg/kg	2	0.52	0.58	4		2
36	Bis(2-chloroethoxy)methane	8					mg/kg	8	0.36	0.45			
37	Bis(2-chloroethyl)ether	8				0.12	mg/kg	8	0.72	0.92			8
38	Bis(2-chloroisopropyl)ether	8				100	mg/kg	8	0.36	0.45		8	
39	Bis(2-ethylhexyl)phthalate	8	1	9.5	9.5	50	mg/kg	7	0.36	0.39		8	
40	Bromobenzene	7					mg/kg	7	0.005	0.006			
41	Bromochloromethane	7					mg/kg	7	0.005	0.006			
42	Bromodichloromethane	7				11	mg/kg	7	0.005	0.006		7	
43	Bromoform	7				89	mg/kg	7	0.005	0.006		7	
44	Bromomethane	7				0.43	mg/kg	7	0.01	0.011		7	
45	Bromophenylphenyl ether [4-]	8					mg/kg	8	0.36	0.45			
46	Butanone [2-]	7				4,000	mg/kg	7	0.02	0.023		7	
47	Butyl benzyl phthalate	8				16,000	mg/kg	8	0.36	0.45		8	
48	Butylbenzene [n-]	7					mg/kg	7	0.005	0.006			
49	Butylbenzene [sec-]	7					mg/kg	7	0.005	0.006			
50	Butylbenzene [tert-]	7					mg/kg	7	0.005	0.006			
51	Cadmium	6				80	mg/kg	6	0.4	0.67		6	
52	Calcium	2	2	1,900	8,550		mg/kg						
53	Carbon disulfide	7				7.4	mg/kg	7	0.005	0.006		7	
54	Carbon tetrachloride	7				0.21	mg/kg	7	0.005	0.006		7	
55	Cesium-137	8	2	1.19	2.22	4	pCi/g	6	0.155	0.266		8	
56	Chlordane [alpha-]	10					mg/kg	10	0.0019	0.0023			
57	Chlordane [gamma-]	10					mg/kg	10	0.0019	0.0023			
58	Chloro-3-methylphenol [4-]	8				16,000	mg/kg	8	0.36	0.92		8	
59	Chloroaniline [4-]	8				320	mg/kg	8	0.36	0.92		8	
60	Chlorobenzene	7				67	mg/kg	7	0.005	0.006		7	
61	Chlorodibromomethane	7				83	mg/kg	7	0.005	0.006		7	
62	Chloroethane	7				3,300	mg/kg	7	0.01	0.011		7	
63	Chloroform	7				0.21	mg/kg	7	0.005	0.006		7	
64	Chloromethane	7				6.4	mg/kg	7	0.01	0.011		7	
65	Chloronaphthalene [2-]	8				6,400	mg/kg	8	0.36	0.45		8	
66	Chlorophenol [o-]	8				400	mg/kg	8	0.36	0.45		8	
67	Chlorophenylphenyl ether [4-]	8					mg/kg	8	0.36	0.45			

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
68	Chlorotoluene [o-]	7					mg/kg	7	0.005	0.006			
69	Chlorotoluene [p-]	7					mg/kg	7	0.005	0.006			
70	Chromium	6	6	3.4	6.1	400	mg/kg					6	
71	Chrysene	8				22	mg/kg	8	0.36	0.45		8	
72	Cobalt	2					mg/kg	2	2.4	3.6			
73	Copper	2	2	6.9	11.3	3,000	mg/kg					2	
74	DDD [p,p'-]	10	6	0.005	0.052	2.9	mg/kg	4	0.0036	0.0038		10	
75	DDE [p,p'-]	10	10	0.03	0.188		mg/kg						
76	DDT [p,p'-]	10	10	0.014	0.306	2.1	mg/kg					10	
77	Di-n-butyl phthalate	8				8,000	mg/kg	8	0.36	0.45		8	
78	Di-n-octyl phthalate	8				1,600	mg/kg	8	0.36	0.45		8	
79	Dibenzo[a,h]anthracene	8				0.086	mg/kg	8	0.36	0.45			8
80	Dibenzofuran	8					mg/kg	8	0.36	0.45			
81	Dibromo-3-chloropropane [1,2-]	7					mg/kg	7	0.01	0.011			
82	Dibromoethane [1,2-]	7					mg/kg	7	0.005	0.006			
83	Dibromomethane	7					mg/kg	7	0.005	0.006			
84	Dichlorobenzene [1,2-]	15				1,600	mg/kg	15	0.005	0.45		15	
85	Dichlorobenzene [1,3-]	15				7,200	mg/kg	15	0.005	0.45		15	
86	Dichlorobenzene [1,4-]	15				290	mg/kg	15	0.005	0.45		15	
87	Dichlorobenzidine [3,3'-]	8				1.6	mg/kg	8	0.36	0.92		8	
88	Dichlorodifluoromethane	7					mg/kg	7	0.01	0.011			
89	Dichloroethane [1,1-]	7				410	mg/kg	7	0.005	0.006		7	
90	Dichloroethane [1,2-]	7				0.2	mg/kg	7	0.005	0.006		7	
91	Dichloroethene [1,1-]	7				0.4	mg/kg	7	0.005	0.006		7	
92	Dichloroethene [trans-1,2-]	3				1,600	mg/kg	3	0.005	0.005		3	
93	Dichloroethylene [cis-1,2-]	3				800	mg/kg	3	0.005	0.005		3	
94	Dichlorophenol [2,4-]	8				240	mg/kg	8	0.36	0.45		8	
95	Dichloropropane [1,2-]	7				6.5	mg/kg	7	0.005	0.006		7	
96	Dichloropropane [1,3-]	7					mg/kg	7	0.005	0.006			
97	Dichloropropane [2,2-]	7					mg/kg	7	0.005	0.006			
98	Dichloropropene [1,1-]	7					mg/kg	7	0.005	0.006			
99	Dichloropropene [cis-1,3-]	7				0.17	mg/kg	7	0.005	0.006		7	
100	Dichloropropene [trans-1,3-]	7				0.17	mg/kg	7	0.005	0.006		7	
101	Dieldrin	10					mg/kg	10	0.002	0.006			
102	Diethyl phthalate	8				64,000	mg/kg	8	0.36	0.45		8	
103	Dimethyl phthalate	8				800,000	mg/kg	8	0.36	0.45		8	

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104	Dimethylphenol [2,4-]	8				1,600	mg/kg	8	0.36	0.45		8	
105	Dinitrophenol [2,4-]	8				160	mg/kg	8	0.87	1.1		8	
106	Dinitrotoluene [2,4-]	8				1	mg/kg	8	0.36	0.45		8	
107	Dinitrotoluene [2,6-]	8				1	mg/kg	8	0.36	0.45		8	
108	Endosulfan I	10					mg/kg	10	0.0018	0.0023			
109	Endosulfan II	10					mg/kg	10	0.004	0.005			
110	Endosulfan sulfate	10					mg/kg	10	0.004	0.005			
111	Endrin	10	2	0.023	0.023		mg/kg	8	0.004	0.005			
112	Endrin aldehyde	8					mg/kg	8	0.004	0.005			
113	Endrin ketone	10					mg/kg	10	0.004	0.005			
114	Ethylbenzene	7				3,100	mg/kg	7	0.005	0.006		7	
115	Fluoranthene	8				3,200	mg/kg	8	0.36	0.45		8	
116	Fluorene	8				3,200	mg/kg	8	0.36	0.45		8	
117	Heptachlor	10	2	0.016	0.016		mg/kg	8	0.0018	0.0023			
118	Heptachlor epoxide	10					mg/kg	10	0.0018	0.0023			
119	Hexachlorobenzene	8				0.44	mg/kg	8	0.36	0.45		7	1
120	Hexachlorobutadiene	8				90	mg/kg	8	0.36	0.45		8	
121	Hexachlorocyclopentadiene	8				560	mg/kg	8	0.36	0.45		8	
122	Hexachloroethane	8				80	mg/kg	8	0.36	0.45		8	
123	Hexanone [2-]	7					mg/kg	7	0.02	0.023			
124	Indeno[1,2,3-cd]pyrene	8				0.41	mg/kg	8	0.36	0.45		7	1
125	Iron	2	2	7,250	7,430		mg/kg						
126	Isophorone	8				7,400	mg/kg	8	0.36	0.45		8	
127	Isopropylbenzene	7					mg/kg	7	0.005	0.006			
128	Isopropyltoluene [4-]	7					mg/kg	7	0.005	0.006			
129	Lead	6	5	10.5	37.9	500	mg/kg	1	0.38	0.38		6	
130	Lead-210	2	2	4.06	5.98		pCi/g						
131	Lindane	10					mg/kg	10	0.0018	0.0023			
132	Magnesium	2	1	1,760	1,760		mg/kg	1	838	838			
133	Manganese	2	2	352	1,930	8,000	mg/kg					2	
134	Mercury	14	14	0.02	0.34	24	mg/kg					14	
135	Methoxychlor	10					mg/kg	10	0.019	0.023			
136	Methyl iodide	7					mg/kg	7	0.005	0.006			
137	Methyl-2-pentanone [4-]	7				510	mg/kg	7	0.02	0.023		7	
138	Methyl-4,6-dinitrophenol [2-]	8					mg/kg	8	0.87	1.1			
139	Methylene chloride	7				5.6	mg/kg	7	0.005	0.006		7	

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140	Methylnaphthalene [2-]	8					mg/kg	8	0.36	0.45			
141	Methylphenol [2-]	8				4,000	mg/kg	8	0.36	0.45		8	
142	Methylphenol [4-]	8				400	mg/kg	8	0.36	0.45		8	
143	Naphthalene	8				3,200	mg/kg	8	0.36	0.45		8	
144	Nickel	6	4	3	6	1,600	mg/kg	2	2.6	4.4		6	
145	Nitroaniline [2-]	8					mg/kg	8	0.87	1.1			
146	Nitroaniline [3-]	8					mg/kg	8	0.87	1.1			
147	Nitroaniline [4-]	8					mg/kg	8	0.72	0.92			
148	Nitrobenzene	8				5.3	mg/kg	8	0.36	0.45		8	
149	Nitrophenol [2-]	8					mg/kg	8	0.36	0.45			
150	Nitrophenol [4-]	8					mg/kg	8	0.87	1.1			
151	Nitrosodi-n-propylamine [N-]	8				0.1	mg/kg	8	0.36	0.45			8
152	Nitrosodimethylamine [N-]	8					mg/kg	8	0.36	0.45			
153	Nitrosodiphenylamine [N-]	8				140	mg/kg	8	0.36	0.45		8	
154	Pentachlorophenol	8				5.8	mg/kg	8	0.87	1.1		8	
155	Phenanthrene	8					mg/kg	8	0.36	0.45			
156	Phenol	8				48,000	mg/kg	8	0.36	0.45		8	
157	Plutonium-238	9	1	0.03	0.03	27	pCi/g	8	0.01	0.01		9	
158	Plutonium-239	9	4	0.015	0.219	24	pCi/g	5	0.01	0.01		9	
159	Potassium	2					mg/kg	2	708	1660			
160	Potassium-40	8	8	23.5	33		pCi/g						
161	Propylbenzene	7					mg/kg	7	0.005	0.006			
162	Pyrene	8				2,400	mg/kg	8	0.36	0.45		8	
163	Radium-226	7	7	0.884	1.3	0.73	pCi/g				7		
164	Selenium	6	2	0.6	0.7	400	mg/kg	4	0.4	9.1		6	
165	Silver	6				400	mg/kg	6	0.7	1		6	
166	Sodium	2					mg/kg	2	57.3	67.7			
167	Styrene	7				16,000	mg/kg	7	0.005	0.006		7	
168	Tetrachloroethane [1,1,1,2-]	7					mg/kg	7	0.005	0.006			
169	Tetrachloroethane [1,1,2,2-]	7				3.9	mg/kg	7	0.005	0.006		7	
170	Tetrachloroethylene	7				5.9	mg/kg	7	0.005	0.006		7	
171	Thallium	6				6.4	mg/kg	6	0.25	0.8		6	
172	Toluene	7				890	mg/kg	7	0.005	0.006		7	
173	Toxaphene	10					mg/kg	10	0.185	0.231			
174	Trichloro-1,2,2-trifluoroethane [1,1,2-]	7					mg/kg	7	0.005	0.006			
175	Trichlorobenzene [1,2,4-]	8				160	mg/kg	8	0.36	0.45		8	

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176	Trichloroethane [1,1,1-]	7	1	0.011	0.011	1,000	mg/kg	6	0.005	0.022		7	
177	Trichloroethane [1,1,2-]	7				6.3	mg/kg	7	0.005	0.006		7	
178	Trichloroethene	7				3.2	mg/kg	7	0.005	0.006		7	
179	Trichlorofluoromethane	7					mg/kg	7	0.005	0.006			
180	Trichlorophenol [2,4,5-]	8				8,000	mg/kg	8	0.87	1.1		8	
181	Trichlorophenol [2,4,6-]	8				64	mg/kg	8	0.36	0.45		8	
182	Trichloropropane [1,2,3-]	7					mg/kg	7	0.005	0.006			
183	Trimethylbenzene [1,2,4-]	7					mg/kg	7	0.005	0.006			
184	Trimethylbenzene [1,3,5-]	7					mg/kg	7	0.005	0.006			
185	Uranium	11	11	1.09	4.06	66	pCi/g					11	
186	Vanadium	2				560	mg/kg	2	8.5	10.6		2	
187	Vinyl chloride	7				0.012	mg/kg	7	0.01	0.011		7	
188	Xylenes [o-, m-, p-]	7				160,000	mg/kg	7	0.005	0.006		7	
189	Zinc	2	2	47.4	74.6	24,000	mg/kg					2	
	0-030(e) NORTH												
190	Acenaphthene	4				4,800	mg/kg	4	0.35	0.36		4	
191	Acenaphthylene	4					mg/kg	4	0.35	0.36			
192	Acetone	4				8,000	mg/kg	4	0.021	0.022		4	
193	Aldrin	4					mg/kg	4	0.0018	0.0019			
194	Aluminum	4	4	4,500	5,900		mg/kg						
195	Americium-241	4				22	pCi/g	4	0.181	1.55		4	
196	Aniline	4					mg/kg	4	0.35	0.36			
197	Anthracene	4				24,000	mg/kg	4	0.35	0.36		4	
198	Antimony	4				32	mg/kg	4	0.25	0.25		4	
199	Aroclor 1016	4					mg/kg	4	0.035	0.036			
200	Aroclor 1221	4					mg/kg	4	0.071	0.074			
201	Aroclor 1232	4					mg/kg	4	0.035	0.036			
202	Aroclor 1242	4					mg/kg	4	0.035	0.036			
203	Aroclor 1248	4					mg/kg	4	0.035	0.036			
204	Aroclor 1254	4					mg/kg	4	0.035	0.036			
205	Aroclor 1260	4					mg/kg	4	0.035	0.036			
206	Arsenic	4	4	2.2	2.5	0.4	mg/kg				4		
207	Azobenzene	4					mg/kg	4	0.35	0.36			

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208	BHC [alpha-]	4				0.1	mg/kg	4	0.0018	0.0019		4	
209	BHC [beta-]	4				4	mg/kg	4	0.0018	0.0019		4	
210	BHC [delta-]	4					mg/kg	4	0.0018	0.0019			
211	Barium	4	4	62	77	5,600	mg/kg					4	
212	Benzene	4				0.67	mg/kg	4	0.005	0.006		4	
213	Benzo[a]anthracene	4				0.64	mg/kg	4	0.35	0.36		4	
214	Benzo[a]pyrene	4				0.1	mg/kg	4	0.35	0.36			4
215	Benzo[b]fluoranthene	4				0.7	mg/kg	4	0.35	0.36		4	
216	Benzo[g,h,i]perylene	4				44	mg/kg	4	0.35	0.36		4	
217	Benzo[k]fluoranthene	4				1.5	mg/kg	4	0.35	0.36		4	
218	Benzoic acid	4				320,000	mg/kg	4	1.7	1.8		4	
219	Benzyl alcohol	4					mg/kg	4	0.35	0.36			
220	Beryllium	4	4	0.26	0.29	0.16	mg/kg				4		
221	Bis(2-chloroethoxy)methane	4					mg/kg	4	0.35	0.36			
222	Bis(2-chloroethyl)ether	4				0.12	mg/kg	4	0.7	0.73			4
223	Bis(2-chloroisopropyl)ether	4				100	mg/kg	4	0.35	0.36		4	
224	Bis(2-ethylhexyl)phthalate	4				50	mg/kg	4	0.35	0.36		4	
225	Bromobenzene	4					mg/kg	4	0.005	0.006			
226	Bromochloromethane	4					mg/kg	4	0.005	0.006			
227	Bromodichloromethane	4				11	mg/kg	4	0.005	0.006		4	
228	Bromoform	4				89	mg/kg	4	0.005	0.006		4	
229	Bromomethane	4				0.43	mg/kg	4	0.011	0.011		4	
230	Bromophenylphenyl ether [4-]	4					mg/kg	4	0.35	0.36			
231	Butanone [2-]	4				4,000	mg/kg	4	0.021	0.022		4	
232	Butyl benzyl phthalate	4				16,000	mg/kg	4	0.35	0.36		4	
233	Butylbenzene [n-]	4					mg/kg	4	0.005	0.006			
234	Butylbenzene [sec-]	4					mg/kg	4	0.005	0.006			
235	Butylbenzene [tert-]	4					mg/kg	4	0.005	0.006			
236	Cadmium	4				80	mg/kg	4	0.4	0.4		4	
237	Calcium	4	4	2,000	6,100		mg/kg						
238	Carbon disulfide	4				7.4	mg/kg	4	0.005	0.006		4	
239	Carbon tetrachloride	4				0.21	mg/kg	4	0.005	0.006		4	
240	Cesium-137	4				4	pCi/g	4	0.169	0.232		4	
241	Chlordane [alpha-]	4					mg/kg	4	0.0018	0.0019			
242	Chlordane [gamma-]	4					mg/kg	4	0.0018	0.0019			
243	Chloro-3-methylphenol [4-]	4				16,000	mg/kg	4	0.35	0.36		4	

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244	Chloroaniline [4-]	4				320	mg/kg	4	0.35	0.36		4	
245	Chlorobenzene	4				67	mg/kg	4	0.005	0.006		4	
246	Chlorodibromomethane	4				83	mg/kg	4	0.005	0.006		4	
247	Chloroethane	4				3,300	mg/kg	4	0.011	0.011		4	
248	Chloroform	4				0.21	mg/kg	4	0.005	0.006		4	
249	Chloromethane	4				6.4	mg/kg	4	0.011	0.011		4	
250	Chloronaphthalene [2-]	4				6,400	mg/kg	4	0.35	0.36		4	
251	Chlorophenol [o-]	4				400	mg/kg	4	0.35	0.36		4	
252	Chlorophenylphenyl ether [4-]	4					mg/kg	4	0.35	0.36			
253	Chlorotoluene [o-]	4					mg/kg	4	0.005	0.006			
254	Chlorotoluene [p-]	4					mg/kg	4	0.005	0.006			
255	Chromium	4	4	4.7	6.6	400	mg/kg					4	
256	Chrysene	4				22	mg/kg	4	0.35	0.36		4	
257	Cobalt	4	4	1.4	3.7		mg/kg						
258	Copper	4	4	3.9	6.5	3,000	mg/kg					4	
259	DDD [p,p'-]	4	4	0.012	0.128	2.9	mg/kg					4	
260	DDE [p,p'-]	4	4	0.029	0.051		mg/kg						
261	DDT [p,p'-]	4	4	0.004	0.033	2.1	mg/kg					4	
262	Di-n-butyl phthalate	4				8,000	mg/kg	4	0.35	0.36		4	
263	Di-n-octyl phthalate	4				1,600	mg/kg	4	0.35	0.36		4	
264	Dibenzo[a,h]anthracene	4				0.086	mg/kg	4	0.35	0.36			4
265	Dibenzofuran	4					mg/kg	4	0.35	0.36			
266	Dibromo-3-chloropropane [1,2-]	4					mg/kg	4	0.011	0.011			
267	Dibromoethane [1,2-]	4					mg/kg	4	0.005	0.006			
268	Dibromomethane	4					mg/kg	4	0.005	0.006			
269	Dichlorobenzene [1,2-]	8				1,600	mg/kg	8	0.005	0.36		8	
270	Dichlorobenzene [1,3-]	8				7,200	mg/kg	8	0.005	0.36		8	
271	Dichlorobenzene [1,4-]	8				290	mg/kg	8	0.005	0.36		8	
272	Dichlorobenzidine [3,3'-]	4				1.6	mg/kg	4	0.35	0.36		4	
273	Dichlorodifluoromethane	4					mg/kg	4	0.011	0.011			
274	Dichloroethane [1,1-]	4				410	mg/kg	4	0.005	0.006		4	
275	Dichloroethane [1,2-]	4				0.2	mg/kg	4	0.005	0.006		4	
276	Dichloroethene [1,1-]	4				0.4	mg/kg	4	0.005	0.006		4	
277	Dichloroethene [trans-1,2-]	4				1,600	mg/kg	4	0.005	0.006		4	
278	Dichloroethylene [cis-1,2-]	4				800	mg/kg	4	0.005	0.006		4	
279	Dichlorophenol [2,4-]	4				240	mg/kg	4	0.35	0.36		4	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
280	Dichloropropane [1,2-]	4				6.5	mg/kg	4	0.005	0.006		4	
281	Dichloropropane [1,3-]	4					mg/kg	4	0.005	0.006			
282	Dichloropropane [2,2-]	4					mg/kg	4	0.005	0.006			
283	Dichloropropene [1,1-]	4					mg/kg	4	0.005	0.006			
284	Dichloropropene [cis-1,3-]	4				0.17	mg/kg	4	0.005	0.006		4	
285	Dichloropropene [trans-1,3-]	4				0.17	mg/kg	4	0.005	0.006		4	
286	Dieldrin	4					mg/kg	4	0.0035	0.0036			
287	Diethyl phthalate	4				64,000	mg/kg	4	0.35	0.36		4	
288	Dimethyl phthalate	4				800,000	mg/kg	4	0.35	0.36		4	
289	Dimethylphenol [2,4-]	4				1,600	mg/kg	4	0.35	0.36		4	
290	Dinitrophenol [2,4-]	4				160	mg/kg	4	0.85	0.88		4	
291	Dinitrotoluene [2,4-]	4				1	mg/kg	4	0.35	0.36		4	
292	Dinitrotoluene [2,6-]	4				1	mg/kg	4	0.35	0.36		4	
293	Endosulfan I	4					mg/kg	4	0.0018	0.0019			
294	Endosulfan II	4					mg/kg	4	0.0035	0.0036			
295	Endosulfan sulfate	4					mg/kg	4	0.0035	0.0036			
296	Endrin	4					mg/kg	4	0.0035	0.0036			
297	Endrin aldehyde	4					mg/kg	4	0.0035	0.0036			
298	Endrin ketone	4					mg/kg	4	0.0035	0.0036			
299	Ethylbenzene	4				3,100	mg/kg	4	0.005	0.006		4	
300	Fluoranthene	4				3,200	mg/kg	4	0.35	0.36		4	
301	Fluorene	4				3,200	mg/kg	4	0.35	0.36		4	
302	Heptachlor	4					mg/kg	4	0.0018	0.0019			
303	Heptachlor epoxide	4					mg/kg	4	0.0018	0.0019			
304	Hexachlorobenzene	4				0.44	mg/kg	4	0.35	0.36		4	
305	Hexachlorobutadiene	4				90	mg/kg	4	0.35	0.36		4	
306	Hexachlorocyclopentadiene	4				560	mg/kg	4	0.35	0.36		4	
307	Hexachloroethane	4				80	mg/kg	4	0.35	0.36		4	
308	Hexanone [2-]	4					mg/kg	4	0.021	0.022			
309	Indeno[1,2,3-cd]pyrene	4				0.41	mg/kg	4	0.35	0.36		4	
310	Iron	4	4	7,800	8,800		mg/kg						
311	Isophorone	4				7,400	mg/kg	4	0.35	0.36		4	
312	Isopropylbenzene	4					mg/kg	4	0.005	0.006			
313	Isopropyltoluene [4-]	4					mg/kg	4	0.005	0.006			
314	Lead	4	4	8	19	500	mg/kg					4	
315	Lindane	4					mg/kg	4	0.0018	0.0019			

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, including <LOD	Number of Values <LOD, with LOD>=SAL
316	Magnesium	4	4	790	1,200		mg/kg						
317	Manganese	4	4	170	230	8,000	mg/kg					4	
318	Mercury	12	12	0.05	0.09	24	mg/kg					12	
319	Methoxychlor	4					mg/kg	4	0.032	0.037			
320	Methyl iodide	4					mg/kg	4	0.005	0.006			
321	Methyl-2-pentanone [4-]	4				510	mg/kg	4	0.021	0.022		4	
322	Methyl-4,6-dinitrophenol [2-]	4					mg/kg	4	0.85	0.88			
323	Methylene chloride	4				5.6	mg/kg	4	0.005	0.006		4	
324	Methylnaphthalene [2-]	4					mg/kg	4	0.35	0.36			
325	Methylphenol [2-]	4				4,000	mg/kg	4	0.35	0.36		4	
326	Methylphenol [4-]	4				400	mg/kg	4	0.35	0.36		4	
327	Naphthalene	4				3,200	mg/kg	4	0.35	0.36		4	
328	Nickel	4	3	3.6	4.3	1,600	mg/kg	1	2	2		4	
329	Nitroaniline [2-]	4					mg/kg	4	0.85	0.88			
330	Nitroaniline [3-]	4					mg/kg	4	0.85	0.88			
331	Nitroaniline [4-]	4					mg/kg	4	0.7	0.73			
332	Nitrobenzene	4				5.3	mg/kg	4	0.35	0.36		4	
333	Nitrophenol [2-]	4					mg/kg	4	0.35	0.36			
334	Nitrophenol [4-]	4					mg/kg	4	0.85	0.88			
335	Nitrosodi-n-propylamine [N-]	4				0.1	mg/kg	4	0.35	0.36			4
336	Nitrosodimethylamine [N-]	4					mg/kg	4	0.35	0.36			
337	Nitrosodiphenylamine [N-]	4				140	mg/kg	4	0.35	0.36		4	
338	Pentachlorophenol	4				5.8	mg/kg	4	0.85	0.88		4	
339	Phenanthrene	4					mg/kg	4	0.35	0.36			
340	Phenol	4				48,000	mg/kg	4	0.35	0.36		4	
341	Plutonium-238	4	1	0.086	0.086	27	pCi/g	3	0.01	0.01		4	
342	Plutonium-239	4	4	0.035	0.232	24	pCi/g					4	
343	Potassium	4	4	540	750		mg/kg						
344	Potassium-40	4	4	24.6	30.1		pCi/g						
345	Propylbenzene	4					mg/kg	4	0.005	0.006			
346	Pyrene	4				2,400	mg/kg	4	0.35	0.36		4	
347	Radium-226	2	2	1.01	1.16	0.73	pCi/g				2		
348	Selenium	4	4	0.3	0.5	400	mg/kg					4	
349	Silver	4				400	mg/kg	4	1	1		4	
350	Sodium	4	4	100	150		mg/kg						
351	Styrene	4				16,000	mg/kg	4	0.005	0.006		4	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
352	Tetrachloroethane [1,1,1,2-]	4					mg/kg	4	0.005	0.006			
353	Tetrachloroethane [1,1,2,2-]	4				3.9	mg/kg	4	0.005	0.006		4	
354	Tetrachloroethylene	4				5.9	mg/kg	4	0.005	0.006		4	
355	Thallium	4				6.4	mg/kg	4	0.25	0.25		4	
356	Toluene	4				890	mg/kg	4	0.005	0.006		4	
357	Toxaphene	4					mg/kg	4	0.18	0.188			
358	Trichloro-1,2,2-trifluoroethane [1,1,2-]	4					mg/kg	4	0.005	0.006			
359	Trichlorobenzene [1,2,4-]	4				160	mg/kg	4	0.35	0.36		4	
360	Trichloroethane [1,1,1-]	4				1,000	mg/kg	4	0.005	0.006		4	
361	Trichloroethane [1,1,2-]	4				6.3	mg/kg	4	0.005	0.006		4	
362	Trichloroethene	4				3.2	mg/kg	4	0.005	0.006		4	
363	Trichlorofluoromethane	4					mg/kg	4	0.005	0.006			
364	Trichlorophenol [2,4,5-]	4				8,000	mg/kg	4	0.85	0.88		4	
365	Trichlorophenol [2,4,6-]	4				64	mg/kg	4	0.35	0.36		4	
366	Trichloropropane [1,2,3-]	4					mg/kg	4	0.005	0.006			
367	Trimethylbenzene [1,2,4-]	4					mg/kg	4	0.005	0.006			
368	Trimethylbenzene [1,3,5-]	4					mg/kg	4	0.005	0.006			
369	Uranium	8	8	2.14	2.42	174.6	mg/kg					8	
370	Vanadium	4	4	8.9	13	560	mg/kg					4	
371	Vinyl chloride	4				0.012	mg/kg	4	0.011	0.011		4	
372	Xylenes [o-, m-, p-]	4				160,000	mg/kg	4	0.005	0.006		4	
373	Zinc	4	4	32	48	24,000	mg/kg					4	
	0-030(g)												
374	Americium-241	9	5	1.1	3.95	22	pCi/g	4	0.315	1.67		9	
375	Plutonium-238	9	8	0.045	0.344	27	pCi/g	1	0.01	0.01		9	
376	Plutonium-239	9	9	4.02	19.5	24	pCi/g					9	
377	Uranium	18	18	1.42	6.82	174.6	mg/kg					18	
	0-030(q)												
378	Acenaphthene	7				4,800	mg/kg	7	0.34	0.37		7	
379	Acenaphthylene	7					mg/kg	7	0.34	0.37			
380	Acetone	5	1	0.033	0.033	8,000	mg/kg	4	0.021	0.022		5	
381	Aldrin	9					mg/kg	9	0.0018	0.0019			

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SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
382	Aluminum	8	8	3,300	12,000		mg/kg						
383	Americium-241	11	2	0.02	0.026	22	pCi/g	9	0.171	1.52		11	
384	Aniline	7					mg/kg	7	0.34	0.37			
385	Anthracene	7				24,000	mg/kg	7	0.34	0.37		7	
386	Antimony	9				32	mg/kg	9	0.2	5.7		9	
387	Aroclor 1016	9					mg/kg	9	0.035	0.037			
388	Aroclor 1221	9					mg/kg	9	0.07	0.074			
389	Aroclor 1232	9					mg/kg	9	0.035	0.037			
390	Aroclor 1242	9					mg/kg	9	0.035	0.037			
391	Aroclor 1248	9					mg/kg	9	0.035	0.037			
392	Aroclor 1254	9					mg/kg	9	0.035	0.037			
393	Aroclor 1260	9					mg/kg	9	0.035	0.037			
394	Arsenic	9	8	2	5	0.4	mg/kg	1	4.3	4.3	8		1
395	Azobenzene	7					mg/kg	7	0.34	0.37			
396	BHC [alpha-]	9				0.1	mg/kg	9	0.0018	0.0019		9	
397	BHC [beta-]	9				4	mg/kg	9	0.0018	0.0019		9	
398	BHC [delta-]	9					mg/kg	9	0.0018	0.0019			
399	Barium	8	8	54.1	190	5,600	mg/kg					8	
400	Benzene	5				0.67	mg/kg	5	0.005	0.005		5	
401	Benzo[a]anthracene	7				0.64	mg/kg	7	0.34	0.37		7	
402	Benzo[a]pyrene	7				0.1	mg/kg	7	0.34	0.37			7
403	Benzo[b]fluoranthene	7				0.7	mg/kg	7	0.34	0.37		7	
404	Benzo[g,h,i]perylene	7				44	mg/kg	7	0.34	0.37		7	
405	Benzo[k]fluoranthene	7				1.5	mg/kg	7	0.34	0.37		7	
406	Benzoic acid	7				320,000	mg/kg	7	1.7	1.8		7	
407	Benzyl alcohol	7					mg/kg	7	0.34	0.37			
408	Beryllium	8	6	0.2	0.6	0.16	mg/kg	2	0.38	0.59	6		2
409	Bis(2-chloroethoxy)methane	7					mg/kg	7	0.34	0.37			
410	Bis(2-chloroethyl)ether	7				0.12	mg/kg	7	0.69	0.73			7
411	Bis(2-chloroisopropyl)ether	7				100	mg/kg	7	0.34	0.37		7	
412	Bis(2-ethylhexyl)phthalate	7				50	mg/kg	7	0.34	0.37		7	
413	Bromobenzene	5					mg/kg	5	0.005	0.005			
414	Bromochloromethane	5					mg/kg	5	0.005	0.005			
415	Bromodichloromethane	5				11	mg/kg	5	0.005	0.005		5	
416	Bromoform	5				89	mg/kg	5	0.005	0.005		5	
417	Bromomethane	5				0.43	mg/kg	5	0.011	0.011		5	

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418	Bromophenylphenyl ether [4-]	7					mg/kg	7	0.34	0.37			
419	Butanone [2-]	5				4,000	mg/kg	5	0.021	0.022		5	
420	Butyl benzyl phthalate	7				16,000	mg/kg	7	0.34	0.37		7	
421	Butylbenzene [n-]	5					mg/kg	5	0.005	0.005			
422	Butylbenzene [sec-]	5					mg/kg	5	0.005	0.005			
423	Butylbenzene [tert-]	5					mg/kg	5	0.005	0.005			
424	Cadmium	8	3	0.7	1.7	80	mg/kg	5	0.4	0.94		8	
425	Calcium	8	8	1,420	3,100		mg/kg						
426	Carbon disulfide	5				7.4	mg/kg	5	0.005	0.005		5	
427	Carbon tetrachloride	5				0.21	mg/kg	5	0.005	0.005		5	
428	Cesium-137	9				4	pCi/g	9	0.149	0.387		9	
429	Chlordane [alpha-]	9	2	0.00497	0.00497		mg/kg	7	0.0018	0.0019			
430	Chlordane [gamma-]	9	2	0.00664	0.00664		mg/kg	7	0.0018	0.0019			
431	Chloro-3-methylphenol [4-]	7				16,000	mg/kg	7	0.34	0.37		7	
432	Chloroaniline [4-]	7				320	mg/kg	7	0.34	0.37		7	
433	Chlorobenzene	5				67	mg/kg	5	0.005	0.005		5	
434	Chlorodibromomethane	5				83	mg/kg	5	0.005	0.005		5	
435	Chloroethane	5				3,300	mg/kg	5	0.011	0.011		5	
436	Chloroform	5				0.21	mg/kg	5	0.005	0.005		5	
437	Chloromethane	5				6.4	mg/kg	5	0.011	0.011		5	
438	Chloronaphthalene [2-]	7				6,400	mg/kg	7	0.34	0.37		7	
439	Chlorophenol [o-]	7				400	mg/kg	7	0.34	0.37		7	
440	Chlorophenylphenyl ether [4-]	7					mg/kg	7	0.34	0.37			
441	Chlorotoluene [o-]	5					mg/kg	5	0.005	0.005			
442	Chlorotoluene [p-]	5					mg/kg	5	0.005	0.005			
443	Chromium	8	8	4.2	12.4	400	mg/kg					8	
444	Chrysene	7				22	mg/kg	7	0.34	0.37		7	
445	Cobalt	8	6	2.4	12		mg/kg	2	2.2	2.8			
446	Copper	8	8	4.5	160	3,000	mg/kg					8	
447	DDD [p,p'-]	9	2	0.00395	0.006	2.9	mg/kg	7	0.0035	0.0037		9	
448	DDE [p,p'-]	9	5	0.00713	0.165		mg/kg	4	0.0035	0.0037			
449	DDT [p,p'-]	9	7	0.006	0.117	2.1	mg/kg	2	0.004	0.004		9	
450	Di-n-butyl phthalate	7				8,000	mg/kg	7	0.34	0.37		7	
451	Di-n-octyl phthalate	7				1,600	mg/kg	7	0.34	0.37		7	
452	Dibenzo[a,h]anthracene	7				0.086	mg/kg	7	0.34	0.37			7
453	Dibenzofuran	7					mg/kg	7	0.34	0.37			

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SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
454	Dibromo-3-chloropropane [1,2-]	5					mg/kg	5	0.011	0.011			
455	Dibromoethane [1,2-]	5					mg/kg	5	0.005	0.005			
456	Dibromomethane	5					mg/kg	5	0.005	0.005			
457	Dichlorobenzene [1,2-]	12				1,600	mg/kg	12	0.005	0.37		12	
458	Dichlorobenzene [1,3-]	12				7,200	mg/kg	12	0.005	0.37		12	
459	Dichlorobenzene [1,4-]	12				290	mg/kg	12	0.005	0.37		12	
460	Dichlorobenzidine [3,3'-]	7				1.6	mg/kg	7	0.34	0.85		7	
461	Dichlorodifluoromethane	5					mg/kg	5	0.011	0.011			
462	Dichloroethane [1,1-]	5				410	mg/kg	5	0.005	0.005		5	
463	Dichloroethane [1,2-]	5				0.2	mg/kg	5	0.005	0.005		5	
464	Dichloroethene [1,1-]	5				0.4	mg/kg	5	0.005	0.005		5	
465	Dichloroethene [trans-1,2-]	1				1,600	mg/kg	1	0.005	0.005		1	
466	Dichloroethylene [cis-1,2-]	1				800	mg/kg	1	0.005	0.005		1	
467	Dichlorophenol [2,4-]	7				240	mg/kg	7	0.34	0.37		7	
468	Dichloropropane [1,2-]	5				6.5	mg/kg	5	0.005	0.005		5	
469	Dichloropropane [1,3-]	5					mg/kg	5	0.005	0.005			
470	Dichloropropane [2,2-]	5					mg/kg	5	0.005	0.005			
471	Dichloropropene [1,1-]	5					mg/kg	5	0.005	0.005			
472	Dichloropropene [cis-1,3-]	5				0.17	mg/kg	5	0.005	0.005		5	
473	Dichloropropene [trans-1,3-]	5				0.17	mg/kg	5	0.005	0.005		5	
474	Dieldrin	9	2	0.005	0.005		mg/kg	7	0.0035	0.0037			
475	Diethyl phthalate	7				64,000	mg/kg	7	0.34	0.37		7	
476	Dimethyl phthalate	7				800,000	mg/kg	7	0.34	0.37		7	
477	Dimethylphenol [2,4-]	7				1,600	mg/kg	7	0.34	0.37		7	
478	Dinitrophenol [2,4-]	7				160	mg/kg	7	0.84	0.89		7	
479	Dinitrotoluene [2,4-]	7				1	mg/kg	7	0.34	0.37		7	
480	Dinitrotoluene [2,6-]	7				1	mg/kg	7	0.34	0.37		7	
481	Endosulfan I	9					mg/kg	9	0.0018	0.0019			
482	Endosulfan II	9					mg/kg	9	0.0035	0.0037			
483	Endosulfan sulfate	9					mg/kg	9	0.0035	0.0037			
484	Endrin	9					mg/kg	9	0.0035	0.0037			
485	Endrin aldehyde	7					mg/kg	7	0.0035	0.0037			
486	Endrin ketone	9					mg/kg	9	0.0035	0.0037			
487	Ethylbenzene	5				3,100	mg/kg	5	0.005	0.005		5	
488	Fluoranthene	7				3,200	mg/kg	7	0.34	0.37		7	
489	Fluorene	7				3,200	mg/kg	7	0.34	0.37		7	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
490	Heptachlor	9					mg/kg	9	0.0018	0.0019			
491	Heptachlor epoxide	9					mg/kg	9	0.0018	0.0019			
492	Hexachlorobenzene	7				0.44	mg/kg	7	0.34	0.37		7	
493	Hexachlorobutadiene	7				90	mg/kg	7	0.34	0.37		7	
494	Hexachlorocyclopentadiene	7				560	mg/kg	7	0.34	0.37		7	
495	Hexachloroethane	7				80	mg/kg	7	0.34	0.37		7	
496	Hexanone [2-]	5					mg/kg	5	0.021	0.022			
497	Indeno[1,2,3-cd]pyrene	7				0.41	mg/kg	7	0.34	0.37		7	
498	Iron	8	8	5,700	12,000		mg/kg						
499	Isophorone	7				7,400	mg/kg	7	0.34	0.37		7	
500	Isopropylbenzene	5					mg/kg	5	0.005	0.005			
501	Isopropyltoluene [4-]	5					mg/kg	5	0.005	0.005			
502	Lead	10	10	16.9	615	500	mg/kg				1	9	
503	Lead-210	1	1	2.81	2.81		pCi/g						
504	Lindane	9					mg/kg	9	0.0018	0.0019			
505	Magnesium	8	6	930	1,800		mg/kg	2	744	907			
506	Manganese	8	8	160	610	8,000	mg/kg					8	
507	Mercury	17	17	0.03	2.6	24	mg/kg					17	
508	Methoxychlor	9	1	0.194	0.194		mg/kg	8	0.018	0.019			
509	Methyl iodide	5					mg/kg	5	0.005	0.005			
510	Methyl-2-pentanone [4-]	5				510	mg/kg	5	0.021	0.022		5	
511	Methyl-4,6-dinitrophenol [2-]	7					mg/kg	7	0.84	0.89			
512	Methylene chloride	5				5.6	mg/kg	5	0.005	0.005		5	
513	Methylnaphthalene [2-]	7					mg/kg	7	0.34	0.37			
514	Methylphenol [2-]	7				4,000	mg/kg	7	0.34	0.37		7	
515	Methylphenol [4-]	7				400	mg/kg	7	0.34	0.37		7	
516	Naphthalene	7				3,200	mg/kg	7	0.34	0.37		7	
517	Nickel	8	6	5.2	7.5	1,600	mg/kg	2	3.7	4.1		8	
518	Nitroaniline [2-]	7					mg/kg	7	0.84	1.7			
519	Nitroaniline [3-]	7					mg/kg	7	0.84	0.89			
520	Nitroaniline [4-]	7					mg/kg	7	0.69	0.86			
521	Nitrobenzene	7				5.3	mg/kg	7	0.34	0.37		7	
522	Nitrophenol [2-]	7					mg/kg	7	0.34	0.37			
523	Nitrophenol [4-]	7					mg/kg	7	0.84	0.89			
524	Nitrosodi-n-propylamine [N-]	7				0.1	mg/kg	7	0.34	0.37			7
525	Nitrosodimethylamine [N-]	7					mg/kg	7	0.34	0.37			

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
526	Nitrosodiphenylamine [N-]	7				140	mg/kg	7	0.34	0.37		7	
527	Pentachlorophenol	7				5.8	mg/kg	7	0.35	0.89		7	
528	Phenanthrene	7					mg/kg	7	0.34	0.37			
529	Phenol	7				48,000	mg/kg	7	0.34	0.37		7	
530	Plutonium-238	9	4	0.006	0.139	27	pCi/g	5	0.01	0.01		9	
531	Plutonium-239	9	6	0.006	0.493	24	pCi/g	3	0.01	0.01		9	
532	Potassium	8	6	650	1,300		mg/kg	2	578	672			
533	Potassium-40	9	9	18.3	30.9		pCi/g						
534	Propylbenzene	5					mg/kg	5	0.005	0.005			
535	Pyrene	7				2,400	mg/kg	7	0.34	0.37		7	
536	Radium-226	6	6	0.847	1.06	0.73	pCi/g				6		
537	Selenium	9	4	0.3	0.7	400	mg/kg	5	0.3	5.4		9	
538	Silver	8	1	2.4	2.4	400	mg/kg	7	0.62	1		8	
539	Sodium	8	6	180	250		mg/kg	2	69	92			
540	Styrene	5				16,000	mg/kg	5	0.005	0.005		5	
541	Tetrachloroethane [1,1,1,2-]	5					mg/kg	5	0.005	0.005			
542	Tetrachloroethane [1,1,2,2-]	5				3.9	mg/kg	5	0.005	0.005		5	
543	Tetrachloroethylene	5				5.9	mg/kg	5	0.005	0.005		5	
544	Thallium	9	2	0.2	0.2	6.4	mg/kg	7	0.2	0.5		9	
545	Toluene	5				890	mg/kg	5	0.005	0.005		5	
546	Toxaphene	9					mg/kg	9	0.178	0.189			
547	Trichloro-1,2,2-trifluoroethane [1,1,2-]	5					mg/kg	5	0.005	0.005			
548	Trichlorobenzene [1,2,4-]	7				160	mg/kg	7	0.34	0.37		7	
549	Trichloroethane [1,1,1-]	5				1,000	mg/kg	5	0.005	0.005		5	
550	Trichloroethane [1,1,2-]	5				6.3	mg/kg	5	0.005	0.005		5	
551	Trichloroethene	5				3.2	mg/kg	5	0.005	0.005		5	
552	Trichlorofluoromethane	5					mg/kg	5	0.005	0.005			
553	Trichlorophenol [2,4,5-]	7				8,000	mg/kg	7	0.35	0.89		7	
554	Trichlorophenol [2,4,6-]	7				64	mg/kg	7	0.34	0.37		7	
555	Trichloropropane [1,2,3-]	5					mg/kg	5	0.005	0.005			
556	Trimethylbenzene [1,2,4-]	5					mg/kg	5	0.005	0.005			
557	Trimethylbenzene [1,3,5-]	5					mg/kg	5	0.005	0.005			
558	Uranium	12	12	1.69	2.96	174.6	mg/kg					12	
559	Vanadium	8	7	9.8	18	560	mg/kg	1	6	6		8	
560	Vinyl chloride	5				0.012	mg/kg	5	0.011	0.011		5	

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561	Xylenes [o-, m-, p-]	5				160,000	mg/kg	5	0.005	0.005		5	
562	Zinc	8	8	38	250	24,000	mg/kg					8	
	0-031(b)												
563	Acenaphthene	1				4,800	mg/kg	1	0.37	0.37		1	
564	Acenaphthylene	1					mg/kg	1	0.37	0.37			
565	Acetone	3	1	0.022	0.022	8,000	mg/kg	2	0.02	0.023		3	
566	Aluminum	1	1	10,700	10,700		mg/kg						
567	Aniline	1					mg/kg	1	0.37	0.37			
568	Anthracene	1				24,000	mg/kg	1	0.37	0.37		1	
569	Antimony	1				32	mg/kg	1	5.9	5.9		1	
570	Arsenic	1	1	2.4	2.4	0.4	mg/kg				1		
571	Azobenzene	1					mg/kg	1	0.37	0.37			
572	Barium	1	1	114	114	5,600	mg/kg					1	
573	Benzene	4				0.67	mg/kg	4	0.005	0.006		4	
574	Benzo[a]anthracene	1				0.64	mg/kg	1	0.37	0.37		1	
575	Benzo[a]pyrene	1				0.1	mg/kg	1	0.37	0.37			1
576	Benzo[b]fluoranthene	1				0.7	mg/kg	1	0.37	0.37		1	
577	Benzo[g,h,i]perylene	1				44	mg/kg	1	0.37	0.37		1	
578	Benzo[k]fluoranthene	1				1.5	mg/kg	1	0.37	0.37		1	
579	Benzoic acid	1				320,000	mg/kg	1	1.8	1.8		1	
580	Benzyl alcohol	1					mg/kg	1	0.37	0.37			
581	Beryllium	1				0.16	mg/kg	1	0.74	0.74			1
582	Bis(2-chloroethoxy)methane	1					mg/kg	1	0.37	0.37			
583	Bis(2-chloroethyl)ether	1				0.12	mg/kg	1	0.75	0.75			1
584	Bis(2-chloroisopropyl)ether	1				100	mg/kg	1	0.37	0.37		1	
585	Bis(2-ethylhexyl)phthalate	1				50	mg/kg	1	0.37	0.37		1	
586	Bromobenzene	3					mg/kg	3	0.005	0.006			
587	Bromochloromethane	3					mg/kg	3	0.005	0.006			
588	Bromodichloromethane	3				11	mg/kg	3	0.005	0.006		3	
589	Bromoform	3				89	mg/kg	3	0.005	0.006		3	
590	Bromomethane	3				0.43	mg/kg	3	0.01	0.011		3	
591	Bromophenylphenyl ether [4-]	1					mg/kg	1	0.37	0.37			
592	Butanone [2-]	3				4,000	mg/kg	3	0.02	0.023		3	
593	Butyl benzyl phthalate	1				16,000	mg/kg	1	0.37	0.37		1	

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594	Butylbenzene [n-]	3					mg/kg	3	0.005	0.006			
595	Butylbenzene [sec-]	3					mg/kg	3	0.005	0.006			
596	Butylbenzene [tert-]	3					mg/kg	3	0.005	0.006			
597	Cadmium	1	1	1.4	1.4	80	mg/kg					1	
598	Calcium	1	1	3,540	3,540		mg/kg						
599	Carbon disulfide	3				7.4	mg/kg	3	0.005	0.006		3	
600	Carbon tetrachloride	3				0.21	mg/kg	3	0.005	0.006		3	
601	Chloro-3-methylphenol [4-]	1				16,000	mg/kg	1	0.37	0.37		1	
602	Chloroaniline [4-]	1				320	mg/kg	1	0.37	0.37		1	
603	Chlorobenzene	3				67	mg/kg	3	0.005	0.006		3	
604	Chlorodibromomethane	3				83	mg/kg	3	0.005	0.006		3	
605	Chloroethane	3				3,300	mg/kg	3	0.01	0.011		3	
606	Chloroform	3				0.21	mg/kg	3	0.005	0.006		3	
607	Chloromethane	3				6.4	mg/kg	3	0.01	0.011		3	
608	Chloronaphthalene [2-]	1				6,400	mg/kg	1	0.37	0.37		1	
609	Chlorophenol [o-]	1				400	mg/kg	1	0.37	0.37		1	
610	Chlorophenylphenyl ether [4-]	1					mg/kg	1	0.37	0.37			
611	Chlorotoluene [o-]	3					mg/kg	3	0.005	0.006			
612	Chlorotoluene [p-]	3					mg/kg	3	0.005	0.006			
613	Chromium	1	1	7.7	7.7	400	mg/kg					1	
614	Chrysene	1				22	mg/kg	1	0.37	0.37		1	
615	Cobalt	1					mg/kg	1	3.7	3.7			
616	Copper	1	1	6.4	6.4	3,000	mg/kg					1	
617	Di-n-butyl phthalate	1				8,000	mg/kg	1	0.37	0.37		1	
618	Di-n-octyl phthalate	1				1,600	mg/kg	1	0.37	0.37		1	
619	Dibenzo[a,h]anthracene	1				0.086	mg/kg	1	0.37	0.37			1
620	Dibenzofuran	1					mg/kg	1	0.37	0.37			
621	Dibromo-3-chloropropane [1,2-]	3					mg/kg	3	0.01	0.011			
622	Dibromoethane [1,2-]	3					mg/kg	3	0.005	0.006			
623	Dibromomethane	3					mg/kg	3	0.005	0.006			
624	Dichlorobenzene [1,2-]	4				1,600	mg/kg	4	0.005	0.37		4	
625	Dichlorobenzene [1,3-]	4				7,200	mg/kg	4	0.005	0.37		4	
626	Dichlorobenzene [1,4-]	4				290	mg/kg	4	0.005	0.37		4	
627	Dichlorobenzidine [3,3'-]	1				1.6	mg/kg	1	0.37	0.37		1	
628	Dichlorodifluoromethane	3					mg/kg	3	0.01	0.011			
629	Dichloroethane [1,1-]	3				410	mg/kg	3	0.005	0.006		3	
630	Dichloroethane [1,2-]	3				0.2	mg/kg	3	0.005	0.006		3	

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SUMMARY OF ADS 1071 SOIL SAMPLES

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631	Dichloroethene [1,1-]	3				0.4	mg/kg	3	0.005	0.006		3	
632	Dichloroethene [trans-1,2-]	2				1,600	mg/kg	2	0.005	0.006		2	
633	Dichloroethylene [cis-1,2-]	2				800	mg/kg	2	0.005	0.006		2	
634	Dichlorophenol [2,4-]	1				240	mg/kg	1	0.37	0.37		1	
635	Dichloropropane [1,2-]	3				6.5	mg/kg	3	0.005	0.006		3	
636	Dichloropropane [1,3-]	3					mg/kg	3	0.005	0.006			
637	Dichloropropane [2,2-]	3					mg/kg	3	0.005	0.006			
638	Dichloropropene [1,1-]	3					mg/kg	3	0.005	0.006			
639	Dichloropropene [cis-1,3-]	3				0.17	mg/kg	3	0.005	0.006		3	
640	Dichloropropene [trans-1,3-]	3				0.17	mg/kg	3	0.005	0.006		3	
641	Diethyl phthalate	1				64,000	mg/kg	1	0.37	0.37		1	
642	Dimethyl phthalate	1				800,000	mg/kg	1	0.37	0.37		1	
643	Dimethylphenol [2,4-]	1				1,600	mg/kg	1	0.37	0.37		1	
644	Dinitrophenol [2,4-]	1				160	mg/kg	1	0.91	0.91		1	
645	Dinitrotoluene [2,4-]	1				1	mg/kg	1	0.37	0.37		1	
646	Dinitrotoluene [2,6-]	1				1	mg/kg	1	0.37	0.37		1	
647	Ethylbenzene	4				3,100	mg/kg	4	0.005	0.006		4	
648	Fluoranthene	1				3,200	mg/kg	1	0.37	0.37		1	
649	Fluorene	1				3,200	mg/kg	1	0.37	0.37		1	
650	Hexachlorobenzene	1				0.44	mg/kg	1	0.37	0.37		1	
651	Hexachlorobutadiene	1				90	mg/kg	1	0.37	0.37		1	
652	Hexachlorocyclopentadiene	1				560	mg/kg	1	0.37	0.37		1	
653	Hexachloroethane	1				80	mg/kg	1	0.37	0.37		1	
654	Hexanone [2-]	3					mg/kg	3	0.02	0.023			
655	Indeno[1,2,3-cd]pyrene	1				0.41	mg/kg	1	0.37	0.37		1	
656	Iron	1	1	9,380	9,380		mg/kg						
657	Isophorone	1				7,400	mg/kg	1	0.37	0.37		1	
658	Isopropylbenzene	3					mg/kg	3	0.005	0.006			
659	Isopropyltoluene [4-]	3					mg/kg	3	0.005	0.006			
660	Lead	2	2	5	10.7	500	mg/kg					2	
661	Magnesium	1	1	1,770	1,770		mg/kg						
662	Manganese	1	1	224	224	8,000	mg/kg					1	
663	Mercury	1				24	mg/kg	1	0.11	0.11		1	
664	Methyl iodide	3					mg/kg	3	0.005	0.006			
665	Methyl-2-pentanone [4-]	3				510	mg/kg	3	0.02	0.023		3	
666	Methyl-4,6-dinitrophenol [2-]	1					mg/kg	1	0.91	0.91			

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667	Methylene chloride	3				5.6	mg/kg	3	0.005	0.006		3	
668	Methylnaphthalene [2-]	1					mg/kg	1	0.37	0.37			
669	Methylphenol [2-]	1				4,000	mg/kg	1	0.37	0.37		1	
670	Methylphenol [4-]	1				400	mg/kg	1	0.37	0.37		1	
671	Naphthalene	1				3,200	mg/kg	1	0.37	0.37		1	
672	Nickel	1				1,600	mg/kg	1	6.3	6.3		1	
673	Nitroaniline [2-]	1					mg/kg	1	0.91	0.91			
674	Nitroaniline [3-]	1					mg/kg	1	0.91	0.91			
675	Nitroaniline [4-]	1					mg/kg	1	0.75	0.75			
676	Nitrobenzene	1				5.3	mg/kg	1	0.37	0.37		1	
677	Nitrophenol [2-]	1					mg/kg	1	0.37	0.37			
678	Nitrophenol [4-]	1					mg/kg	1	0.91	0.91			
679	Nitrosodi-n-propylamine [N-]	1				0.1	mg/kg	1	0.37	0.37			1
680	Nitrosodimethylamine [N-]	1					mg/kg	1	0.37	0.37			
681	Nitrosodiphenylamine [N-]	1				140	mg/kg	1	0.37	0.37		1	
682	Pentachlorophenol	1				5.8	mg/kg	1	0.91	0.91		1	
684	Petroleum Hydrocarbons, Total Recoverable	2					mg/kg	2	21.2	22.7			
685	Phenanthrene	1					mg/kg	1	0.37	0.37			
686	Phenol	1				48,000	mg/kg	1	0.37	0.37		1	
687	Potassium	1					mg/kg	1	1,120	1,120			
688	Propylbenzene	3					mg/kg	3	0.005	0.006			
689	Pyrene	1				2,400	mg/kg	1	0.37	0.37		1	
690	Selenium	1				400	mg/kg	1	0.59	0.59		1	
691	Silver	1				400	mg/kg	1	0.68	0.68		1	
692	Sodium	1					mg/kg	1	145	145			
693	Styrene	3				16,000	mg/kg	3	0.005	0.006		3	
694	Tetrachloroethane [1,1,1,2-]	3					mg/kg	3	0.005	0.006			
695	Tetrachloroethane [1,1,2,2-]	3				3.9	mg/kg	3	0.005	0.006		3	
696	Tetrachloroethylene	3				5.9	mg/kg	3	0.005	0.006		3	
697	Thallium	1				6.4	mg/kg	1	0.52	0.52		1	
698	Toluene	4				890	mg/kg	4	0.005	0.006		4	
699	Trichloro-1,2,2-trifluoroethane [1,1,2-]	3					mg/kg	3	0.005	0.006			
700	Trichlorobenzene [1,2,4-]	1				160	mg/kg	1	0.37	0.37		1	
701	Trichloroethane [1,1,1-]	3				1,000	mg/kg	3	0.005	0.006		3	

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702	Trichloroethane [1,1,2-]	3				6.3	mg/kg	3	0.005	0.006		3	
703	Trichloroethene	3				3.2	mg/kg	3	0.005	0.006		3	
704	Trichlorofluoromethane	3					mg/kg	3	0.005	0.006			
705	Trichlorophenol [2,4,5-]	1				8,000	mg/kg	1	0.91	0.91		1	
706	Trichlorophenol [2,4,6-]	1				64	mg/kg	1	0.37	0.37		1	
707	Trichloropropane [1,2,3-]	3					mg/kg	3	0.005	0.006			
708	Trimethylbenzene [1,2,4-]	3					mg/kg	3	0.005	0.006			
709	Trimethylbenzene [1,3,5-]	3					mg/kg	3	0.005	0.006			
710	Vanadium	1	1	14.4	14.4	560	mg/kg					1	
711	Vinyl chloride	3				0.012	mg/kg	3	0.01	0.011		3	
712	Xylenes [o-, m-, p-]	4				160,000	mg/kg	4	0.005	0.006		4	
713	Zinc	1	1	25.9	25.9	24,000	mg/kg					1	
	0-031(b) UST-2 EAST FILL PIPE												
714	Acenaphthene	1				4,800	mg/kg	1	0.35	0.35		1	
715	Acenaphthylene	1					mg/kg	1	0.35	0.35			
716	Acetone	7	1	5.1	5.1	8,000	mg/kg	6	0.022	0.025		7	
717	Aldrin	1					mg/kg	1	0.002	0.002			
718	Aniline	1					mg/kg	1	0.35	0.35			
719	Anthracene	1				24,000	mg/kg	1	0.35	0.35		1	
720	Aroclor 1016	2					mg/kg	2	0.035	0.035			
721	Aroclor 1221	2					mg/kg	2	0.07	0.07			
722	Aroclor 1232	2					mg/kg	2	0.035	0.035			
723	Aroclor 1242	2					mg/kg	2	0.035	0.035			
724	Aroclor 1248	2					mg/kg	2	0.035	0.035			
725	Aroclor 1254	2					mg/kg	2	0.035	0.035			
726	Aroclor 1260	2					mg/kg	2	0.035	0.035			
727	Azobenzene	1					mg/kg	1	0.35	0.35			
728	BHC [alpha-]	1				0.1	mg/kg	1	0.002	0.002		1	
729	BHC [beta-]	1				4	mg/kg	1	0.002	0.002		1	
730	BHC [delta-]	1					mg/kg	1	0.002	0.002			
731	Benzene	7				0.67	mg/kg	7	0.006	0.7		6	1
732	Benzo[a]anthracene	1				0.64	mg/kg	1	0.35	0.35		1	
733	Benzo[a]pyrene	1				0.1	mg/kg	1	0.35	0.35			1
734	Benzo[b]fluoranthene	1				0.7	mg/kg	1	0.35	0.35		1	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
735	Benzo[g,h,i]perylene	1				44	mg/kg	1	0.35	0.35		1	
736	Benzo[k]fluoranthene	1				1.5	mg/kg	1	0.35	0.35		1	
737	Benzoic acid	1				320,000	mg/kg	1	3.5	3.5		1	
738	Benzyl alcohol	1					mg/kg	1	1.7	1.7			
739	Bis(2-chloroethoxy)methane	1					mg/kg	1	0.35	0.35			
740	Bis(2-chloroethyl)ether	1				0.12	mg/kg	1	0.35	0.35			1
741	Bis(2-chloroisopropyl)ether	1				100	mg/kg	1	0.35	0.35		1	
742	Bis(2-ethylhexyl)phthalate	1				50	mg/kg	1	0.35	0.35		1	
743	Bromobenzene	7					mg/kg	7	0.006	0.7			
744	Bromochloromethane	7					mg/kg	7	0.006	0.7			
745	Bromodichloromethane	7				11	mg/kg	7	0.006	0.7		7	
746	Bromoform	7				89	mg/kg	7	0.006	0.7		7	
747	Bromomethane	7				0.43	mg/kg	7	0.011	1.4		6	1
748	Bromophenylphenyl ether [4-]	1					mg/kg	1	0.35	0.35			
749	Butanone [2-]	7	1	15	15	4,000	mg/kg	6	0.022	0.025		7	
750	Butyl benzyl phthalate	1				16,000	mg/kg	1	0.35	0.35		1	
751	Butylbenzene [n-]	7	1	5	5		mg/kg	6	0.006	0.006			
752	Butylbenzene [sec-]	7					mg/kg	7	0.006	0.7			
753	Butylbenzene [tert-]	7					mg/kg	7	0.006	0.7			
754	Carbon disulfide	7				7.4	mg/kg	7	0.006	0.7		7	
755	Carbon tetrachloride	7				0.21	mg/kg	7	0.006	0.7		6	1
756	Chlordane [alpha-]	1					mg/kg	1	0.002	0.002			
757	Chlordane [gamma-]	1	1	0.002	0.002		mg/kg						
758	Chloro-3-methylphenol [4-]	1				16,000	mg/kg	1	0.7	0.7		1	
759	Chloroaniline [4-]	1				320	mg/kg	1	1.7	1.7		1	
760	Chlorobenzene	7				67	mg/kg	7	0.006	0.7		7	
761	Chlorodibromomethane	7				83	mg/kg	7	0.006	0.7		7	
762	Chloroethane	7				3,300	mg/kg	7	0.011	1.4		7	
763	Chloroform	7				0.21	mg/kg	7	0.006	0.7		6	1
764	Chloromethane	7				6.4	mg/kg	7	0.011	1.4		7	
765	Chloronaphthalene [2-]	1				6,400	mg/kg	1	0.35	0.35		1	
766	Chlorophenol [o-]	1				400	mg/kg	1	0.35	0.35		1	
767	Chlorophenylphenyl ether [4-]	1					mg/kg	1	0.35	0.35			
768	Chlorotoluene [o-]	7					mg/kg	7	0.006	0.7			
769	Chlorotoluene [p-]	7					mg/kg	7	0.006	0.7			
770	Chrysene	1				22	mg/kg	1	0.35	0.35		1	

TABLE 2-1

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771	DDD [p,p'-]	1				2.9	mg/kg	1	0.004	0.004		1	
772	DDE [p,p'-]	1					mg/kg	1	0.004	0.004			
773	DDT [p,p'-]	1	1	0.004	0.004	2.1	mg/kg					1	
774	Di-n-butyl phthalate	1				8,000	mg/kg	1	0.35	0.35		1	
775	Di-n-octyl phthalate	1				1,600	mg/kg	1	0.35	0.35		1	
776	Dibenzo[a,h]anthracene	1				0.086	mg/kg	1	0.35	0.35			1
777	Dibenzofuran	1					mg/kg	1	0.35	0.35			
778	Dibromo-3-chloropropane [1,2-]	7					mg/kg	7	0.006	0.7			
779	Dibromoethane [1,2-]	7					mg/kg	7	0.006	0.7			
780	Dibromomethane	7					mg/kg	7	0.006	0.7			
781	Dichlorobenzene [1,2-]	8				1,600	mg/kg	8	0.006	0.7		8	
782	Dichlorobenzene [1,3-]	8				7,200	mg/kg	8	0.006	0.7		8	
783	Dichlorobenzene [1,4-]	8				290	mg/kg	8	0.006	0.7		8	
784	Dichlorobenzidine [3,3'-]	1				1.6	mg/kg	1	0.7	0.7		1	
785	Dichlorodifluoromethane	7					mg/kg	7	0.011	1.4			
786	Dichloroethane [1,1-]	7				410	mg/kg	7	0.006	0.7		7	
787	Dichloroethane [1,2-]	7				0.2	mg/kg	7	0.006	0.7		6	1
788	Dichloroethene [1,1-]	7				0.4	mg/kg	7	0.006	0.7		6	1
789	Dichloroethene [trans-1,2-]	5				1,600	mg/kg	5	0.006	0.7		5	
790	Dichloroethylene [cis-1,2-]	5				800	mg/kg	5	0.006	0.7		5	
791	Dichlorophenol [2,4-]	1				240	mg/kg	1	0.35	0.35		1	
792	Dichloropropane [1,2-]	7				6.5	mg/kg	7	0.006	0.7		7	
793	Dichloropropane [1,3-]	7					mg/kg	7	0.006	0.7			
794	Dichloropropane [2,2-]	7					mg/kg	7	0.006	0.7			
795	Dichloropropene [1,1-]	7					mg/kg	7	0.006	0.7			
796	Dichloropropene [cis-1,3-]	7				0.17	mg/kg	7	0.006	0.7		6	1
797	Dichloropropene [trans-1,3-]	7				0.17	mg/kg	7	0.006	0.7		6	1
798	Dieldrin	1					mg/kg	1	0.004	0.004			
799	Diethyl phthalate	1				64,000	mg/kg	1	0.35	0.35		1	
800	Dimethyl phthalate	1				800,000	mg/kg	1	0.35	0.35		1	
801	Dimethylphenol [2,4-]	1				1,600	mg/kg	1	0.35	0.35		1	
802	Dinitrophenol [2,4-]	1				160	mg/kg	1	1.7	1.7		1	
803	Dinitrotoluene [2,4-]	1				1	mg/kg	1	0.35	0.35		1	
804	Dinitrotoluene [2,6-]	1				1	mg/kg	1	0.35	0.35		1	
805	Endosulfan I	1					mg/kg	1	0.002	0.002			
806	Endosulfan II	1					mg/kg	1	0.004	0.004			
807	Endosulfan sulfate	1					mg/kg	1	0.004	0.004			

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808	Endrin	1					mg/kg	1	0.004	0.004			
809	Endrin aldehyde	1					mg/kg	1	0.004	0.004			
810	Ethylbenzene	7	1	0.95	0.95	3,100	mg/kg	6	0.006	0.006		7	
811	Fluoranthene	1				3,200	mg/kg	1	0.35	0.35		1	
812	Fluorene	1				3,200	mg/kg	1	0.35	0.35		1	
813	Heptachlor	1					mg/kg	1	0.002	0.002			
814	Heptachlor epoxide	1					mg/kg	1	0.002	0.002			
815	Hexachlorobenzene	1				0.44	mg/kg	1	0.35	0.35		1	
816	Hexachlorobutadiene	1				90	mg/kg	1	0.35	0.35		1	
817	Hexachlorocyclopentadiene	1				560	mg/kg	1	0.35	0.35		1	
818	Hexachloroethane	1				80	mg/kg	1	0.35	0.35		1	
819	Hexanone [2-]	7					mg/kg	7	0.022	2.8			
820	Indeno[1,2,3-cd]pyrene	1				0.41	mg/kg	1	0.35	0.35		1	
821	Isophorone	1				7,400	mg/kg	1	0.35	0.35		1	
822	Isopropylbenzene	7					mg/kg	7	0.006	0.7			
823	Isopropyltoluene [4-]	7					mg/kg	7	0.006	0.7			
824	Lead	2	2	8	9	500	mg/kg					2	
825	Lindane	1					mg/kg	1	0.002	0.002			
826	Methoxychlor	1					mg/kg	1	0.018	0.018			
827	Methyl iodide	7					mg/kg	7	0.006	0.7			
828	Methyl-2-pentanone [4-]	7				510	mg/kg	7	0.022	2.8		7	
829	Methyl-4,6-dinitrophenol [2-]	1					mg/kg	1	1.7	1.7			
830	Methylene chloride	7				5.6	mg/kg	7	0.006	0.7		7	
831	Methylnaphthalene [2-]	1					mg/kg	1	0.35	0.35			
832	Methylphenol [2-]	1				4,000	mg/kg	1	0.35	0.35		1	
833	Methylphenol [4-]	1				400	mg/kg	1	0.35	0.35		1	
834	Naphthalene	1				3,200	mg/kg	1	0.35	0.35		1	
835	Nitroaniline [2-]	1					mg/kg	1	1.7	1.7			
836	Nitroaniline [3-]	1					mg/kg	1	1.7	1.7			
837	Nitroaniline [4-]	1					mg/kg	1	0.7	0.7			
838	Nitrobenzene	1				5.3	mg/kg	1	0.35	0.35		1	
839	Nitrophenol [2-]	1					mg/kg	1	0.35	0.35			
840	Nitrophenol [4-]	1					mg/kg	1	1.7	1.7			
841	Nitrosodi-n-propylamine [N-]	1				0.1	mg/kg	1	0.35	0.35			1
842	Nitrosodimethylamine [N-]	1					mg/kg	1	0.35	0.35			

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843	Nitrosodiphenylamine [N-]	1				140	mg/kg	1	0.35	0.35		1	
844	Pentachlorophenol	1				5.8	mg/kg	1	1.7	1.7		1	
845	Petroleum Hydrocarbons, Total Recoverable	8	4	20	743		mg/kg	4	22.4	24.8			
846	Phenanthrene	1					mg/kg	1	0.35	0.35			
847	Phenol	1				48,000	mg/kg	1	0.35	0.35		1	
848	Propylbenzene	7	1	1.9	1.9		mg/kg	6	0.006	0.006			
849	Pyrene	1				2,400	mg/kg	1	0.35	0.35		1	
850	Styrene	7				16,000	mg/kg	7	0.006	0.7		7	
851	Tetrachloroethane [1,1,1,2-]	7					mg/kg	7	0.006	0.7			
852	Tetrachloroethane [1,1,2,2-]	7				3.9	mg/kg	7	0.006	0.7		7	
853	Tetrachloroethylene	7				5.9	mg/kg	7	0.006	0.7		7	
854	Toluene	7				890	mg/kg	7	0.006	0.7		7	
855	Toxaphene	1					mg/kg	1	0.18	0.18			
856	Trichloro-1,2,2-trifluoroethane [1,1,2-]	6					mg/kg	6	0.006	0.7			
857	Trichlorobenzene [1,2,4-]	1				160	mg/kg	1	0.35	0.35		1	
858	Trichloroethane [1,1,1-]	7				1,000	mg/kg	7	0.006	0.7		7	
859	Trichloroethane [1,1,2-]	7				6.3	mg/kg	7	0.006	0.7		7	
860	Trichloroethene	7				3.2	mg/kg	7	0.006	0.7		7	
861	Trichlorofluoromethane	7					mg/kg	7	0.006	1.4			
862	Trichlorophenol [2,4,5-]	1				8,000	mg/kg	1	1.7	1.7		1	
863	Trichlorophenol [2,4,6-]	1				64	mg/kg	1	0.35	0.35		1	
864	Trichloropropane [1,2,3-]	7					mg/kg	7	0.006	0.7			
865	Trimethylbenzene [1,2,4-]	7	1	52	52		mg/kg	6	0.006	0.006			
866	Trimethylbenzene [1,3,5-]	7	1	17	17		mg/kg	6	0.006	0.006			
867	Vinyl chloride	7				0.012	mg/kg	7	0.011	1.4		2	5
868	Xylenes [o-, m-, p-]	7	1	16	16	160,000	mg/kg	6	0.006	0.006		7	
	0-031(b) UST-2 DISTRIBUTION LINE												
869	Acetone	41	19	0.021	0.97	8,000	mg/kg	22	0.02	20		41	
870	Benzene	41	5	0.009	17.4	0.67	mg/kg	36	0.005	0.7	3	37	1
871	Bromobenzene	41					mg/kg	41	0.005	5			
872	Bromochloromethane	41					mg/kg	41	0.005	5			
873	Bromodichloromethane	41				11	mg/kg	41	0.005	5		41	
874	Bromoform	41				89	mg/kg	41	0.005	5		41	

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875	Bromomethane	41				0.43	mg/kg	41	0.01	10		37	4
876	Butanone [2-]	41	1	0.7	0.7	4,000	mg/kg	40	0.02	20		41	
877	Butylbenzene [n-]	41	2	5.6	39		mg/kg	39	0.005	5			
878	Butylbenzene [sec-]	41	5	0.018	14		mg/kg	36	0.005	0.25			
879	Butylbenzene [tert-]	41	1	50	50		mg/kg	40	0.005	5			
880	Carbon disulfide	41				7.4	mg/kg	41	0.005	5		41	
881	Carbon tetrachloride	41				0.21	mg/kg	41	0.005	5		37	4
882	Chlorobenzene	41	1	0.012	0.012	67	mg/kg	40	0.005	5		41	
883	Chlorodibromomethane	41				83	mg/kg	41	0.005	5		41	
884	Chloroethane	41				3,300	mg/kg	41	0.01	10		41	
885	Chloroform	41				0.21	mg/kg	41	0.005	5		37	4
886	Chloromethane	41				6.4	mg/kg	41	0.01	10		40	1
887	Chlorotoluene [o-]	41					mg/kg	41	0.005	5			
888	Chlorotoluene [p-]	41					mg/kg	41	0.005	5			
889	Dibromo-3-chloropropane [1,2-]	41					mg/kg	41	0.01	10			
890	Dibromoethane [1,2-]	41					mg/kg	41	0.005	5			
891	Dibromomethane	41					mg/kg	41	0.005	5			
892	Dichlorobenzene [1,2-]	41				1,600	mg/kg	41	0.005	5		41	
893	Dichlorobenzene [1,3-]	41				7,200	mg/kg	41	0.005	5		41	
894	Dichlorobenzene [1,4-]	41				290	mg/kg	41	0.005	5		41	
895	Dichlorodifluoromethane	41					mg/kg	41	0.01	10			
896	Dichloroethane [1,1-]	41				410	mg/kg	41	0.005	5		41	
897	Dichloroethane [1,2-]	41				0.2	mg/kg	41	0.005	5		37	4
898	Dichloroethene [1,1-]	41	1	0.007	0.007	0.4	mg/kg	40	0.005	5		38	3
899	Dichloroethene [trans-1,2-]	41				1,600	mg/kg	41	0.005	5		41	
900	Dichloroethylene [cis-1,2-]	41				800	mg/kg	41	0.005	5		41	
901	Dichloropropane [1,2-]	41				6.5	mg/kg	41	0.005	5		41	
902	Dichloropropane [1,3-]	41					mg/kg	41	0.005	5			
903	Dichloropropane [2,2-]	41					mg/kg	41	0.005	5			
904	Dichloropropene [1,1-]	41					mg/kg	41	0.005	5			
905	Dichloropropene [cis-1,3-]	41				0.17	mg/kg	41	0.005	5		37	4
906	Dichloropropene [trans-1,3-]	41				0.17	mg/kg	41	0.005	5		37	4
907	Ethylbenzene	41	5	0.96	147	3,100	mg/kg	36	0.005	0.006		41	
908	Hexanone [2-]	41	1	0.023	0.023		mg/kg	40	0.02	20			
909	Isopropylbenzene	41	4	9.9	20.7		mg/kg	37	0.005	0.7			
910	Isopropyltoluene [4-]	41	5	0.057	29.8		mg/kg	36	0.005	0.7			

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911	Lead	20	19	3.6	14	500	mg/kg	1	4	4		20	
912	Methyl iodide	41					mg/kg	41	0.005	5			
913	Methyl-2-pentanone [4-]	41				510	mg/kg	41	0.02	20		41	
914	Methylene chloride	41				5.6	mg/kg	41	0.005	5		41	
915	Petroleum Hydrocarbons, Total Recoverable	32	5	282	2,290		mg/kg	27	10.4	22.6			
916	Propylbenzene	41	6	0.022	72.7		mg/kg	35	0.005	0.006			
917	Styrene	41	3	2.4	6.7	16,000	mg/kg	38	0.005	0.7		41	
918	Tetrachloroethane [1,1,1,2-]	41					mg/kg	41	0.005	5			
919	Tetrachloroethane [1,1,2,2-]	41				3.9	mg/kg	41	0.005	5		40	1
920	Tetrachloroethylene	41				5.9	mg/kg	41	0.005	5		41	
921	Toluene	41	5	0.013	243	890	mg/kg	36	0.005	0.7		41	
922	Trichloro-1,2,2-trifluoroethane [1,1,2-]	41					mg/kg	41	0.005	5			
923	Trichloroethane [1,1,1-]	41				1,000	mg/kg	41	0.005	5		41	
924	Trichloroethane [1,1,2-]	41				6.3	mg/kg	41	0.005	5		41	
925	Trichloroethene	41	2	0.01	2.2	3.2	mg/kg	39	0.005	5		40	1
926	Trichlorofluoromethane	41					mg/kg	41	0.005	5			
927	Trichloropropane [1,2,3-]	41					mg/kg	41	0.005	5			
928	Trimethylbenzene [1,2,4-]	41	5	0.42	360		mg/kg	36	0.005	0.7			
929	Trimethylbenzene [1,3,5-]	41	6	0.11	132		mg/kg	35	0.005	0.006			
930	Vinyl chloride	41				0.012	mg/kg	41	0.01	10		36	5
931	Xylenes [o-, m-, p-]	41	6	0.008	566	160,000	mg/kg	35	0.005	0.006		41	
	0-031(b) BUILDING 3												
932	Acenaphthene	2				4,800	mg/kg	2	0.36	0.36		2	
933	Acenaphthylene	2					mg/kg	2	0.36	0.36			
934	Acetone	2				8,000	mg/kg	2	0.022	0.023		2	
935	Aluminum	2	2	10,400	11,400		mg/kg						
936	Aniline	2					mg/kg	2	0.36	0.36			
937	Anthracene	2				24,000	mg/kg	2	0.36	0.36		2	
938	Antimony	2				32	mg/kg	2	5.7	5.8		2	
939	Arsenic	2	2	2.6	3.7	0.4	mg/kg				2		
940	Azobenzene	2					mg/kg	2	0.36	0.36			
941	Barium	2	2	127	138	5,600	mg/kg					2	
942	Benzene	5				0.67	mg/kg	5	0.005	0.006		5	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
943	Benzo[a]anthracene	2				0.64	mg/kg	2	0.36	0.36		2	
944	Benzo[a]pyrene	2	1	0.39	0.39	0.1	mg/kg	1	0.36	0.36	1		1
945	Benzo[b]fluoranthene	2				0.7	mg/kg	2	0.36	0.36		2	
946	Benzo[g,h,i]perylene	2	1	0.37	0.37	44	mg/kg	1	0.36	0.36		2	
947	Benzo[k]fluoranthene	2	1	0.53	0.53	1.5	mg/kg	1	0.36	0.36		2	
948	Benzoic acid	2				320,000	mg/kg	2	1.8	1.8		2	
949	Benzyl alcohol	2					mg/kg	2	0.36	0.36			
950	Beryllium	2				0.16	mg/kg	2	0.7	0.79			2
951	Bis(2-chloroethoxy)methane	2					mg/kg	2	0.36	0.36			
952	Bis(2-chloroethyl)ether	2				0.12	mg/kg	2	0.72	0.75			2
953	Bis(2-chloroisopropyl)ether	2				100	mg/kg	2	0.36	0.36		2	
954	Bis(2-ethylhexyl)phthalate	2				50	mg/kg	2	0.36	0.36		2	
955	Bromobenzene	2					mg/kg	2	0.005	0.006			
956	Bromochloromethane	2					mg/kg	2	0.005	0.006			
957	Bromodichloromethane	2				11	mg/kg	2	0.005	0.006		2	
958	Bromoform	2				89	mg/kg	2	0.005	0.006		2	
959	Bromomethane	2				0.43	mg/kg	2	0.011	0.011		2	
960	Bromophenylphenyl ether [4-]	2					mg/kg	2	0.36	0.36			
961	Butanone [2-]	2				4,000	mg/kg	2	0.022	0.023		2	
962	Butyl benzyl phthalate	2				16,000	mg/kg	2	0.36	0.36		2	
963	Butylbenzene [n-]	2					mg/kg	2	0.005	0.006			
964	Butylbenzene [sec-]	2					mg/kg	2	0.005	0.006			
965	Butylbenzene [tert-]	2					mg/kg	2	0.005	0.006			
966	Cadmium	2	2	1.5	1.7	80	mg/kg					2	
967	Calcium	2	2	3,810	4,060		mg/kg						
968	Carbon disulfide	2				7.4	mg/kg	2	0.005	0.006		2	
969	Carbon tetrachloride	2				0.21	mg/kg	2	0.005	0.006		2	
970	Chloro-3-methylphenol [4-]	2				16,000	mg/kg	2	0.36	0.36		2	
971	Chloroaniline [4-]	2				320	mg/kg	2	0.36	0.36		2	
972	Chlorobenzene	2				67	mg/kg	2	0.005	0.006		2	
973	Chlorodibromomethane	2				83	mg/kg	2	0.005	0.006		2	
974	Chloroethane	2				3,300	mg/kg	2	0.011	0.011		2	
975	Chloroform	2				0.21	mg/kg	2	0.005	0.006		2	
976	Chloromethane	2				6.4	mg/kg	2	0.011	0.011		2	
977	Chloronaphthalene [2-]	2				6,400	mg/kg	2	0.36	0.36		2	
978	Chlorophenol [o-]	2				400	mg/kg	2	0.36	0.36		2	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
979	Chlorophenylphenyl ether [4-]	2					mg/kg	2	0.36	0.36			
980	Chlorotoluene [o-]	2					mg/kg	2	0.005	0.006			
981	Chlorotoluene [p-]	2					mg/kg	2	0.005	0.006			
982	Chromium	2	2	7.6	8.3	400	mg/kg					2	
983	Chrysene	2				22	mg/kg	2	0.36	0.36		2	
984	Cobalt	2					mg/kg	2	4.4	5.2			
985	Copper	2	2	8	9.2	3,000	mg/kg					2	
986	Di-n-butyl phthalate	2				8,000	mg/kg	2	0.36	0.36		2	
987	Di-n-octyl phthalate	2				1,600	mg/kg	2	0.36	0.36		2	
988	Dibenzo[a,h]anthracene	2				0.086	mg/kg	2	0.36	0.36			2
989	Dibenzofuran	2					mg/kg	2	0.36	0.36			
990	Dibromo-3-chloropropane [1,2-]	2					mg/kg	2	0.011	0.011			
991	Dibromoethane [1,2-]	2					mg/kg	2	0.005	0.006			
992	Dibromomethane	2					mg/kg	2	0.005	0.006			
993	Dichlorobenzene [1,2-]	4				1,600	mg/kg	4	0.005	0.36		4	
994	Dichlorobenzene [1,3-]	4				7,200	mg/kg	4	0.005	0.36		4	
995	Dichlorobenzene [1,4-]	4				290	mg/kg	4	0.005	0.36		4	
996	Dichlorobenzidine [3,3'-]	2				1.6	mg/kg	2	0.36	0.36		2	
997	Dichlorodifluoromethane	2					mg/kg	2	0.011	0.011			
998	Dichloroethane [1,1-]	2				410	mg/kg	2	0.005	0.006		2	
999	Dichloroethane [1,2-]	2				0.2	mg/kg	2	0.005	0.006		2	
1000	Dichloroethene [1,1-]	2				0.4	mg/kg	2	0.005	0.006		2	
1001	Dichloroethene [trans-1,2-]	2				1,600	mg/kg	2	0.005	0.006		2	
1002	Dichloroethylene [cis-1,2-]	2				800	mg/kg	2	0.005	0.006		2	
1003	Dichlorophenol [2,4-]	2				240	mg/kg	2	0.36	0.36		2	
1004	Dichloropropane [1,2-]	2				6.5	mg/kg	2	0.005	0.006		2	
1005	Dichloropropane [1,3-]	2					mg/kg	2	0.005	0.006			
1006	Dichloropropane [2,2-]	2					mg/kg	2	0.005	0.006			
1007	Dichloropropene [1,1-]	2					mg/kg	2	0.005	0.006			
1008	Dichloropropene [cis-1,3-]	2				0.17	mg/kg	2	0.005	0.006		2	
1009	Dichloropropene [trans-1,3-]	2				0.17	mg/kg	2	0.005	0.006		2	
1010	Diethyl phthalate	2				64,000	mg/kg	2	0.36	0.36		2	
1011	Dimethyl phthalate	2				800,000	mg/kg	2	0.36	0.36		2	
1012	Dimethylphenol [2,4-]	2				1,600	mg/kg	2	0.36	0.36		2	
1013	Dinitrophenol [2,4-]	2				160	mg/kg	2	0.88	0.91		2	
1014	Dinitrotoluene [2,4-]	2				1	mg/kg	2	0.36	0.36		2	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1015 Dinitrotoluene [2,6-]	2				1	mg/kg	2	0.36	0.36		2	
1016 Ethylbenzene	5				3,100	mg/kg	5	0.005	0.006		5	
1017 Fluoranthene	2	1	0.68	0.68	3,200	mg/kg	1	0.36	0.36		2	
1018 Fluorene	2				3,200	mg/kg	2	0.36	0.36		2	
1019 Hexachlorobenzene	2				0.44	mg/kg	2	0.36	0.36		2	
1020 Hexachlorobutadiene	2				90	mg/kg	2	0.36	0.36		2	
1021 Hexachlorocyclopentadiene	2				560	mg/kg	2	0.36	0.36		2	
1022 Hexachloroethane	2				80	mg/kg	2	0.36	0.36		2	
1023 Hexanone [2-]	2					mg/kg	2	0.022	0.023			
1024 Indeno[1,2,3-cd]pyrene	2				0.41	mg/kg	2	0.36	0.36		2	
1025 Iron	2	2	10,200	11,100		mg/kg						
1026 Isophorone	2				7,400	mg/kg	2	0.36	0.36		2	
1027 Isopropylbenzene	2					mg/kg	2	0.005	0.006			
1028 Isopropyltoluene [4-]	2					mg/kg	2	0.005	0.006			
1029 Lead	12	12	5.9	44	500	mg/kg					12	
1030 Magnesium	2	2	1,890	1,960		mg/kg						
1031 Manganese	2	2	259	364	8,000	mg/kg					2	
1032 Mercury	2				24	mg/kg	2	0.1	0.11		2	
1033 Methyl iodide	2					mg/kg	2	0.005	0.006			
1034 Methyl-2-pentanone [4-]	2				510	mg/kg	2	0.022	0.023		2	
1035 Methyl-4,6-dinitrophenol [2-]	2					mg/kg	2	0.88	0.91			
1036 Methylene chloride	2				5.6	mg/kg	2	0.005	0.006		2	
1037 Methylnaphthalene [2-]	2					mg/kg	2	0.36	0.36			
1038 Methylphenol [2-]	2				4,000	mg/kg	2	0.36	0.36		2	
1039 Methylphenol [4-]	2				400	mg/kg	2	0.36	0.36		2	
1040 Naphthalene	2				3,200	mg/kg	2	0.36	0.36		2	
1041 Nickel	2				1,600	mg/kg	2	6.7	7.7		2	
1042 Nitroaniline [2-]	2					mg/kg	2	0.88	0.91			
1043 Nitroaniline [3-]	2					mg/kg	2	0.88	0.91			
1044 Nitroaniline [4-]	2					mg/kg	2	0.75	0.88			
1045 Nitrobenzene	2				5.3	mg/kg	2	0.36	0.36		2	
1046 Nitrophenol [2-]	2					mg/kg	2	0.36	0.36			
1047 Nitrophenol [4-]	2					mg/kg	2	0.88	0.91			
1048 Nitrosodi-n-propylamine [N-]	2				0.1	mg/kg	2	0.36	0.36			2
1049 Nitrosodimethylamine [N-]	2					mg/kg	2	0.36	0.36			
1050 Nitrosodiphenylamine [N-]	2				140	mg/kg	2	0.36	0.36		2	

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SUMMARY OF ADS 1071 SOIL SAMPLES

Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1051 Pentachlorophenol	2				5.8	mg/kg	2	0.88	0.91		2	
1052 Petroleum Hydrocarbons, Total Recoverable	12	11	62	1,800		mg/kg	1	22.8	22.8			
1053 Phenanthrene	2	1	0.42	0.42		mg/kg	1	0.36	0.36			
1054 Phenol	2				48,000	mg/kg	2	0.36	0.36		2	
1055 Potassium	2	2	1,220	1,390		mg/kg						
1056 Propylbenzene	2					mg/kg	2	0.005	0.006			
1057 Pyrene	2	1	0.54	0.54	2,400	mg/kg	1	0.36	0.36		2	
1058 Selenium	2				400	mg/kg	2	0.57	0.58		2	
1059 Silver	2				400	mg/kg	2	0.66	0.67		2	
1060 Sodium	2					mg/kg	2	156	159			
1061 Styrene	2				16,000	mg/kg	2	0.005	0.006		2	
1062 Tetrachloroethane [1,1,1,2-]	2					mg/kg	2	0.005	0.006			
1063 Tetrachloroethane [1,1,2,2-]	2				3.9	mg/kg	2	0.005	0.006		2	
1064 Tetrachloroethylene	2				5.9	mg/kg	2	0.005	0.006		2	
1065 Thallium	2				6.4	mg/kg	2	0.5	0.52		2	
1066 Toluene	5				890	mg/kg	5	0.005	0.006		5	
1067 Trichloro-1,2,2-trifluoroethane [1,1,2-]	2					mg/kg	2	0.005	0.006			
1068 Trichlorobenzene [1,2,4-]	2				160	mg/kg	2	0.36	0.36		2	
1069 Trichloroethane [1,1,1-]	4	1	0.019	0.019	1,000	mg/kg	3	0.005	0.019		4	
1070 Trichloroethane [1,1,2-]	2				6.3	mg/kg	2	0.005	0.006		2	
1071 Trichloroethene	2				3.2	mg/kg	2	0.005	0.006		2	
1072 Trichlorofluoromethane	2					mg/kg	2	0.005	0.006			
1073 Trichlorophenol [2,4,5-]	2				8,000	mg/kg	2	0.88	0.91		2	
1074 Trichlorophenol [2,4,6-]	2				64	mg/kg	2	0.36	0.36		2	
1075 Trichloropropane [1,2,3-]	2					mg/kg	2	0.005	0.006			
1076 Trimethylbenzene [1,2,4-]	2					mg/kg	2	0.005	0.006			
1077 Trimethylbenzene [1,3,5-]	2					mg/kg	2	0.005	0.006			
1078 Vanadium	2	2	15	18.9	560	mg/kg					2	
1079 Vinyl chloride	2				0.012	mg/kg	2	0.011	0.011		2	
1080 Xylenes [o-, m-, p-]	5				160,000	mg/kg	5	0.005	0.006		5	
1081 Zinc	2	2	28.4	35.8	24,000	mg/kg					2	

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
	0-031(b) UST-1												
1082	Benzene	1				0.67	mg/kg	1	0.006	0.006		1	
1083	Ethylbenzene	1				3,100	mg/kg	1	0.006	0.006		1	
1084	Petroleum Hydrocarbons, Total Recoverable	1	1	94.1	94.1		mg/kg						
1085	Toluene	1				890	mg/kg	1	0.006	0.006		1	
1086	Xylenes [o-, m-, p-]	1				160,000	mg/kg	1	0.006	0.006		1	
	0-032 JUNCTION BOX 5N												
1087	Petroleum Hydrocarbons, Total Recoverable	2					mg/kg	2	24.7	25.2			
	0-032 BUILDING 1												
1088	Acetone	1				8,000	mg/kg	1	0.02	0.02		1	
1089	Benzene	1				0.67	mg/kg	1	0.005	0.005		1	
1090	Bromobenzene	1					mg/kg	1	0.005	0.005			
1091	Bromochloromethane	1					mg/kg	1	0.005	0.005			
1092	Bromodichloromethane	1				11	mg/kg	1	0.005	0.005		1	
1093	Bromoform	1				89	mg/kg	1	0.005	0.005		1	
1094	Bromomethane	1				0.43	mg/kg	1	0.01	0.01		1	
1095	Butanone [2-]	1				4,000	mg/kg	1	0.028	0.028		1	
1096	Butylbenzene [n-]	1					mg/kg	1	0.005	0.005			
1097	Butylbenzene [sec-]	1					mg/kg	1	0.005	0.005			
1098	Butylbenzene [tert-]	1					mg/kg	1	0.005	0.005			
1099	Carbon disulfide	1				7.4	mg/kg	1	0.005	0.005		1	
1100	Carbon tetrachloride	1				0.21	mg/kg	1	0.005	0.005		1	
1101	Chlorobenzene	1				67	mg/kg	1	0.005	0.005		1	
1102	Chlorodibromomethane	1				83	mg/kg	1	0.005	0.005		1	
1103	Chloroethane	1				3,300	mg/kg	1	0.01	0.01		1	
1104	Chloroform	1				0.21	mg/kg	1	0.005	0.005		1	
1105	Chloromethane	1				6.4	mg/kg	1	0.01	0.01		1	
1106	Chlorotoluene [o-]	1					mg/kg	1	0.005	0.005			
1107	Chlorotoluene [p-]	1					mg/kg	1	0.005	0.005			

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1108	Dibromo-3-chloropropane [1,2-]	1					mg/kg	1	0.01	0.01			
1109	Dibromoethane [1,2-]	1					mg/kg	1	0.005	0.005			
1110	Dibromomethane	1					mg/kg	1	0.005	0.005			
1111	Dichlorobenzene [1,2-]	1				1,600	mg/kg	1	0.005	0.005		1	
1112	Dichlorobenzene [1,3-]	1				7,200	mg/kg	1	0.005	0.005		1	
1113	Dichlorobenzene [1,4-]	1				290	mg/kg	1	0.005	0.005		1	
1114	Dichlorodifluoromethane	1					mg/kg	1	0.01	0.01			
1115	Dichloroethane [1,1-]	1				410	mg/kg	1	0.005	0.005		1	
1116	Dichloroethane [1,2-]	1				0.2	mg/kg	1	0.005	0.005		1	
1117	Dichloroethene [1,1-]	1				0.4	mg/kg	1	0.005	0.005		1	
1118	Dichloroethene [trans-1,2-]	1				1,600	mg/kg	1	0.005	0.005		1	
1119	Dichloroethylene [cis-1,2-]	1				800	mg/kg	1	0.005	0.005		1	
1120	Dichloropropane [1,2-]	1				6.5	mg/kg	1	0.005	0.005		1	
1121	Dichloropropane [1,3-]	1					mg/kg	1	0.005	0.005			
1122	Dichloropropane [2,2-]	1					mg/kg	1	0.005	0.005			
1123	Dichloropropene [1,1-]	1					mg/kg	1	0.005	0.005			
1124	Dichloropropene [cis-1,3-]	1				0.17	mg/kg	1	0.005	0.005		1	
1125	Dichloropropene [trans-1,3-]	1				0.17	mg/kg	1	0.005	0.005		1	
1126	Ethylbenzene	1				3,100	mg/kg	1	0.005	0.005		1	
1127	Hexanone [2-]	1					mg/kg	1	0.02	0.02			
1128	Isopropylbenzene	1					mg/kg	1	0.005	0.005			
1129	Isopropyltoluene [4-]	1					mg/kg	1	0.005	0.005			
1130	Methyl iodide	1					mg/kg	1	0.005	0.005			
1131	Methyl-2-pentanone [4-]	1				510	mg/kg	1	0.02	0.02		1	
1132	Methylene chloride	1				5.6	mg/kg	1	0.005	0.005		1	
1133	Propylbenzene	1					mg/kg	1	0.005	0.005			
1134	Styrene	1				16,000	mg/kg	1	0.005	0.005		1	
1135	Tetrachloroethane [1,1,1,2-]	1					mg/kg	1	0.005	0.005			
1136	Tetrachloroethane [1,1,2,2-]	1				3.9	mg/kg	1	0.005	0.005		1	
1137	Tetrachloroethylene	1				5.9	mg/kg	1	0.005	0.005		1	
1138	Toluene	1				890	mg/kg	1	0.005	0.005		1	
1139	Trichloro-1,2,2-trifluoroethane [1,1,2-]	1					mg/kg	1	0.005	0.005			
1140	Trichloroethane [1,1,1-]	1				1,000	mg/kg	1	0.005	0.005		1	
1141	Trichloroethane [1,1,2-]	1				6.3	mg/kg	1	0.005	0.005		1	
1142	Trichloroethene	1				3.2	mg/kg	1	0.005	0.005		1	
1143	Trichlorofluoromethane	1					mg/kg	1	0.005	0.005			

TABLE 2-1

SUMMARY OF ADS 1071 SOIL SAMPLES

Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1144 Trichloropropane [1,2,3-]	1					mg/kg	1	0.005	0.005			
1145 Trimethylbenzene [1,2,4-]	1					mg/kg	1	0.005	0.005			
1146 Trimethylbenzene [1,3,5-]	1					mg/kg	1	0.005	0.005			
1147 Vinyl chloride	1				0.012	mg/kg	1	0.01	0.01		1	
1148 Xylenes [o-, m-, p-]	1				160,000	mg/kg	1	0.005	0.005		1	
Total Number of Values	**7,298**	**720**					**6,578**			**54**	**4,174**	**152**

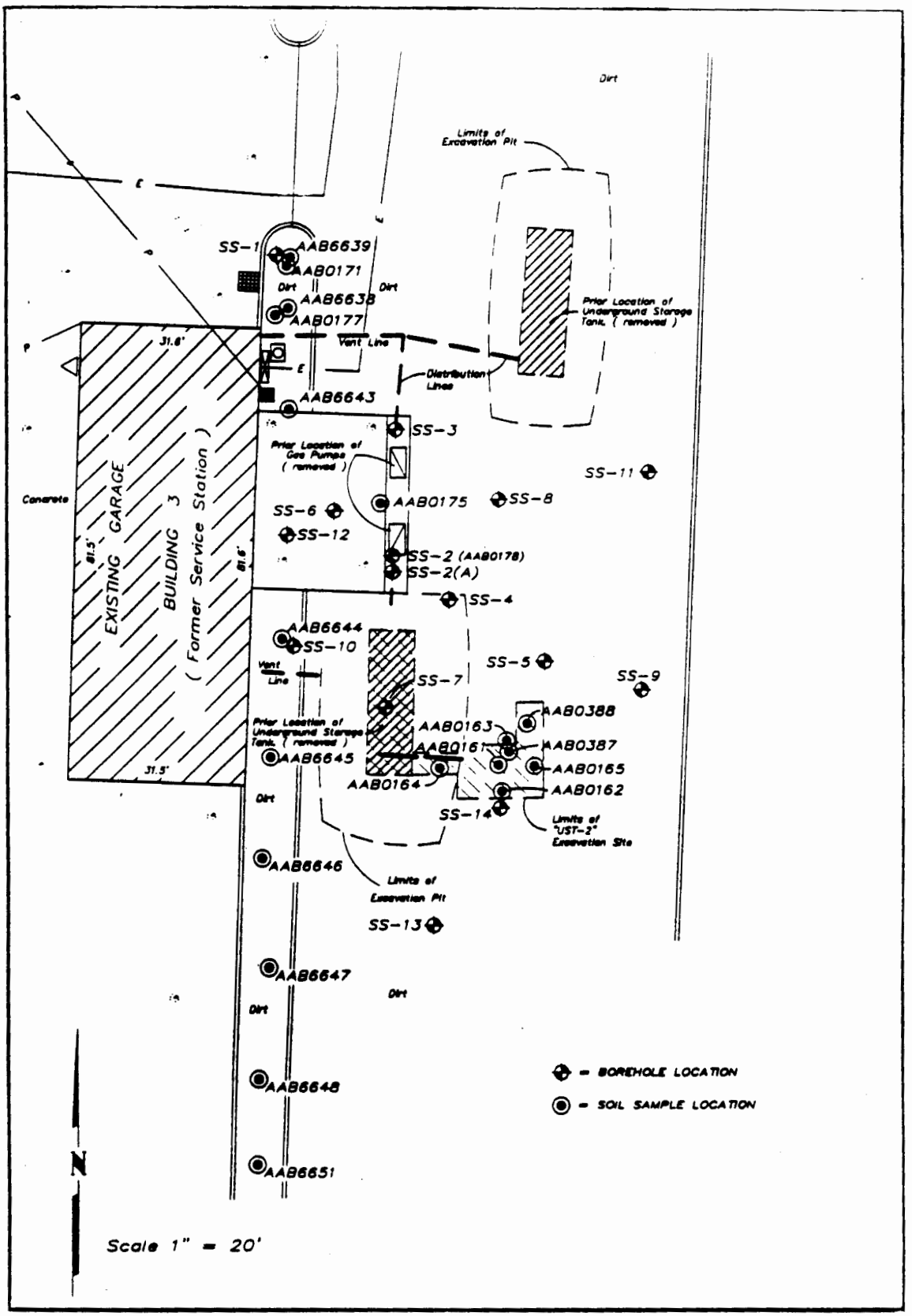


Figure 2-6. Detail of borehole and sample locations at former service station, PRS Group 0-4, PRS 0-031(b) (ADS 1071).

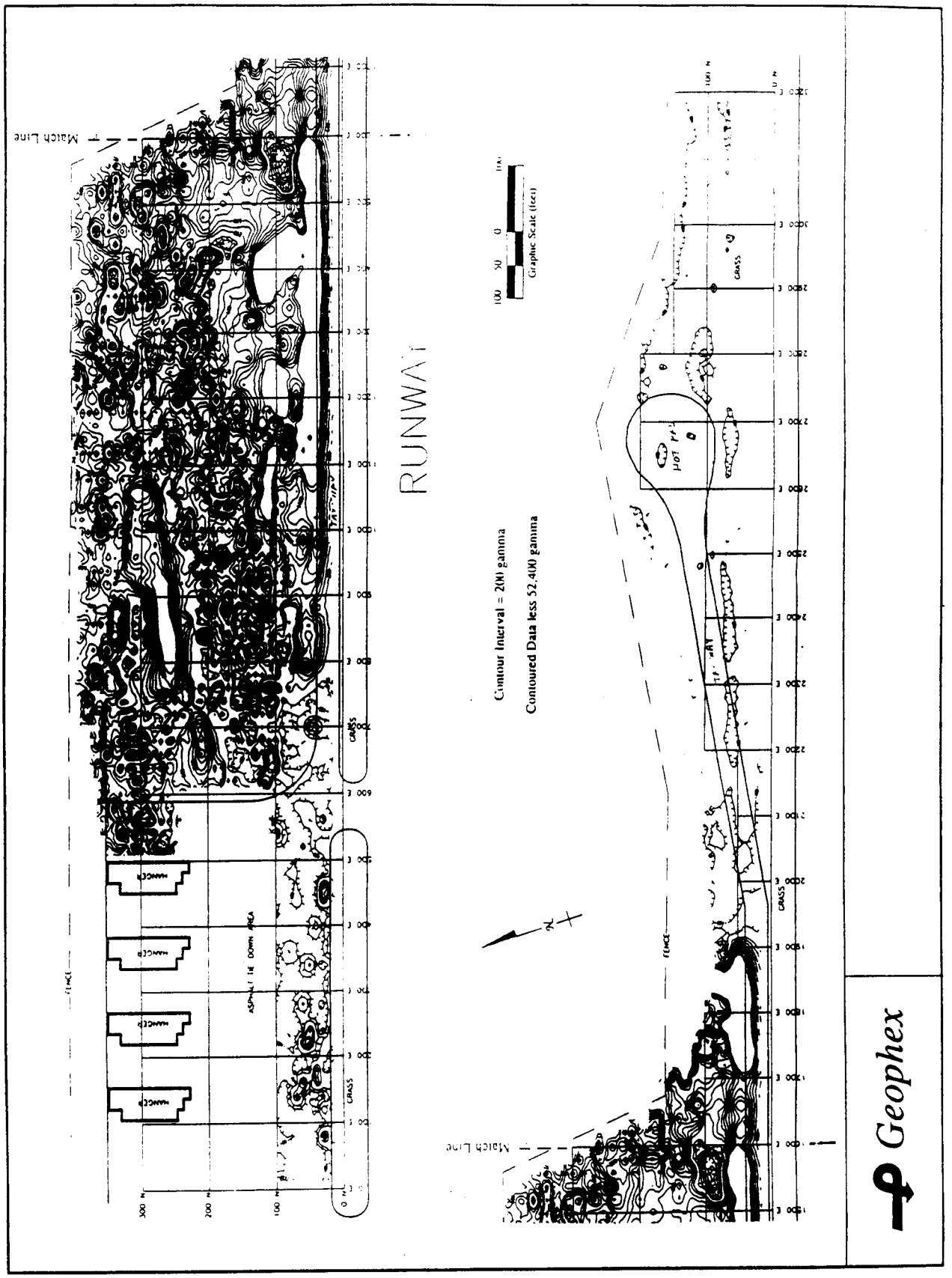


Figure 2-7. Contour map showing variations in total magnetic field strength at Los Alamos Airport, ADS 1071.

TABLE 2-2

SOIL GAS SURVEY SUMMARY FOR AIRPORT LANDFILL, ADS 1071

Analyte	Number of Samples Above Reporting Limit	Maximum Concentration	Units	Minimum Concentration
Benzene	2	17	mg/l	9.5
Dichlorobenzene [1,4-]	18	120	mg/l	7.3
Dichloroethylene [1,1-]	3	110	mg/l	14
Freon-113	4	0.6	mg/l	0.2
Methane	92	87	%V/V*	0.6
Tetrachloroethylene	65	2,400	mg/l	0.1
Toluene	37	220	mg/l	6.6
Trichloroethane [1,1,1-]	14	6.3	mg/l	0.1
Trichloroethylene	85	430	mg/l	0.1
Vinyl Chloride	12	510	mg/l	20
Xylenes [Total]	55	258	mg/l	8.7

%V/V = percent by volume.

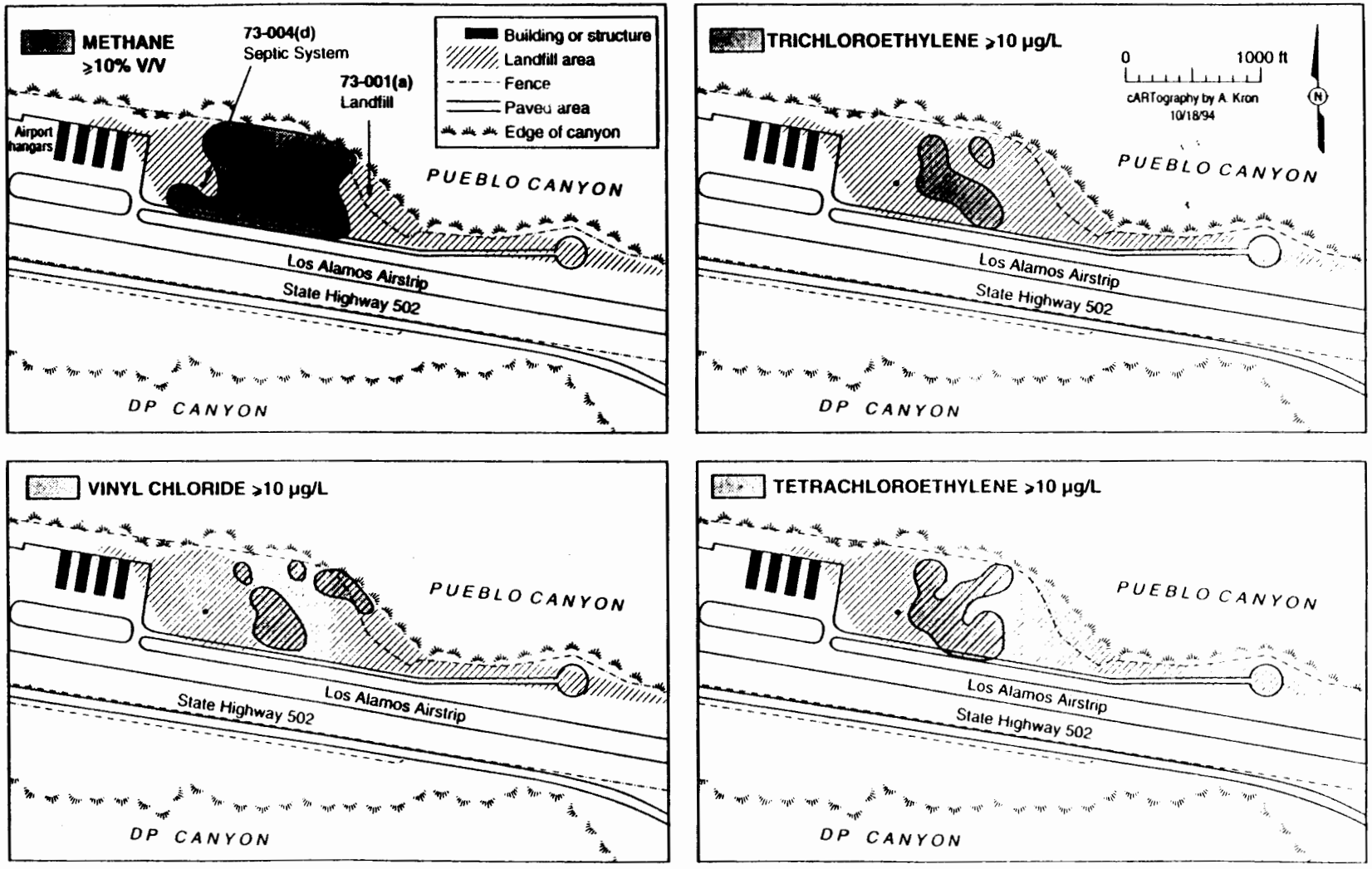


Figure 2-8. Soil gas survey results at TA-73, ADS 1071.

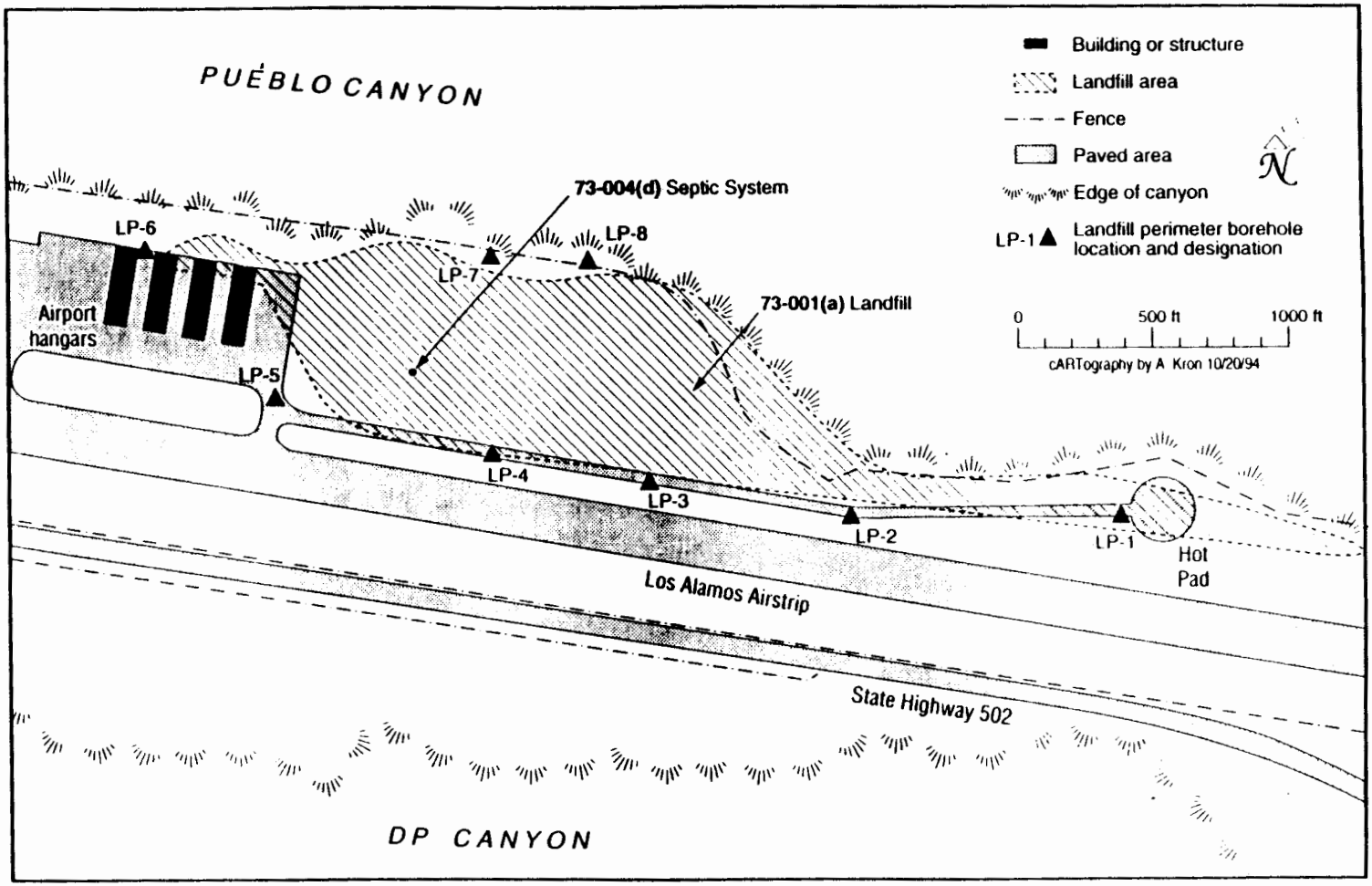


Figure 2-9. Landfill perimeter borehole locations, ADS 1071.

2.1.2 ADS 1078—TA-1

Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) field work for this ADS is nearing completion, and the data reports will soon be available with which the assessments will be made and the RFI Report written. An investigation was conducted this quarter at the Western Sanitary Waste Line, which has been the PRS suspected to contain the highest hazardous or radioactive concentrations on the mesa top. The Loma Vista Drive Property, referred to as the Sigma Building Aggregate in the RFI work plan for Operable Unit (OU) 1078 (LANL 1992, 0782), was the last area to be investigated. The investigation of this area was delayed because of a lack of an access agreement. The final field work to be performed is a voluntary corrective action on hillside areas that were contaminated by outfalls from building and septic tank drain lines; this field work is in the planning stage.

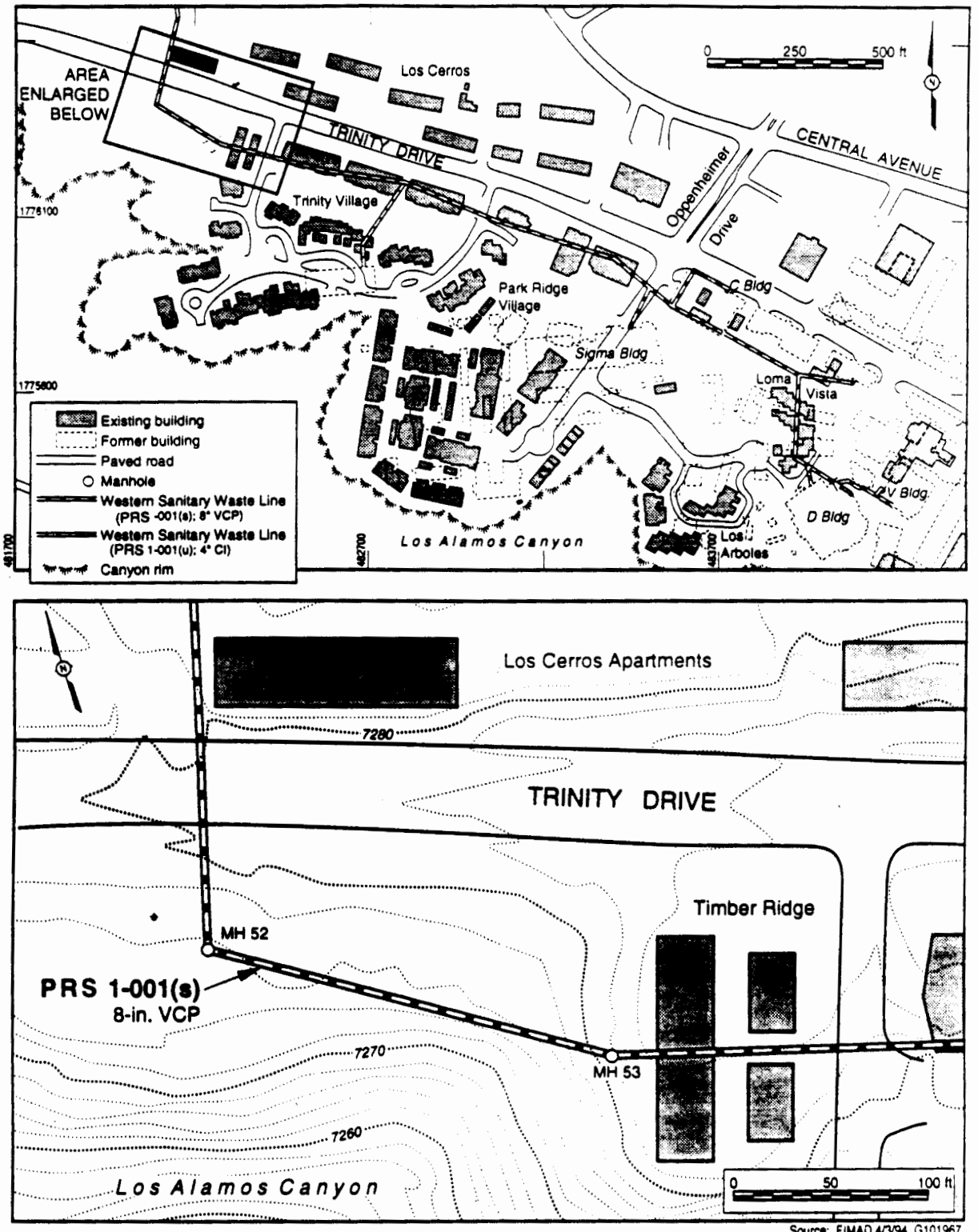
Western Sanitary Waste Line, PRS 1-001(s, u). The Western Sanitary Waste Line was located during the March 1994 investigation, and one of two manholes suspected of being within the boundary of Location 1A was located and sampled. After assessing analytical data from that investigation, a second characterization was conducted on the waste line in July 1994. The objective of this phase was to assess the structural integrity of the line, which is composed of vitrified clay pipe, and to determine whether any contamination remained inside or outside of the pipe. This phase of work was conducted where a large section of the waste line (approximately 220 ft) lies on undeveloped property (see Figure 2-10).

The following activities were conducted. First, the pipe was removed and inspected for evidence of pre-existing breaks or cracks where leaks may have occurred during active of use of the waste line. The pipe and surrounding trench fill material were inspected visually and with radiation screening instruments for evidence of contamination. Finally, individual 3-ft-long pipe sections were pulled apart, and the interior of the pipe was monitored for radioactivity. The pipe was found to contain small amounts of dried sewer sludge for approximately 100 ft upstream from a grout plug. The dried material was located primarily at the joints and within fine fibrous root mats. The roots did not appear to be growing through the pipe connections. They seemed to result from the germination of seeds carried into the pipe line along with dust and rainwater through existing open (non-filled) manholes or through openings at removed sections of the line beneath buildings that exist along the trace of the line. Field monitoring indicated the presence of radioactivity up to 10,000 counts per minute; however, some of the material inside the pipe showed little activity. For each 36-ft length of pipe, composite samples were collected by combining material from locations with the highest, intermediate, and lowest field survey readings. The intent of this sampling strategy was to allow the calculation of a mean concentration for each 36-ft section of the waste line. The pipe sections were individually contained within double-lined 6-mil plastic and removed to a less-than-90-day storage area on Sigma Mesa. Analytical results are pending.

Loma Vista Drive Property, PRSs 1-002 and 1-007(d). Sampling was conducted in August 1994 at the undeveloped property north of Loma Vista Drive in Los Alamos, NM (see Figure 2-11). The objective of the sampling activity was to collect data necessary to validate the cleanup of contamination formerly present at the site and to validate that the remediation performed during the 1974–1976 radiological survey meets present-day standards for RCRA constituents as well as radiological constituents. PRS 1-002, the industrial waste line, and PRS 1-007(d), subsurface soil contamination, were addressed in this investigation.

An initial radiation survey was conducted at nodes within a grid established over the entire property using a field instrument capable of detecting low-energy gamma radiation. Additionally, Eberline ESP-1 beta/gamma and Ludlum Model 139 alpha instruments were used at grid nodes. The radiological survey detected no significant elevated activity that would require drilling additional boreholes.

Seventeen boreholes were drilled or hand-augered at the locations shown in Figure 2-11. Total depth in the boreholes ranged from 5 ft to 22 ft. Field surveys with hand-held radiation instruments showed no readings significantly above background (i.e., >400 counts per minute). Samples were analyzed for radioactivity at TA-59. All results of these analyses were at or below background for gross alpha, beta, and gamma activities. Samples were also submitted to an off-site analytical laboratory for total metals and some semivolatile organic compound (SVOC) analyses. Final results are pending.



VCP = vitrified clay pipe
CI = cast iron (pipe)

Source: FIMAD 4/3/94, G101967
Modified by: cARTography by A. Kron 11/1/94

Figure 2-10. Location of PRS 1-001(s), ADS 1078.

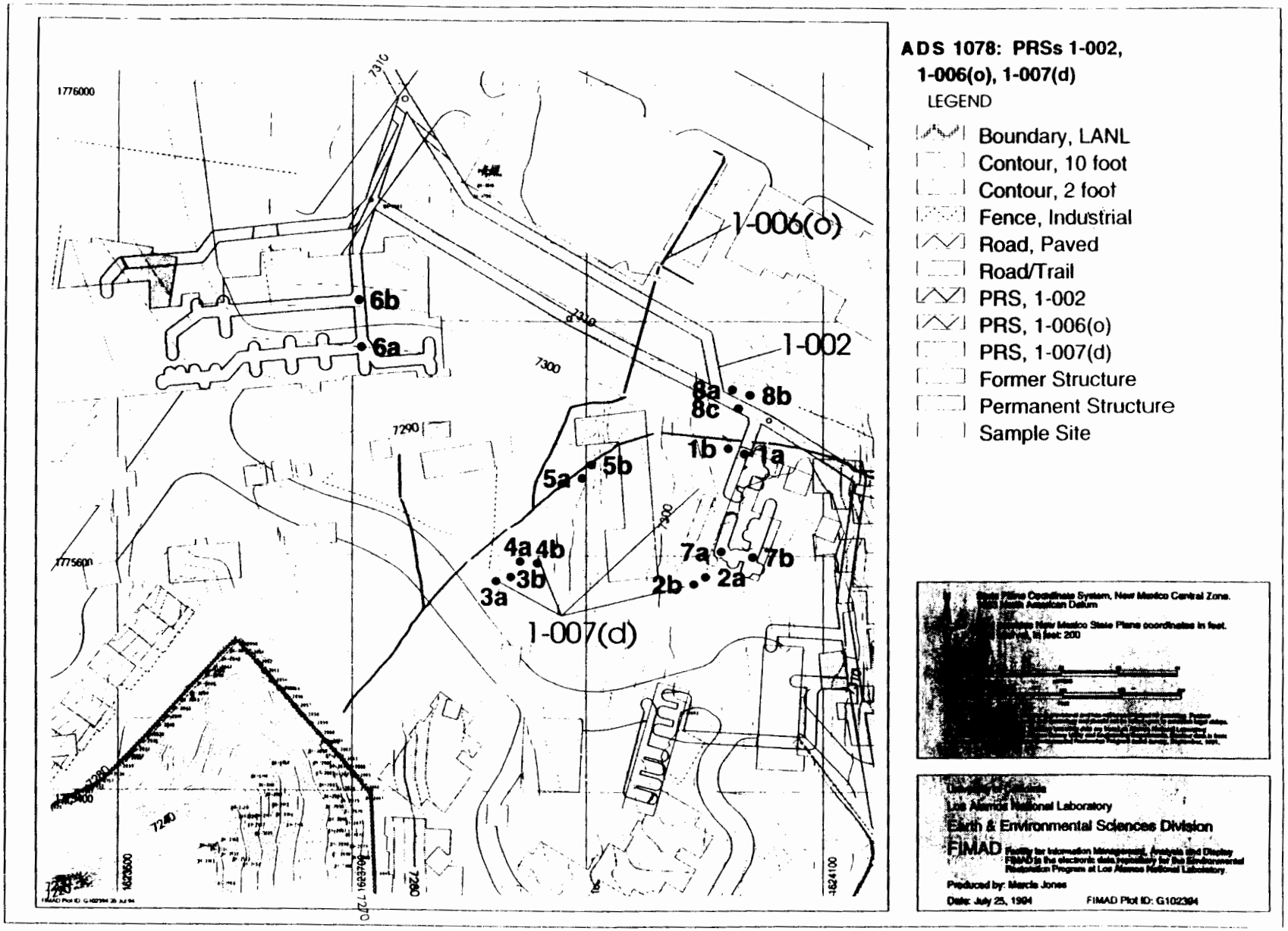


Figure 2-11. Sampling locations at PRSs 1-002, 1-006(o), 1-007(d), ADS 1078.

Hillsides Voluntary Corrective Action. Preparation continues for the removal of contaminated soils and sediments from Hillsides 137, 138, and 140. The contaminants of concern are as follows: plutonium on Hillside 137, mercury and plutonium on Hillside 138; and natural uranium on Hillside 140. Contaminated material will be removed from the hillsides using a high-powered vacuum system equipped with high-efficiency air particulate filters. Specifics on the technology to be used and waste minimization issues are being addressed.

2.1.3 ADS 1079—TAs-10, -31, -32, -45

The primary focus for ADS 1079 has been to perform the TA-10 Bayo Canyon field operations, to prepare the TA-31 RFI Report, to plan the TA-32 Phase II sampling campaign, and to prepare the TA-45 RFI Report.

TA-10 activities. Drilling in Bayo Canyon is progressing on schedule. At the end of September, 76 boreholes were completed and sampled for a total drilling depth of 3,919 ft. The completed boreholes are indicated in Figure 2-12. Shrapnel removal has been initiated in Bayo Canyon; team members are defining the nature and extent of the shrapnel deposition and determining the best technique for the shrapnel removal. A shrapnel removal action has begun outside the fenced area to ensure public safety.

TA-31 activities. Activities have been focused on completing the TA-31 RFI report.

TA-32 activities. Activities have been focused on planning the Phase II sampling campaign.

TA-45 activities. Activities have been focused on completing the TA-45 RFI report.

Analytical results. Analytical results from the soil samples taken during the 1993 surface sampling activities at TA-31 and during 1993 subsurface sampling activities at TA-45 have undergone preliminary data analysis and are presented in summary form in Tables 2-3 and 2-4 (see Section 1.0 for an explanation of the summary tables). The data for TA-31 were from the Facility for Information Management, Analysis, and Display (FIMAD) as of October 5, 1994. The data for TA-45 were from the FIMAD as of July 26, 1994. Each soil sample was analyzed for particular suites of analytes as called out in the RFI work plan for OU 1079 (LANL 1992, 0783). An explanation of the analyte disposition categories is in the notes following Tables 2-3 and 2-4.

Interpretation of analyses for TA-31 surface soil samples.

Of the 154 constituents examined, 90 constituents had sample values or detection limits below the corresponding SALs and thus were placed in the "No Concern" category. Of these 90 constituents, 19 analytes had measured values above the LOD and below their respective SALs. There were 71 analytes with all values below the LOD.

Of the 154 constituents, 44 constituents fell into the "Null Case" category. In these cases, the detection limit was used as a proxy SAL (LANL 1993, 1017). Because these analytical results were below the proxy SAL (i.e., the detection limit), these compounds have been excluded from further analysis.

Four of the 154 analytes fell into the "Special Case" category: bis(2-chloroethyl)ether, dibenzo[a,h]anthracene, N-nitrosodi-n-propylamine, and vinyl chloride. In this case the detection limit was used as the proxy SAL (LANL 1993, 1017). All analyte values are then below proxy SAL levels and are not considered to be contaminants of concern.

Seven analytes fell within the "Exceeds SAL" category: mixed Aroclor, arsenic, benzo[a]pyrene, benzo[a]anthracene, benzo[b]fluoranthene, beryllium, and indeno[1,2,3-cd]pyrene. The values for mixed Aroclors (polychlorinated biphenyls [PCBs]) were above their SALs in one area of the outfall. The remaining constituents with values above SAL were polycyclic aromatic hydrocarbons, arsenic, and beryllium. Arsenic and beryllium occur naturally in the soil and need to be compared with local background levels.

Nine constituents fell into the "Further Evaluation" category and need to be compared with local background levels or be further evaluated by other means. Seven are essential nutrients that occur naturally in the soil (aluminum, calcium, cobalt, iron, magnesium, potassium, and sodium). The final two analytes are phenanthracene, which is a polycyclic aromatic hydrocarbon, and Aroclor 1254, which is the specific PCB noted in the "Exceeds SAL" category.

Interpretation of analyses for TA-45 subsurface soil samples.

Of the 167 constituents examined in the RFI samples, 98 had values below the corresponding screening action levels and were placed in the category of "No Concern." Forty-five constituents fell into the "Null Case" category. In these cases, the detection limit was used as a proxy SAL. Because these analytical results were below the proxy SAL, these compounds have been excluded from further analysis. Thirteen of the constituents were in the "Special Case" category. Again, the detection limits were used as proxy SALs; no apparent problems are present.

Three constituents, arsenic, beryllium, and strontium-90, were placed in the "Exceeds SAL" category. Arsenic and beryllium occur naturally in the soil and must be compared with background values. One value for strontium-90, from Location 45-1055, was greater than SAL. Based on this identification, strontium-90 was proposed for inclusion in a risk assessment.

Eight constituents were placed in the "Further Evaluation" category. Phenanthrene has a single value above an LOD, but below other LODs for the same analyte. Seven of the values correspond to naturally occurring substances and were identified as candidates for background comparisons to determine whether the concentrations present are above those that occur naturally in soil.

Analysis of the waste management samples identified arsenic and chromium as candidates for further evaluation using background comparisons. Cromium was detected at a very high level at Location 45-1032. Elevated chromium was also found in an RFI sample at Location 45-1025. Chromium was detected at depths below which normal construction excavation would reach, and there is no complete exposure pathway for the chromium. Therefore, chromium was not recommended for inclusion in a risk assessment. In addition, arsenic levels did not exceed naturally occurring levels. Arsenic was not recommended for inclusion in a risk assessment.

The results of the screening assessment performed on the TA-45 subsurface sampling data show that only strontium-90 requires further consideration in a baseline risk assessment, while the remaining constituents require no further study.

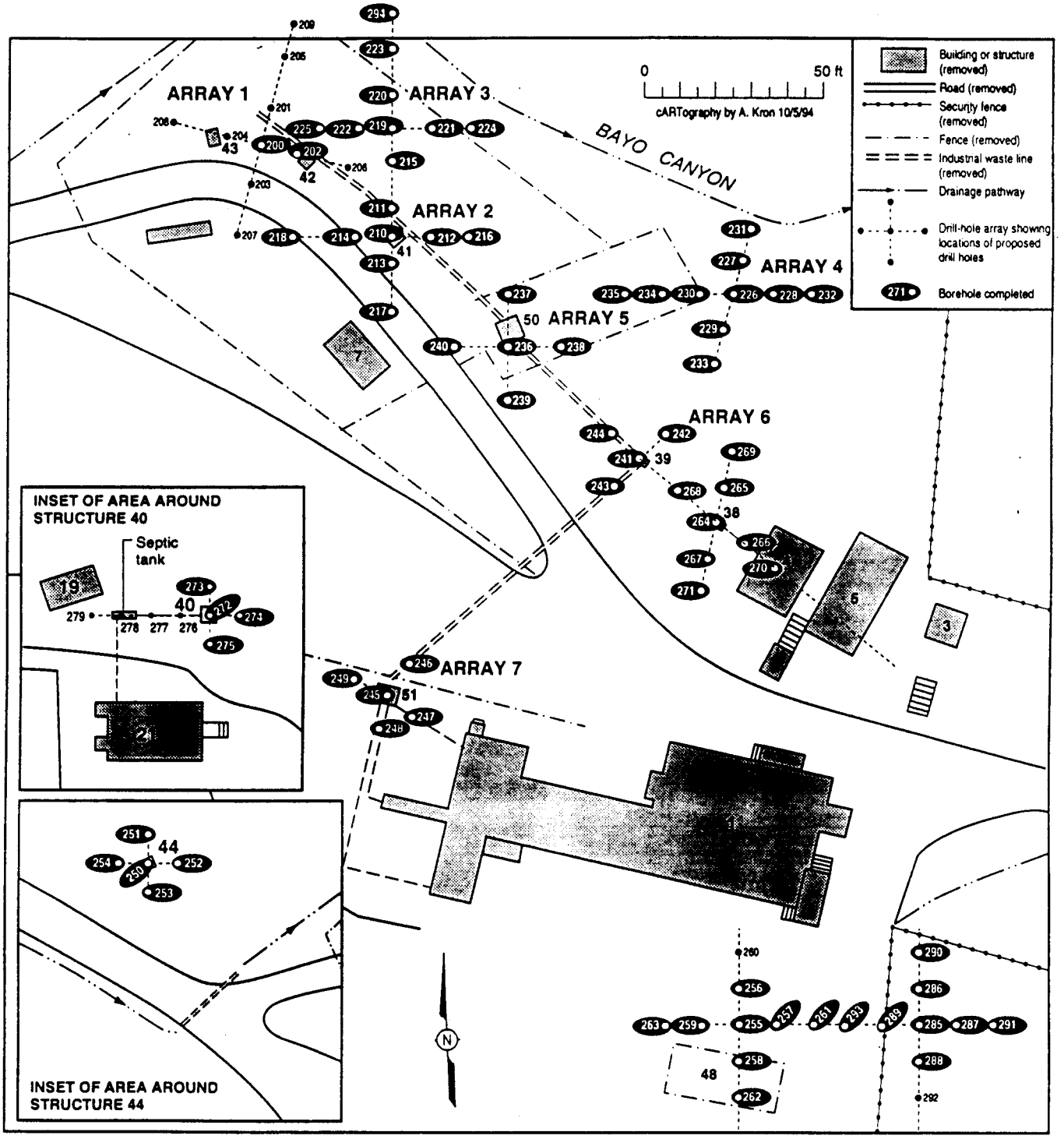


Figure 2-12. TA-10 Main Site sampling array locations showing boreholes completed through September 30, 1994, ADS 1079.

TABLE 2-3

SUMMARY OF TA-31 SURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
1	Acenaphthene	15				4,800	mg/kg	15	0.33	0.33		15		No Concern
2	Acenaphthylene	15					mg/kg	15	0.33	0.33				Null Case
3	Acetone	7				8,000	mg/kg	7	0.02	0.02		7		No Concern
4	Aluminum	18	18	3,500	13,000		mg/kg							Further Eval
5	Aniline	15					mg/kg	15	0.33	0.33				Null Case
6	Anthracene	15				24,000	mg/kg	15	0.33	0.33		15		No Concern
7	Antimony	17	1	1	1	32	mg/kg	16	1	1		17		No Concern
8	Aroclor 1242	12					mg/kg	12	1	1				Null Case
9	Aroclor 1254	12	3	3	12		mg/kg	9	1	1				Further Eval
10	Aroclor 1260	12					mg/kg	12	1	1				Null Case
11	Aroclor [Mixed-]	12	3	3	12	0.09	mg/kg	9	1	1	3	9		Exceeds SAL
12	Arsenic	18	18	1.7	12.5	0.4	mg/kg				18			Exceeds SAL
13	Azobenzene	15					mg/kg	15	0.33	0.33				Null Case
14	Barium	18	18	31	1,100	5,600	mg/kg					18		No Concern
15	Benzene	7				0.67	mg/kg	7	0.005	0.005		7		No Concern
16	Benzidine [m-]	15					mg/kg	15	0.33	0.33				Null Case
17	Benzo[a]anthracene	15	3	0.49	1.7	0.64	mg/kg	12	0.33	0.33	1	14		Exceeds SAL
18	Benzo[a]pyrene	15	3	0.41	2.2	0.1	mg/kg	12	0.33	0.33	3		12	Exceeds SAL
19	Benzo[b]fluoranthene	15	5	0.47	3.3	0.7	mg/kg	10	0.33	0.33	2	13		Exceeds SAL
20	Benzo[g,h,i]perylene	15	1	0.72	0.72	44	mg/kg	14	0.33	0.33		15		No Concern
21	Benzo[k]fluoranthene	15	1	1.1	1.1	1.5	mg/kg	14	0.33	0.33		15		No Concern
22	Benzoic acid	15				320,000	mg/kg	15	0.33	0.33		15		No Concern
23	Benzyl alcohol	15					mg/kg	15	0.33	0.33				Null Case
24	Beryllium	18	18	0.41	1	0.16	mg/kg				18			Exceeds SAL
25	Bis(2-chloroethoxy)methane	15					mg/kg	15	0.33	0.33				Null Case
26	Bis(2-chloroethyl)ether	15				0.12	mg/kg	15	0.33	0.33			15	Special Case
27	Bis(2-chloroisopropyl)ether	15				100	mg/kg	15	0.33	0.33		15		No Concern
28	Bis(2-ethylhexyl)phthalate	15				50	mg/kg	15	0.33	0.33		15		No Concern
29	Bromobenzene	7					mg/kg	7	0.005	0.005				Null Case
30	Bromochloromethane	7					mg/kg	7	0.005	0.005				Null Case
31	Bromodichloromethane	7				11	mg/kg	7	0.005	0.005		7		No Concern
32	Bromoform	7				89	mg/kg	7	0.005	0.005		7		No Concern
33	Bromomethane	7				0.43	mg/kg	7	0.01	0.01		7		No Concern
34	Bromophenylphenyl ether [4-]	15					mg/kg	15	0.33	0.33				Null Case
35	Butanone [2-]	7				4,000	mg/kg	7	0.02	0.02		7		No Concern
36	Butyl benzyl phthalate	15				16,000	mg/kg	15	0.33	0.33		15		No Concern
37	Butylbenzene [n-]	7					mg/kg	7	0.005	0.005				Null Case

TABLE 2-3

SUMMARY OF TA-31 SURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
38	Butylbenzene [sec-]	7					mg/kg	7	0.005	0.005				Null Case
39	Butylbenzene [tert-]	7					mg/kg	7	0.005	0.005				Null Case
40	Cadmium	18	9	0.4	0.6	80	mg/kg	9	0.4	0.4		18		No Concern
41	Calcium	18	18	900	22,000		mg/kg							Further Eval
42	Carbon disulfide	7				7.4	mg/kg	7	0.005	0.005		7		No Concern
43	Carbon tetrachloride	7				0.21	mg/kg	7	0.005	0.005		7		No Concern
44	Chloro-3-methylphenol [4-]	15				16,000	mg/kg	15	0.33	0.33		15		No Concern
45	Chloroaniline [4-]	15				320	mg/kg	15	0.33	0.33		15		No Concern
46	Chlorobenzene	7				67	mg/kg	7	0.005	0.005		7		No Concern
47	Chlorodibromomethane	7				83	mg/kg	7	0.005	0.005		7		No Concern
48	Chloroethane	7				3,300	mg/kg	7	0.01	0.01		7		No Concern
49	Chloroform	7				0.21	mg/kg	7	0.005	0.005		7		No Concern
50	Chloromethane	7				6.4	mg/kg	7	0.01	0.01		7		No Concern
51	Chloronaphthalene [2-]	15				6,400	mg/kg	15	0.33	0.33		15		No Concern
52	Chlorophenol [o-]	15				400	mg/kg	15	0.33	0.33		15		No Concern
53	Chlorophenylphenyl ether [4-]	15					mg/kg	15	0.33	0.33				Null Case
54	Chlorotoluene [o-]	7					mg/kg	7	0.005	0.005				Null Case
55	Chlorotoluene [p-]	7					mg/kg	7	0.005	0.005				Null Case
56	Chromium	18	18	2.9	19	400	mg/kg					18		No Concern
57	Chrysene	15	3	0.45	1.7	22	mg/kg	12	0.33	0.33		15		No Concern
58	Cobalt	18	18	1.1	7.7		mg/kg							Further Eval
59	Copper	18	18	3	51	3,000	mg/kg					18		No Concern
60	Di-n-butyl phthalate	15	4	0.41	0.73	8,000	mg/kg	11	0.33	0.33		15		No Concern
61	Di-n-octyl phthalate	15				1,600	mg/kg	15	0.33	0.33		15		No Concern
62	Dibenzo[a,h]anthracene	15				0.09	mg/kg	15	0.33	0.33			15	Special Case
63	Dibenzofuran	15					mg/kg	15	0.33	0.33				Null Case
64	Dibromo-3-chloropropane [1,2-]	7					mg/kg	7	0.01	0.01				Null Case
65	Dibromoethane [1,2-]	7					mg/kg	7	0.005	0.005				Null Case
66	Dibromomethane	7					mg/kg	7	0.005	0.005				Null Case
67	Dichlorobenzene [1,2-]	22				1,600	mg/kg	22	0.005	0.33		22		No Concern
68	Dichlorobenzene [1,3-]	22				7,200	mg/kg	22	0.005	0.33		22		No Concern
69	Dichlorobenzene [1,4-]	22				290	mg/kg	22	0.005	0.33		22		No Concern
70	Dichlorobenzidine [3,3'-]	15				1.6	mg/kg	15	0.33	0.33		15		No Concern
71	Dichlorodifluoromethane	7					mg/kg	7	0.01	0.01				Null Case
72	Dichloroethane [1,1-]	7				410	mg/kg	7	0.005	0.005		7		No Concern
73	Dichloroethane [1,2-]	7				0.2	mg/kg	7	0.005	0.005		7		No Concern
74	Dichloroethene [1,1-]	7				0.4	mg/kg	7	0.005	0.005		7		No Concern

TABLE 2-3

SUMMARY OF TA-31 SURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
75	Dichloroethene [trans-1,2-]	7				1,600	mg/kg	7	0.005	0.005		7		No Concern
76	Dichloroethylene [cis-1,2-]	7				800	mg/kg	7	0.005	0.005		7		No Concern
77	Dichlorophenol [2,4-]	15				240	mg/kg	15	0.33	0.33		15		No Concern
78	Dichloropropane [1,2-]	7				6.5	mg/kg	7	0.005	0.005		7		No Concern
79	Dichloropropane [1,3-]	7					mg/kg	7	0.005	0.005				Null Case
80	Dichloropropane [2,2-]	7					mg/kg	7	0.005	0.005				Null Case
81	Dichloropropene [1,1-]	7					mg/kg	7	0.005	0.005				Null Case
82	Dichloropropene [cis-1,3-]	7				0.17	mg/kg	7	0.005	0.005		7		No Concern
83	Dichloropropene [trans-1,3-]	7				0.17	mg/kg	7	0.005	0.005		7		No Concern
84	Diethyl phthalate	15				64,000	mg/kg	15	0.33	0.33		15		No Concern
85	Dimethyl phthalate	15				800,000	mg/kg	15	0.33	0.33		15		No Concern
86	Dimethylphenol [2,4-]	15				1,600	mg/kg	15	0.33	0.33		15		No Concern
87	Dinitrophenol [2,4-]	15				160	mg/kg	15	0.33	0.33		15		No Concern
88	Dinitrotoluene [2,4-]	15				1	mg/kg	15	0.33	0.33		15		No Concern
89	Dinitrotoluene [2,6-]	15				1	mg/kg	15	0.33	0.33		15		No Concern
90	Ethylbenzene	7				3,100	mg/kg	7	0.005	0.005		7		No Concern
91	Fluoranthene	15		0.65	1.2	3,200	mg/kg	12	0.33	0.33		15		No Concern
92	Fluorene	15				3,200	mg/kg	15	0.33	0.33		15		No Concern
93	Hexachlorobenzene	15				0.44	mg/kg	15	0.33	0.33		15		No Concern
94	Hexachlorobutadiene	15				90	mg/kg	15	0.33	0.33		15		No Concern
95	Hexachlorocyclopentadiene	15				560	mg/kg	15	0.33	0.33		15		No Concern
96	Hexachloroethane	15				80	mg/kg	15	0.33	0.33		15		No Concern
97	Hexanone [2-]	7					mg/kg	7	0.02	0.02				Null Case
98	Indeno[1,2,3-cd]pyrene	15	1	0.79	0.79	0.41	mg/kg	14	0.33	0.33	1	14		Exceeds SAL
99	Iron	18	18	7,700	26,000		mg/kg							Further Eval
100	Isophorone	15				7,400	mg/kg	15	0.33	0.33		15		No Concern
101	Isopropylbenzene	7					mg/kg	7	0.005	0.005				Null Case
102	Isopropyltoluene [4-]	7					mg/kg	7	0.005	0.005				Null Case
103	Lead	18	18	10	460	500	mg/kg					18		No Concern
104	Magnesium	18	18	630	3,500		mg/kg							Further Eval
105	Manganese	18	18	160	750	8,000	mg/kg					18		No Concern
106	Mercury	51	17	0.1	0.3	24	mg/kg	34	0.1	0.1		51		No Concern
107	Methyl iodide	7					mg/kg	7	0.005	0.005				Null Case
108	Methyl-2-pentanone [4-]	7				510	mg/kg	7	0.02	0.02		7		No Concern
109	Methyl-4,6-dinitrophenol [2-]	15					mg/kg	15	0.33	0.33				Null Case
110	Methylene chloride	7				5.6	mg/kg	7	0.005	0.005		7		No Concern
111	Methylnaphthalene [2-]	15					mg/kg	15	0.33	0.33				Null Case

TABLE 2-3

SUMMARY OF TA-31 SURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
112	Methylphenol [2-]	15				4,000	mg/kg	15	0.33	0.33		15		No Concern
113	Methylphenol [4-]	15				400	mg/kg	15	0.33	0.33		15		No Concern
114	Naphthalene	15				3,200	mg/kg	15	0.33	0.33		15		No Concern
115	Nickel	18	18	2	13	1,600	mg/kg					18		No Concern
116	Nitroaniline [2-]	15					mg/kg	15	0.33	0.33				Null Case
117	Nitroaniline [3-]	15					mg/kg	15	0.33	0.33				Null Case
118	Nitroaniline [4-]	15					mg/kg	15	0.33	0.33				Null Case
119	Nitrobenzene	15				5.3	mg/kg	15	0.33	0.33		15		No Concern
120	Nitrophenol [2-]	15					mg/kg	15	0.33	0.33				Null Case
121	Nitrophenol [4-]	15					mg/kg	15	0.33	0.33				Null Case
122	Nitrosodi-n-propylamine [N-]	15				0.1	mg/kg	15	0.33	0.33			15	Special Case
123	Nitrosodimethylamine [N-]	15					mg/kg	15	0.33	0.33				Null Case
124	Nitrosodiphenylamine [N-]	15				140	mg/kg	15	0.33	0.33		15		No Concern
125	Pentachlorophenol	15				5.8	mg/kg	15	0.33	0.33		15		No Concern
126	Phenanthrene	15	1	0.35	0.35		mg/kg	14	0.33	0.33				Further Eval
127	Phenol	15				48,000	mg/kg	15	0.33	0.33		15		No Concern
128	Potassium	18	18	590	2,000		mg/kg							Further Eval
129	Propylbenzene	7					mg/kg	7	0.005	0.005				Null Case
130	Pyrene	15	3	0.65	1.5	2,400	mg/kg	12	0.33	0.33		15		No Concern
131	Selenium	18	18	0.5	1.3	400	mg/kg					18		No Concern
132	Silver	18				400	mg/kg	18	1	1		18		No Concern
133	Sodium	18	18	63	270		mg/kg							Further Eval
134	Styrene	7				16,000	mg/kg	7	0.005	0.005		7		No Concern
135	Tetrachloroethane [1,1,1,2-]	7					mg/kg	7	0.005	0.005				Null Case
136	Tetrachloroethane [1,1,2,2-]	7				3.9	mg/kg	7	0.005	0.005		7		No Concern
137	Tetrachloroethylene	7	2	0.01	0.01	5.9	mg/kg	5	0.005	0.005		7		No Concern
138	Thallium	17				6.4	mg/kg	17	1	1		17		No Concern
139	Toluene	7				890	mg/kg	7	0.005	0.005		7		No Concern
140	Trichloro-1,2,2-trifluoroethane [1,1,2-]	7					mg/kg	7	0.005	0.005				Null Case
141	Trichlorobenzene [1,2,4-]	15				160	mg/kg	15	0.33	0.33		15		No Concern
142	Trichloroethane [1,1,1-]	7				1,000	mg/kg	7	0.005	0.005		7		No Concern
143	Trichloroethane [1,1,2-]	7				6.3	mg/kg	7	0.005	0.005		7		No Concern
144	Trichloroethene	7				3.2	mg/kg	7	0.005	0.005		7		No Concern
145	Trichlorofluoromethane	7					mg/kg	7	0.005	0.005				Null Case
146	Trichlorophenol [2,4,5-]	15				8,000	mg/kg	15	0.33	0.33		15		No Concern
147	Trichlorophenol [2,4,6-]	15				64	mg/kg	15	0.33	0.33		15		No Concern

TABLE 2-3

SUMMARY OF TA-31 SURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
148	Trichloropropane [1,2,3-]	7					mg/kg	7	0.005	0.005				Null Case
149	Trimethylbenzene [1,2,4-]	7					mg/kg	7	0.005	0.005				Null Case
150	Trimethylbenzene [1,3,5-]	7					mg/kg	7	0.005	0.005				Null Case
151	Vanadium	18	18	6.3	35	560	mg/kg					18		No Concern
152	Vinyl chloride	7				0.01	mg/kg	7	0.01	0.01			7	Special Case
153	Xylenes [o-, m-, p-]	7				160,000	mg/kg	7	0.005	0.005		7		No Concern
154	Zinc	18	18	33	73	24,000	mg/kg					18		No Concern
	Total Number of Values	**1,955**	**384**					**1,568**			**46**	**1,238**	**64**	

Notes:

Analyte Disposition column categories:

1. "Exceeds SAL" indicates that one or more analyte values exceeded the SAL for that analyte.
2. "Further Evaluation" indicates that one or more analyte values were greater than the LOD and there is no current SAL for comparison.
3. "No Concern" indicates that the analyte values are all less than the SAL for that analyte.
4. "Null Case" indicates that the analyte values are less than the LOD for that analyte and the SAL is unknown.
5. "Special Case" indicates that the analyte values are less than the LOD for that analyte and the SAL is known to be less than the LOD.

TABLE 2-4

SUMMARY OF TA-45 SUBSURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
1	Acenaphthene	58				4,800	mg/kg	58	0.33	1.7		58		No Concern
2	Acenaphthylene	58					mg/kg	58	0.33	1.7				Null Case
3	Acetone	14	7	0.02	0.04	8,000	mg/kg	7	0.011	0.02		14		No Concern
4	Aluminum	61	61	640	19,000		mg/kg							Further Eval
5	Americium-241	63	7	0.02	0.06	22	pCi/g	56	0.01*	0.01*		63		No Concern
6	Aniline	56					mg/kg	56	0.33	1.7				Null Case
7	Anthracene	58				24,000	mg/kg	58	0.33	1.7		58		No Concern
8	Antimony	60	7	0.04	0.25	32	mg/kg	53	0.04	0.16		60		No Concern
9	Arsenic	64	63	0.4	4.9	0.4	mg/kg	1	0.2	0.2	63	1		Exceeds SAL
10	Azobenzene	56					mg/kg	56	0.33	1.7				Null Case
11	Barium	64	64	6.1	310	5,600	mg/kg					64		No Concern
12	Benzene	14				0.67	mg/kg	14	0.005	0.013		14		No Concern
13	Benzidine [m-]	56					mg/kg	56	0.33	1.7				Null Case
14	Benzo[a]anthracene	58				0.64	mg/kg	58	0.33	1.7		50	8	Special Case
15	Benzo[a]pyrene	58				0.1	mg/kg	58	0.33	1.7			58	Special Case
16	Benzo[b]fluoranthene	58				0.7	mg/kg	58	0.33	1.7		50	8	Special Case
17	Benzo[g,h,i]perylene	58				44	mg/kg	58	0.33	1.7		58		No Concern
18	Benzo[k]fluoranthene	58				1.5	mg/kg	58	0.33	1.7		51	7	Special Case
19	Benzoic acid	58				320,000	mg/kg	58	0.33	1.7		58		No Concern
20	Benzyl alcohol	58					mg/kg	58	0.33	1.7				Null Case
21	Beryllium	61	61	0.36	2.1	0.16	mg/kg				61			Exceeds SAL
22	Bis(2-chloroethoxy)methane	58					mg/kg	58	0.33	1.7				Null Case
23	Bis(2-chloroethyl)ether	58				0.12	mg/kg	58	0.33	1.7			58	Special Case
24	Bis(2-chloroisopropyl)ether	58				100	mg/kg	58	0.33	1.7		58		No Concern
25	Bis(2-ethylhexyl)phthalate	58	1	0.73	0.73	50	mg/kg	57	0.33	1.7		58		No Concern
26	Bromobenzene	7					mg/kg	7	0.005	0.005				Null Case
27	Bromochloromethane	14					mg/kg	14	0.005	0.013				Null Case
28	Bromodichloromethane	14				11	mg/kg	14	0.005	0.013		14		No Concern
29	Bromoform	8				89	mg/kg	8	0.005	0.012		8		No Concern
30	Bromomethane	14				0.43	mg/kg	14	0.01	0.013		14		No Concern
31	Bromophenylphenyl ether [4-]	58					mg/kg	58	0.33	1.7				Null Case
32	Butanone [2-]	14				4,000	mg/kg	14	0.011	0.02		14		No Concern
33	Butyl benzyl phthalate	58				16,000	mg/kg	58	0.33	1.7		58		No Concern
34	Butylbenzene [n-]	7					mg/kg	7	0.005	0.005				Null Case
35	Butylbenzene [sec-]	7					mg/kg	7	0.005	0.005				Null Case
36	Butylbenzene [tert-]	7					mg/kg	7	0.005	0.005				Null Case
37	Cadmium	64	9	0.5	3.5	80	mg/kg	55	0.4	4		64		No Concern
38	Calcium	61	61	200	5,000		mg/kg	0						Further Eval

TABLE 2-4

SUMMARY OF TA-45 SUBSURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
39	Carbon disulfide	14				7.4	mg/kg	14	0.005	0.013		14		No Concern
40	Carbon tetrachloride	14				0.21	mg/kg	14	0.005	0.013		14		No Concern
41	Chloro-3-methylphenol [4-]	58				16,000	mg/kg	58	0.33	1.7		58		No Concern
42	Chloroaniline [4-]	58				320	mg/kg	58	0.33	1.7		58		No Concern
43	Chlorobenzene	14				67	mg/kg	14	0.005	0.013		14		No Concern
44	Chlorodibromomethane	14				83	mg/kg	14	0.005	0.013		14		No Concern
45	Chloroethane	14				3,300	mg/kg	14	0.01	0.013		14		No Concern
46	Chloroform	14				0.21	mg/kg	14	0.005	0.013		14		No Concern
47	Chloromethane	14				6.4	mg/kg	14	0.01	0.013		14		No Concern
48	Chloronaphthalene [2-]	58				6,400	mg/kg	58	0.33	1.7		58		No Concern
49	Chlorophenol [o-]	58				400	mg/kg	58	0.33	1.7		58		No Concern
50	Chlorophenylphenyl ether [4-]	58					mg/kg	58	0.33	1.7				Null Case
51	Chlorotoluene [o-]	7					mg/kg	7	0.005	0.005				Null Case
52	Chlorotoluene [p-]	7					mg/kg	7	0.005	0.005				Null Case
53	Chromium	64	55	1.4	330	400	mg/kg	9	0.5	2		64		No Concern
54	Chrysene	58				22	mg/kg	58	0.33	1.7		58		No Concern
55	Cobalt	61	60	0.5	6.5		mg/kg	1	0.5	0.5				Further Eval
56	Copper	61	44	0.5	6.8	3,000	mg/kg	17	0.5	0.5		61		No Concern
57	Cyanide	61	16	0.14	0.41	1,600	mg/kg	45	0.05	0.05		61		No Concern
58	Di-n-butyl phthalate	58				8,000	mg/kg	58	0.33	1.7		58		No Concern
59	Di-n-octyl phthalate	58				1,600	mg/kg	58	0.33	1.7		58		No Concern
60	Dibenzo[a,h]anthracene	58				0.086	mg/kg	58	0.33	1.7			58	Special Case
61	Dibenzofuran	58					mg/kg	58	0.33	1.7				Null Case
62	Dibromo-3-chloropropane [1,2-]	7					mg/kg	7	0.01	0.01				Null Case
63	Dibromoethane [1,2-]	14					mg/kg	14	0.005	0.013				Null Case
64	Dibromomethane	14					mg/kg	14	0.005	0.013				Null Case
65	Dichlorobenzene [1,2]	65				1,600	mg/kg	65	0.005	1.7		65		No Concern
66	Dichlorobenzene [1,3]	65				7,200	mg/kg	65	0.005	1.7		65		No Concern
67	Dichlorobenzene [1,4]	65				290	mg/kg	65	0.005	1.7		65		No Concern
68	Dichlorobenzidine [3,3'-]	58				1.6	mg/kg	58	0.33	1.7		57	1	Special Case
69	Dichlorodifluoromethane	14					mg/kg	14	0.01	0.013				Null Case
70	Dichloroethane [1,1-]	14				410	mg/kg	14	0.005	0.013		14		No Concern
71	Dichloroethane [1,2-]	14				0.2	mg/kg	14	0.005	0.013		14		No Concern
72	Dichloroethene [1,1-]	14				0.4	mg/kg	14	0.005	0.013		14		No Concern
73	Dichloroethene [trans-1,2-]	14				1,600	mg/kg	14	0.005	0.013		14		No Concern
74	Dichloroethylene [cis-1,2-]	14				800	mg/kg	14	0.005	0.013		14		No Concern
75	Dichlorophenol [2,4-]	58				240	mg/kg	58	0.33	1.7		58		No Concern
76	Dichloropropane [1,2-]	14				6.5	mg/kg	14	0.005	0.013		14		No Concern

TABLE 2-4

SUMMARY OF TA-45 SUBSURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
77	Dichloropropane [1,3-]	14					mg/kg	14	0.005	0.013				Null Case
78	Dichloropropane [2,2-]	14					mg/kg	14	0.005	0.013				Null Case
79	Dichloropropene [1,1-]	14					mg/kg	14	0.005	0.013				Null Case
80	Dichloropropene [cis-1,3-]	14				0.17	mg/kg	14	0.005	0.013		14		No Concern
81	Dichloropropene [trans-1,3-]	14				0.17	mg/kg	14	0.005	0.013		14		No Concern
82	Diethyl phthalate	58				64,000	mg/kg	58	0.33	1.7		58		No Concern
83	Dimethyl phthalate	58				800,000	mg/kg	58	0.33	1.7		58		No Concern
84	Dimethylphenol [2,4-]	58				1,600	mg/kg	58	0.33	1.7		58		No Concern
85	Dinitrobenzene [1,3-]	7				8	mg/kg	7	0.271	0.333		7		No Concern
86	Dinitrophenol [2,4-]	58				160	mg/kg	58	0.33	1.7		58		No Concern
87	Dinitrotoluene [2,4-]	65				1	mg/kg	65	0.282	1.7		57	8	Special Case
88	Dinitrotoluene [2,6-]	65				1	mg/kg	65	0.282	1.7		57	8	Special Case
89	Ethylbenzene	14				3,100	mg/kg	14	0.005	0.013		14		No Concern
90	Fluoranthene	58	1	0.55	0.55	3,200	mg/kg	57	0.33	1.7		58		No Concern
91	Fluorene	58				3,200	mg/kg	58	0.33	1.7		58		No Concern
92	HMX	7				4,000	mg/kg	7	2.39	2.93		7		No Concern
93	Hexachlorobenzene	58				0.44	mg/kg	58	0.33	1.7		50	8	Special Case
94	Hexachlorobutadiene	58				90	mg/kg	58	0.33	1.7		58		No Concern
95	Hexachlorocyclopentadiene	58				560	mg/kg	58	0.33	1.7		58		No Concern
96	Hexachloroethane	58				80	mg/kg	58	0.33	1.7		58		No Concern
97	Hexanone [2-]	14					mg/kg	14	0.011	0.02				Null Case
98	Indeno[1,2,3-cd]pyrene	58				0.41	mg/kg	58	0.33	1.7		49	9	Special Case
99	Iron	61	61	2,700	15,000		mg/kg							Further Eval
100	Isophorone	58				7,400	mg/kg	58	0.33	1.7		58		No Concern
101	Isopropylbenzene	7					mg/kg	7	0.005	0.005				Null Case
102	Isopropyltoluene [4-]	7					mg/kg	7	0.005	0.005				Null Case
103	Lead	65	61	2	160	500	mg/kg	4	4	4		65		No Concern
104	Magnesium	60	60	120	2,900		mg/kg							Further Eval
105	Manganese	61	61	78	980	8,000	mg/kg					61		No Concern
106	Mercury	93	1	0.2	0.2	24	mg/kg	92	0.1	0.1		93		No Concern
107	Methyl iodide	14					mg/kg	14	0.005	0.013				Null Case
108	Methyl-2-pentanone [4-]	14				510	mg/kg	14	0.011	0.02		14		No Concern
109	Methyl-4,6-dinitrophenol [2-]	58					mg/kg	58	0.33	1.7				Null Case
110	Methylene chloride	14				5.6	mg/kg	14	0.005	0.013		14		No Concern
111	Methylnaphthalene [2-]	58					mg/kg	58	0.33	1.7				Null Case
112	Methylphenol [2-]	58				4,000	mg/kg	58	0.33	1.7		58		No Concern
113	Methylphenol [4-]	58				400	mg/kg	58	0.33	1.7		58		No Concern
114	Naphthalene	58				3,200	mg/kg	58	0.33	1.7		58		No Concern

TABLE 2-4

SUMMARY OF TA-45 SUBSURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
115	Nickel	64	44	2	120	1,600	mg/kg	20	2	5		64		No Concern
116	Nitroaniline [2-]	58					mg/kg	58	0.33	1.7				Null Case
117	Nitroaniline [3-]	58					mg/kg	58	0.33	1.7				Null Case
118	Nitroaniline [4-]	58					mg/kg	58	0.33	1.7				Null Case
119	Nitrobenzene	65				5.3	mg/kg	65	0.282	1.7		65		No Concern
120	Nitrophenol [2-]	58					mg/kg	58	0.33	1.7				Null Case
121	Nitrophenol [4-]	58					mg/kg	58	0.33	1.7				Null Case
122	Nitrosodi-n-propylamine [N-]	58				0.1	mg/kg	58	0.33	1.7			58	Special Case
123	Nitrosodimethylamine [N-]	56					mg/kg	56	0.33	1.7				Null Case
124	Nitrosodiphenylamine [N-]	58				140	mg/kg	58	0.33	1.7		58		No Concern
125	Nitrotoluene [m-]	7					mg/kg	7	0.271	0.333				Null Case
126	Nitrotoluene [o-]	7					mg/kg	7	0.271	0.333				Null Case
127	Nitrotoluene [p-]	7					mg/kg	7	0.271	0.333				Null Case
128	Pentachlorophenol	58				5.8	mg/kg	58	0.33	1.7		58		No Concern
129	Phenanthrene	58	1	0.59	0.59		mg/kg	57	0.33	1.7				Further Eval
130	Phenol	58				48,000	mg/kg	58	0.33	1.7		58		No Concern
131	Plutonium-238	63	4	0.01	0.02	27	pCi/g	59	0.01*	0.01*		63		No Concern
132	Plutonium-239	63	16	0.01	0.82	24	pCi/g	47	0.01*	0.01*		63		No Concern
133	Potassium	61	61	58	2,100		mg/kg							Further Eval
134	Propylbenzene	7					mg/kg	7	0.005	0.005				Null Case
135	Pyrene	58	1	0.57	0.57	2,400	mg/kg	57	0.33	1.7		58		No Concern
136	RDX	7				64	mg/kg	7	1.08	1.33		7		No Concern
137	Selenium	64	33	0.3	1.3	400	mg/kg	31	0.2	0.3		64		No Concern
138	Silver	64	3	2	3	400	mg/kg	61	1	1		64		No Concern
139	Sodium	61	61	67	400		mg/kg							Further Eval
140	Strontium-90	60	1	78.4	78.4	8.9	pCi/g	59	1	1	1	59		Exceeds SAL
141	Styrene	14				16,000	mg/kg	14	0.005	0.013		14		No Concern
142	Tetrachloroethane [1,1,1,2-]	14					mg/kg	14	0.005	0.013				Null Case
143	Tetrachloroethane [1,1,2,2-]	7				3.9	mg/kg	7	0.005	0.005		7		No Concern
144	Tetrachloroethylene	14	1	0.01	0.01	5.9	mg/kg	13	0.005	0.013		14		No Concern
145	Tetryl	7				800	mg/kg	7	0.705	0.865		7		No Concern
146	Thallium	63	27	0.03	3	6.4	mg/kg	36	0.02	0.1		63		No Concern
147	Toluene	14	1	0.01	0.01	890	mg/kg	13	0.005	0.013		14		No Concern
148	Trichloro-1,2,2-trifluoroethane [1,1,2-]	14					mg/kg	14	0.005	0.013				Null Case
149	Trichlorobenzene [1,2,4-]	58				160	mg/kg	58	0.33	1.7		58		No Concern
150	Trichloroethane [1,1,1-]	14				1,000	mg/kg	14	0.005	0.013		14		No Concern
151	Trichloroethane [1,1,2-]	14				6.3	mg/kg	14	0.005	0.013		14		No Concern
152	Trichloroethene	14				3.2	mg/kg	14	0.005	0.013		14		No Concern

TABLE 2-4

SUMMARY OF TA-45 SUBSURFACE SOIL SAMPLE ANALYSES, ADS 1079

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
153	Trichlorofluoromethane	14					mg/kg	14	0.005	0.013				Null Case
154	Trichlorophenol [2,4,5-]	58				8,000	mg/kg	58	0.33	1.7		58		No Concern
155	Trichlorophenol [2,4,6-]	58				64	mg/kg	58	0.33	1.7		58		No Concern
156	Trichloropropane [1,2,3-]	7					mg/kg	7	0.005	0.005				Null Case
157	Trimethylbenzene [1,2,4-]	7					mg/kg	7	0.005	0.005				Null Case
158	Trimethylbenzene [1,3,5-]	7					mg/kg	7	0.005	0.005				Null Case
159	Trinitrobenzene [1,3,5-]	7				4	mg/kg	7	0.271	0.333		7		No Concern
160	Trinitrotoluene [2,4,6-]	7				40	mg/kg	7	0.271	0.333		7		No Concern
161	Uranium-234	63	63	0.96	15.96	86	pCi/g					63		No Concern
162	Uranium-235	63	63	0.03	0.84	18	pCi/g					63		No Concern
163	Uranium-238	63	63	1.01	18.58	59	pCi/g					63		No Concern
164	Vanadium	61	61	1.3	24	560	mg/kg					61		No Concern
165	Vinyl chloride	14				0.013	mg/kg	14	0.01	0.013		13	1	Special Case
166	Xylenes [o-, m-, p-]	14				160,000	mg/kg	14	0.005	0.013		14		No Concern
167	Zinc	61	61	18	84	24,000	mg/kg					61		No Concern
	Total Number of Values	**6,766**	**1,326**					**5,440**			**125**	**4,609**	**290**	

Notes:

Analyte Disposition column categories:

1. "Exceeds SAL" indicates that one or more analyte values exceeded the SAL for that analyte.
2. "Further Evaluation" indicates that one or more analyte values were greater than the LOD and there is no current SAL for comparison.
3. "No Concern" indicates that the analyte values are all less than the SAL for that analyte.
4. "Null Case" indicates that the analyte values are less than the LOD for that analyte and the SAL is unknown.
5. "Special Case" indicates that the analyte values are less than the LOD for that analyte and the SAL is known to be less than the LOD.

* These are mean limits of detection, which are not derived from the analysis of these data.

2.1.4 ADS 1106—TA-21

The primary focus for ADS 1106 has been field work at TA-21, reviewing FY93 data, and preparing the Phase 1B/1C RFI Report addendum.

Field work began on July 18 and included the following investigations:

- Material Disposal Area (MDA) V – drilling,
- Surface disposal areas – drilling and surface soil sampling,
- Above-ground tanks – drilling and tank sampling,
- Sewage Treatment Plant – drilling,
- PCB storage area – surface soil sampling,
- Former Liquid Waste Treatment Facility (Buildings TA-1-35) – drilling,
- Hydrogeologic characterization (Wells LAUZ-1 and LAUZ-2) – drilling/well installation, and
- DP Tank Farm – drilling.

The initial investigation at the DP Tank Farm identified two distinct plumes associated with the former operations. There appears to be volatile organic contamination in each of the two areas. One plume is believed to be gasoline and the other to be diesel. Additional drilling and sampling will be necessary to fully characterize the area.

Data assessment of analytical results from the FY93 field work continues for inclusion in the Phase 1B/1C RFI Report addendum.

Summary statistics are provided in Tables 2-5 and 2-6 (see Section 1.0 for an explanation of these summary tables). Please note that these tables include all data received to the end of the quarter for each sampling event.

TABLE 2-5

SUMMARY OF ANALYTICAL RESULTS FOR ADS 1106 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1	Acenaphthene	1				4,800	mg/kg	1	0.16	0.16		1	
2	Acenaphthylene	1					mg/kg	1	0.16	0.16			
3	Acetone	1	1	0.25	0.25	8,000	mg/kg					1	
4	Actinium-227	93	2	17.77	33.23		pCi/g	91	1.65	14.4			
5	Aluminum	15	15	2,610	10,900		mg/kg						
6	Americium-241	75	45	0.01	125.23	22	pCi/g	30	0.01	0.01	9	66	
7	Anthracene	1				24,000	mg/kg	1	0.16	0.16		1	
8	Antimony	15	5	0.22	0.27	32	mg/kg	10	0.21	22		15	
9	Arsenic	15	15	1.1	3	0.4	mg/kg				15		
10	Barium	15	15	37	112	5,600	mg/kg					15	
11	Benzene	1				0.67	mg/kg	1	0.03	0.03		1	
12	Benzoic acid	1				320,000	mg/kg	1	3.1	3.1		1	
13	Benzo[a]anthracene	1				0.64	mg/kg	1	0.16	0.16		1	
14	Benzo[a]pyrene	1				0.1	mg/kg	1	0.16	0.16			1
15	Benzo[b]fluoranthene	1				0.7	mg/kg	1	0.16	0.16		1	
16	Benzo[g,h,i]perylene	1				44	mg/kg	1	0.19	0.19		1	
17	Benzo[k]fluoranthene	1				1.5	mg/kg	1	0.16	0.16		1	
18	Benzyl alcohol	1					mg/kg	1	0.16	0.16			
19	Beryllium	15	15	0.27	1.1	0.16	mg/kg				15		
20	Bis(2-chloroethoxy)methane	1					mg/kg	1	0.16	0.16			
21	Bis(2-chloroethyl)ether	1				0.12	mg/kg	1	0.16	0.16			1
22	Bis(2-chloroisopropyl)ether	1				100	mg/kg	1	0.16	0.16		1	
23	Bis(2-ethylhexyl)phthalate	1				50	mg/kg	1	0.16	0.16		1	
24	Bromodichloromethane	1				11	mg/kg	1	0.03	0.03		1	
25	Bromoform	1				89	mg/kg	1	0.03	0.03		1	
26	Bromomethane	1				0.43	mg/kg	1	0.06	0.06		1	
27	Bromophenylphenyl ether [4-]	1					mg/kg	1	0.16	0.16			
28	Butanone [2-]	1				4,000	mg/kg	1	0.06	0.06		1	
29	Butyl benzyl phthalate	1				16,000	mg/kg	1	0.16	0.16		1	
30	Cadmium	15				80	mg/kg	15	0.63	0.68		15	
31	Calcium	15	15	1,440	5,047		mg/kg						
32	Carbon disulfide	1				7.4	mg/kg	1	0.03	0.03		1	
33	Carbon tetrachloride	1				0.21	mg/kg	1	0.03	0.03		1	
34	Cesium-137	93	24	0.35	753.2	4	pCi/g	69	0.24	1.04	14	79	
35	Chloro-3-methylphenol [4-]	1				16,000	mg/kg	1	0.16	0.16		1	
36	Chloroaniline [4-]	1				320	mg/kg	1	0.16	0.16		1	
37	Chlorobenzene	1				67	mg/kg	1	0.03	0.03		1	

TABLE 2-5

SUMMARY OF ANALYTICAL RESULTS FOR ADS 1106 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
38	Chlorodibromomethane	1				83	mg/kg	1	0.03	0.03		1	
39	Chloroethane	1				3,300	mg/kg	1	0.06	0.06		1	
40	Chloroethylvinyl ether [2-]	1					mg/kg	1	0.06	0.06			
41	Chloroform	1				0.21	mg/kg	1	0.03	0.03		1	
42	Chloromethane	1				6.4	mg/kg	1	0.06	0.06		1	
43	Chloronaphthalene [2-]	1				6,400	mg/kg	1	0.16	0.16		1	
44	Chlorophenol [o-]	1				400	mg/kg	1	0.16	0.16		1	
45	Chlorophenylphenyl ether [4-]	1					mg/kg	1	0.16	0.16			
46	Chromium	15	15	1.8	12.5	400	mg/kg					15	
47	Chrysene	1				22	mg/kg	1	0.16	0.16		1	
48	Cobalt	15	14	2.5	5.6		mg/kg	1	2	2			
49	Copper	15	15	2.2	7.2	3,000	mg/kg					15	
50	Di-n-butyl phthalate	1				8,000	mg/kg	1	0.16	0.16		1	
51	Di-n-octyl phthalate	1				1,600	mg/kg	1	0.16	0.16		1	
52	Dibenzofuran	1					mg/kg	1	0.16	0.16			
53	Dibenzo[a,h]anthracene	1				0.086	mg/kg	1	0.19	0.19			1
54	Dichlorobenzene [1,2-]	1				1,600	mg/kg	1	0.16	0.16		1	
55	Dichlorobenzene [1,3-]	1				7,200	mg/kg	1	0.16	0.16		1	
56	Dichlorobenzene [1,4-]	1				290	mg/kg	1	0.16	0.16		1	
57	Dichlorobenzidine [3,3'-]	1				1.6	mg/kg	1	1.2	1.2		1	
58	Dichloroethane [1,1-]	1				410	mg/kg	1	0.03	0.03		1	
59	Dichloroethane [1,2-]	1				0.2	mg/kg	1	0.03	0.03		1	
60	Dichloroethene [1,1-]	1				0.4	mg/kg	1	0.03	0.03		1	
61	Dichloroethene [1,2-]	1					mg/kg	1	0.03	0.03			
62	Dichlorophenol [2,4-]	1				240	mg/kg	1	0.16	0.16		1	
63	Dichloropropane [1,2-]	1				6.5	mg/kg	1	0.03	0.03		1	
64	Dichloropropene [cis-1,3-]	1				0.17	mg/kg	1	0.03	0.03		1	
65	Dichloropropene [trans-1,3-]	1				0.17	mg/kg	1	0.03	0.03		1	
66	Diethyl phthalate	1				64,000	mg/kg	1	0.16	0.16		1	
67	Dimethyl phthalate	1				800,000	mg/kg	1	0.16	0.16		1	
68	Dimethylphenol [2,4-]	1				1,600	mg/kg	1	0.16	0.16		1	
69	Dinitrophenol [2,4-]	1				160	mg/kg	1	1.2	1.2		1	
70	Dinitrotoluene [2,4-]	1				1	mg/kg	1	0.16	0.16		1	
71	Dinitrotoluene [2,6-]	1				1	mg/kg	1	0.16	0.16		1	
72	Ethylbenzene	1				3,100	mg/kg	1	0.03	0.03		1	
73	Fluoranthene	1				3,200	mg/kg	1	0.16	0.16		1	
74	Fluorene	1				3,200	mg/kg	1	0.16	0.16		1	

TABLE 2-5

SUMMARY OF ANALYTICAL RESULTS FOR ADS 1106 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
75	Hexachlorobenzene	1				0.44	mg/kg	1	0.16	0.16		1	
76	Hexachlorobutadiene	1				90	mg/kg	1	0.16	0.16		1	
77	Hexachlorocyclopentadiene	1				560	mg/kg	1	1.2	1.2		1	
78	Hexachloroethane	1				80	mg/kg	1	0.16	0.16		1	
79	Hexanone [2-]	1					mg/kg	1	0.06	0.06			
80	Indeno[1,2,3-cd]pyrene	1				0.41	mg/kg	1	0.19	0.19		1	
81	Iron	15	15	4,220	9,220		mg/kg						
82	Isophorone	1				7,400	mg/kg	1	0.16	0.16		1	
83	Lead	15	15	8	68.486	500	mg/kg					15	
84	Lithium	15	15	3.6	8.4		mg/kg						
85	Magnesium	15	15	686	1,840		mg/kg						
86	Manganese	15	15	188	493	8,000	mg/kg					15	
87	Methyl-2-pentanone [4-]	1				510	mg/kg	1	0.06	0.06		1	
88	Methyl-4,6-dinitrophenol [2-]	1					mg/kg	1	1.2	1.2			
89	Methylene chloride	1				5.6	mg/kg	1	0.031	0.031		1	
90	Methylnaphthalene [2-]	1					mg/kg	1	0.16	0.16			
91	Methylphenol [2-]	1				4,000	mg/kg	1	0.16	0.16		1	
92	Methylphenol [4-]	1				400	mg/kg	1	0.16	0.16		1	
93	Molybdenum	15				400	mg/kg	15	6.1	6.539		15	
94	Naphthalene	1				3,200	mg/kg	1	0.16	0.16		1	
95	Nickel	15	15	3.5	19.4	1,600	mg/kg					15	
96	Nitroaniline [2-]	1					mg/kg	1	1.2	1.2			
97	Nitroaniline [3-]	1					mg/kg	1	1.2	1.2			
98	Nitroaniline [4-]	1					mg/kg	1	1.2	1.2			
99	Nitrobenzene	1				5.3	mg/kg	1	0.16	0.16		1	
100	Nitrophenol [2-]	1					mg/kg	1	0.16	0.16			
101	Nitrophenol [4-]	1					mg/kg	1	1.2	1.2			
102	Nitrosodi-n-propylamine [N-]	1				0.1	mg/kg	1	0.16	0.16			1
103	Nitrosodiphenylamine [N-]	1				140	mg/kg	1	0.16	0.16		1	
104	Pentachlorophenol	1				5.8	mg/kg	1	1.2	1.2		1	
105	Phenanthrene	1					mg/kg	1	0.16	0.16			
106	Phenol	1				48,000	mg/kg	1	0.16	0.16		1	
107	Plutonium-238	91	42	0.01	7.874	27	pCi/g	49	0.01	0.01		91	
108	Plutonium-239	91	61	0.015	53.933	24	pCi/g	30	0.001	0.007	7	84	
109	Potassium	15	15	309	1,750		mg/kg						
110	Pyrene	1				2,400	mg/kg	1	0.16	0.16		1	
111	Selenium	15	4	0.451	0.68	400	mg/kg	11	0.42	0.5		15	

TABLE 2-5

SUMMARY OF ANALYTICAL RESULTS FOR ADS 1106 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
112	Silver	15	2	1.1	1.127	400	mg/kg	13	1.1	1.1		15	
113	Strontium	15	15	9.1	36.7		mg/kg						
114	Strontium-90	92	14	8.6	245.1	8.9	pCi/g	78	1.0	1.0	13	79	
115	Styrene	1				16,000	mg/kg	1	0.03	0.03		1	
116	Tetrachloroethane [1,1,2,2-]	1				3.9	mg/kg	1	0.03	0.03		1	
117	Tetrachloroethylene	1				5.9	mg/kg	1	0.03	0.03		1	
118	Thallium	16	3	0.22	0.226	6.4	mg/kg	13	0.21	0.28		16	
119	Thorium-228	48	48	1.18	2.81		pCi/g						
120	Thorium-230	48	48	1.08	3.12	10	pCi/g					48	
121	Thorium-232	48	48	1.05	2.92	0.88	pCi/g				48		
122	Toluene	1				890	mg/kg	1	0.03	0.03		1	
123	Trichlorobenzene [1,2,4-]	1				160	mg/kg	1	0.16	0.16		1	
124	Trichloroethane [1,1,1-]	1				1,000	mg/kg	1	0.03	0.03		1	
125	Trichloroethane [1,1,2-]	1				6.3	mg/kg	1	0.03	0.03		1	
126	Trichloroethene	1				3.2	mg/kg	1	0.03	0.03		1	
127	Trichlorofluoromethane	1					mg/kg	1	0.06	0.06			
128	Trichlorophenol [2,4,5-]	1				8,000	mg/kg	1	1.2	1.2		1	
129	Trichlorophenol [2,4,6-]	1				64	mg/kg	1	0.16	0.16		1	
130	Tritium	95	15	2.508	1,335.58	15,000,000	pCi/g	80	0.03	30.86		95	
131	Uranium-234	90	90	1.14	10.34	86	pCi/g					90	
132	Uranium-235	90	90	0.03	0.42	18	pCi/g					90	
133	Uranium-238	90	90	0.87	5.72	59	pCi/g					90	
134	Vanadium	15	15	5.4	14.7	560	mg/kg					15	
135	Vinyl acetate	1					mg/kg	1	0.06	0.06			
136	Vinyl chloride	1				0.012	mg/kg	1	0.06	0.06			1
137	Water (Unbound)	90	90	0.4	29.8		%						
138	Xylenes [o-, m-, p-]	1				160,000	mg/kg	1	0.03	0.03		1	
139	Zinc	15	15	21.4	79.522	24,000	mg/kg					15	
	Total Number of Values	**1,596**	**991**					**605**			**121**	**1,100**	**5**

TABLE 2-6

SUMMARY OF ANALYTICAL RESULTS FOR ADS 1106 WATER SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1	Alpha	2	1	3	3	15	pCi/g	1	3.63	3.63		2	
2	Aluminum	1					µg/l	1	100	100			
3	Antimony	1				6	µg/l	1	1	1		1	
4	Arsenic	1				50	µg/l	1	2	2		1	
5	Barium	1	1	20	20	2,000	µg/l					1	
6	Beryllium	1				4	µg/l	1	1	1		1	
7	Beta	2	2	150	242.4		pCi/g						
8	Cadmium	1	1	5	5	5	µg/l				1		
9	Calcium	1	1	15,000	15,000		µg/l						
10	Cesium-137	1	1	0.685	0.685	110	pCi/g					1	
11	Chromium	1	1	6	6	100	µg/l					1	
12	Cobalt	1					µg/l	1	4	4			
13	Copper	1	1	15	15	1,300	µg/l					1	
14	Iron	1	1	200	200		µg/l						
15	Lead	1	1	2	2	50	µg/l					1	
16	Lithium	1	1	19	19		µg/l						
17	Magnesium	1	1	5,200	5,200		µg/l						
18	Manganese	1	1	630	630	3,500	µg/l					1	
19	Mercury	1				2	µg/l	1	0.2	0.2		1	
20	Molybdenum	1	1	32	32	180	µg/l					1	
21	Nickel	1	1	40	40	100	µg/l					1	
22	Plutonium-238	4				15	pCi/g	4	0.0009	0.021		4	
23	Plutonium-239	4	2	0.079	0.114	15	pCi/g	2	0.002	0.012		4	
24	Potassium	1	1	10,000	10,000		µg/l						
25	Radium-226	1	1	24.47	24.47	20	pCi/g				1		
26	Selenium	1				50	µg/l	1	2	2		1	
27	Silver	1				170	µg/l	1	10	10		1	
28	Sodium	1	1	37,000	37,000		µg/l						
29	Strontium	1	1	100	100		µg/l						
30	Strontium-90	1	1	112.94	112.94	8	pCi/g				1		
31	Thallium	1				2	µg/l	1	1	1		1	
32	Thorium-228	6	5	0.014	0.13		pCi/g	1	0.006	0.006			
33	Thorium-230	8	8	0.075	0.433	15	pCi/g					8	
34	Thorium-232	2				15	pCi/g	2	0.01	0.01		2	
35	Uranium-234	1	1	0.486	0.486	19	pCi/g					1	

TABLE 2-6

SUMMARY OF ANALYTICAL RESULTS FOR ADS 1106 WATER SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
36	Uranium-235	1				21	pCi/g	1	0.018	0.018		1	
37	Uranium-238	1	1	0.09	0.09	6.7	pCi/g					1	
38	Vanadium	1				240	µg/l	1	4	4		1	
39	Zinc	1	1	310	310	10,000	µg/l					1	
	Total Number of Values	**60**	**39**					**21**			**3**	**40**	**0**

2.1.5 ADS 1114—TAs-3, -30, -59, -60, -61, -64

The primary focus for ADS 1114 for this past quarter has been to prepare sampling plans and to write no-further-action recommendations in support of draft Volume II of the RFI work plan for OU 1114. In addition to this primary focus, implementation of prior RFI sampling plans was a major accomplishment.

The text concerning sampling plans for aggregates to be included in the next portion of the RFI work plan was distributed for peer review this quarter. Appropriate changes were made for no-further-action/deferred action aggregates.

A draft Phase II sampling plan for PRS 3-010(a), the mercury spill at TA-30, received approval from the New Mexico Environment Department (NMED) and the US Environmental Protection Agency (EPA) on August 30. The objectives of the sampling plan are to gain enough data to perform a risk assessment and to determine the nature and extent of contamination. A soil vapor probe survey was completed the week of September 12, and the resulting real-time photoionization detector concentrations were used as a guide to locate 5 boreholes. Six boreholes have been drilled to date, as shown in Figure 2-13. Water was discovered in Boreholes 1 and 5; however, the source has not been determined. A monitoring well was installed in Borehole 1 but will not be developed until the source of the water is determined. The water level in the boreholes is decreasing, possibly because of hydration of the bentonite used to backfill around the casing or because of water percolating into the tuff. Preliminary data indicate the volatile contaminants are mostly in the vapor state. Total petroleum hydrocarbon concentrations are less than 20 parts per million in all borehole soil samples except Borehole 2 where this analyte was detected above 100 parts per million at approximately 15 ft below the soil/tuff interface.

In September, one additional representative sample was collected from the 1993 archived samples for PRS 3-010(a) and sent to Envirocare, the mixed waste disposal facility, to increase the range of materials and contaminant concentrations that facility will be receiving from the PRS 3-010(a) waste stream. Envirocare requires pre-shipment of representative samples as part of their waste acceptance criteria.

All samples from PRS locations designated to be sampled this summer were collected by the second week of August. A PRS from next year's sampling plan was added to our sampling effort this summer to accommodate a construction project at SM-142. Analytical data are being received.

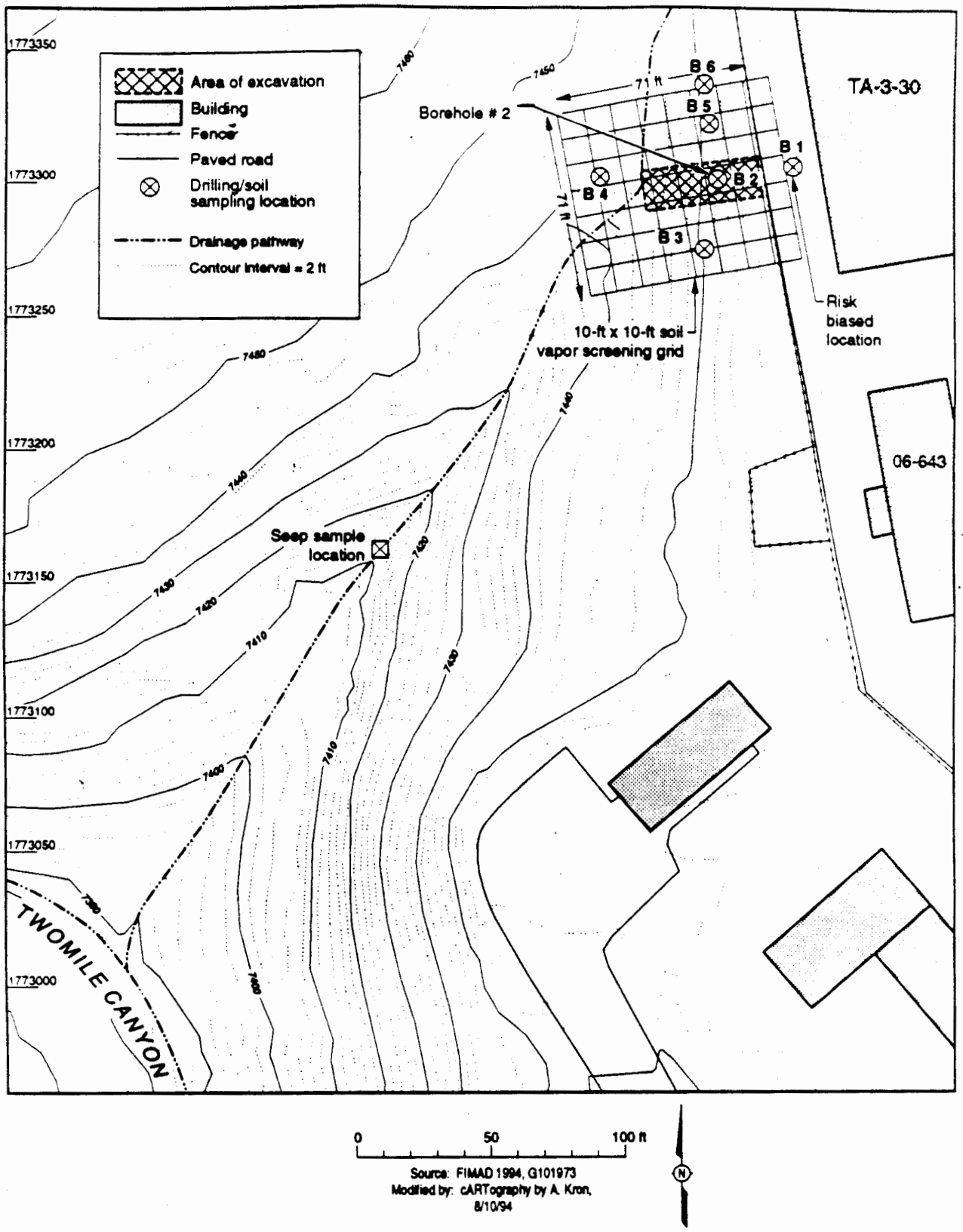


Figure 2-13. Borehole sample locations for ADS 1114.

2.1.6 ADS 1136—TA-43

A notice of deficiency on the RFI work plan for OU 1136 was received from the EPA on August 8. A response to the notice was submitted on schedule September 9. The work plan for this site was approved by the EPA on September 23, 1994, and is being modified as required by the letter of approval.

2.2 Field Unit 2 (Field Project Leader: Gene Gould)

2.2.1 ADS 1086—TA-15

The notice of deficiency on the RFI work plan for OU 1086 was received from the EPA on July 25, 1994; the response was submitted to the DOE and EPA on August 23, 1994.

After the resolution of issues associated with the Site-Specific Health and Safety Plan, sampling began on June 24, 1994. The summary of analytical data received as of September 30, 1994, is provided in Table 2-7 (see Section 1.0 for an explanation of this summary table). The sampling grids for each of the sites sampled in FY94 are shown in Figure 2-14.

All surface and subsurface soil samples scheduled were taken by mid-September, with the exception of the following: subsurface samples on the mounds at E-F Site, which by agreement with the Laboratory high explosives safety committee chairman were to be taken with a remote drill rig; and additional sampling required by the notice of deficiency and subsequently negotiated with the EPA, including sampling at Firing Sites A, B, C, and E-F and at PRS 15-008(b), the material disposal area at R44. Sampling was delayed because the remote drill rig was unavailable until October; modifications were required for the Site-Specific Health and Safety Plan.

TABLE 2-7

SUMMARY OF SOIL SAMPLES FOR ADS 1086

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1	Actinium-228	2	1	2.04	2.04		pCi/g	1	0.47	0.47			
2	Aluminum	7	7	11,500	22,200		mg/kg						
3	Americium-241	2	2	3.07	3.9	22	pCi/g					2	
4	Antimony	7				32	mg/kg	7	3.8	4.1		7	
5	Arsenic	7	5	2.5	3.8	0.4	mg/kg	2	3	3.4	5		2
6	Barium	7	7	156	546	5,600	mg/kg					7	
7	Beryllium	12	10	1	7.9	0.16	mg/kg	2	0.98	1	10		2
8	Bismuth-211	2	2	3.37	3.42		pCi/g						
9	Cadmium	7	7	1.8	3.2	80	mg/kg					7	
10	Calcium	7	7	1,870	3,160		mg/kg						
11	Cesium-134	2	2	0.23	0.23	1.9	pCi/g					2	
12	Cesium-137	2	2	1.46	1.73	4	pCi/g					2	
13	Chromium	7	7	8.3	13.4	400	mg/kg					7	
14	Cobalt	7					mg/kg	7	5.7	8.7			
15	Copper	7	7	39.7	796	3,000	mg/kg					7	
16	Iron	7	7	10,700	17,900		mg/kg						
17	Lead	12	12	13.3	155	500	mg/kg					12	
18	Lead-212	2	2	1.65	1.78		pCi/g						
19	Lead-214	2	2	0.36	0.67		pCi/g						
20	Magnesium	7	7	1,730	3,160		mg/kg						
21	Manganese	7	7	347	511	8,000	mg/kg					7	
22	Mercury	9				24	mg/kg	9	0.02	0.11		9	
23	Nickel	7	5	9.3	11.9	1,600	mg/kg	2	8.3	9		7	
24	Potassium	7	7	1,420	2,752		mg/kg						
25	Potassium-40	2	2	6.39	9.75		pCi/g						
26	Protactinium-234	2	2	23.41	23.43		pCi/g						
27	Protactinium-234m	2	2	2,527.4	2,538.1		pCi/g						
28	Radium-224	2	2	4.25	4.89		pCi/g						
29	Selenium	7				400	mg/kg	7	0.55	0.65		7	
30	Silver	7	1	8.2	8.2	400	mg/kg	6	0.63	0.68		7	
31	Sodium	7					mg/kg	7	90.4	143			
32	Thallium	7				6.4	mg/kg	7	0.46	0.5		7	
33	Thorium-234	2	2	1927.5	1939.7		pCi/g						
34	Uranium	3	3	9.3	9.8		mg/kg						
35	Uranium-234	2	2	1,652.33	1,664.39	86	pCi/g				2		
36	Uranium-235	4	4	78.27	158.76	18	pCi/g				4		
37	Uranium-238	2	2	1,629.88	1,687.3	59	pCi/g				2		
38	Vanadium	7	7	11.6	29.5	560	mg/kg					7	
39	Zinc	7	7	35.7	130	24,000	mg/kg					7	
	Total number of Values	208	151					57			23	111	4

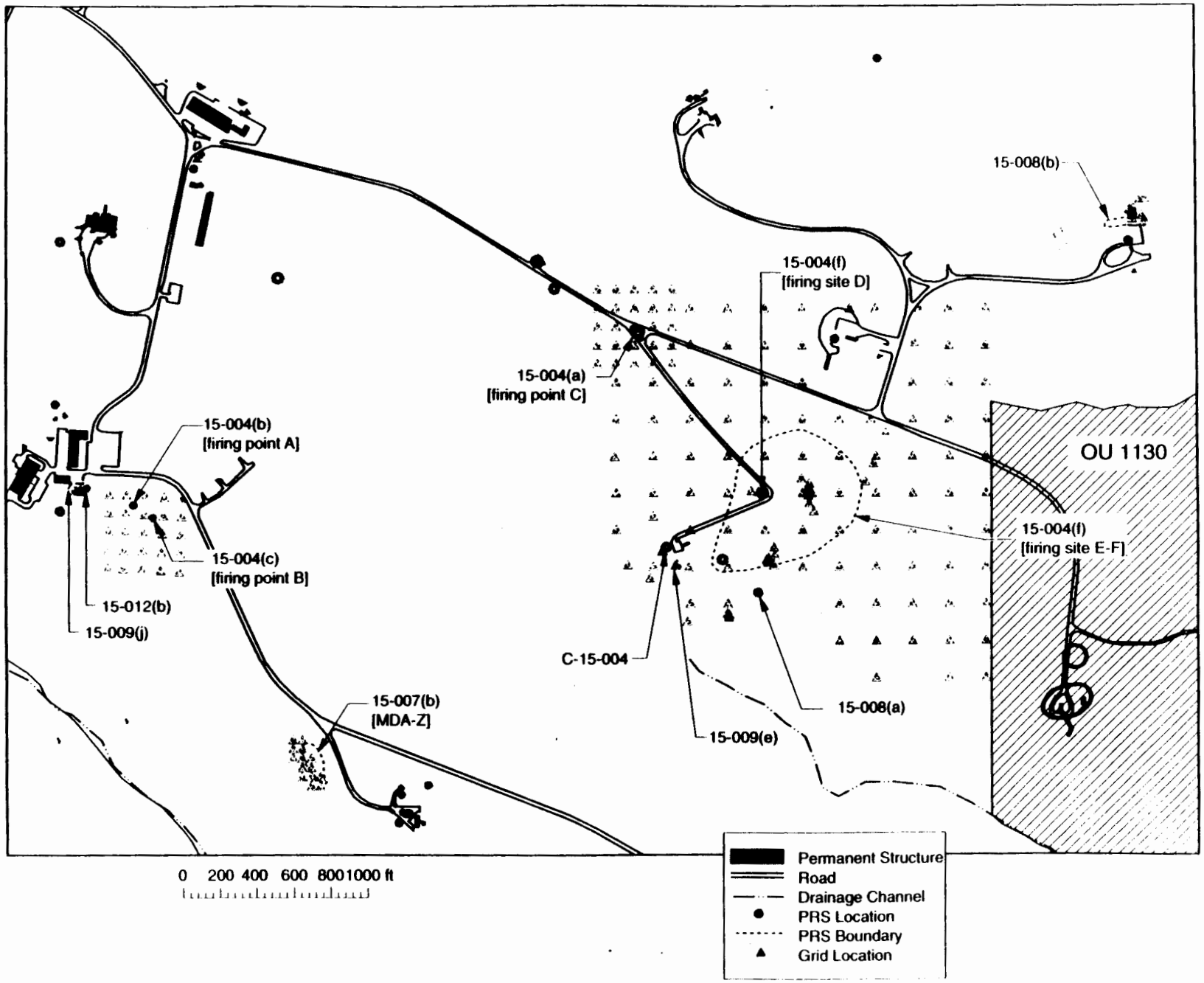


Figure 2-14. ADS 1086 sampling grids for 1994.

2.2.2 ADS 1093—TA-18

Sampling was conducted during this quarter at nearly all of the PRSs for this ADS (see Figures 2-15 and 2-16). Exceptions are PRSs 18-001(a,b,c), which were sampled in the fall of 1993, and PRSs 18-007 and 27-001 where no sampling is planned because the sites could not be located. Analysis results for water and soil samples collected for ADS 1093 are summarized in Tables 2-8 and 2-9 (see Section 1.0 for an explanation of these summary tables).

Septic systems. Soil and shallow groundwater samples were collected at PRSs 18-003(b,c, and d) (three active septic systems) and at PRSs 18-003(e and f) (two inactive systems) (see Figure 2-15). Soil and groundwater samples were also collected downgradient from two manholes, PRSs 18-003(g and h), which are on the sewer line that formerly delivered effluent to PRS 18-003(e) and is now part of the central sanitary sewer line. Field surveys for radiation and volatile organic compounds detected no values above instrument background. At one time, these manholes may have served, at least in part, as septic tanks. The active septic tanks and the manholes were sampled in the fall of 1973. A large fraction of the measurements exceeding SALs (other than beryllium and thorium) were from those samples.

Firing sites. Subsurface soil samples were collected at PRSs 18-002(a and b) and PRS 27-002, former firing sites (see Figures 2-15 and 2-16). Surface soil samples were taken in the areas surrounding the firing sites. All samples were surveyed in the field for radiation, VOCs, and high explosives; all tests were negative. A portion of the subsurface samples are represented in the data set in this report.

Storm sewer and outfalls. Soil and sediment samples were collected downstream from PRSs 18-010 (b,c,d,e,f) and PRSs 18-012(a,b,c), outfalls that discharge storm water from within TA-18 or that formerly discharged water collected in floor drains within some buildings (see Figure 2-15). Field measurements for radiation and VOCs were all within instrument background.

Bazooka Impact Area. This quarter, surface soil samples were collected in the area most heavily affected by the former bazooka firings (unexploded ordnance was located and destroyed in the fall of 1993) (see Figure 2-17). Two samples field-tested positive for high explosives, but subsequent analytical chemistry demonstrated that the samples were false positives. High explosives were below detection limits in all samples collected at this PRS.

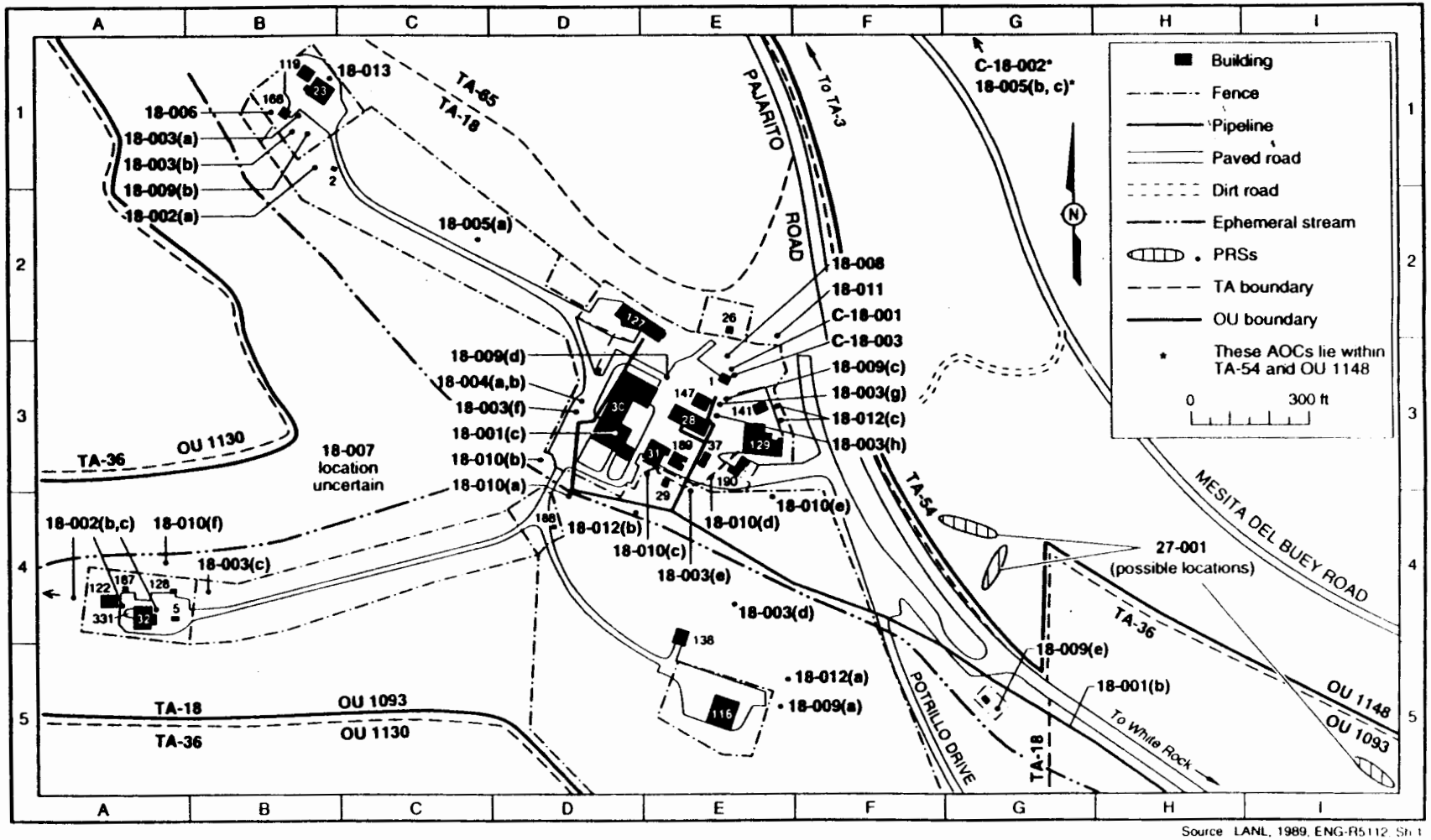
Magazine site and generator pad. Surface soil samples were collected at PRS 18-005(a), a former magazine, and adjacent to PRS 18-011, a concrete pad on which a diesel generator was formerly located (see Figure 2-15). Field surveys for radiation and VOCs indicated no values above instrument background.

Other investigations. Ground-penetrating radar was used to determine the former location of a subsurface structure that housed two waste collection tanks [PRS 18-004(b)] and the associated waste line [PRS 18-004(a)] from Building TA-18-30 (see Figure 2-15). Numerous underground utility lines prevented a clear resolution of the location of the structure or of the waste line. Significant excavation would be required to locate this structure, and the excavation would interfere with site security; therefore, excavation is not currently planned. Archival research indicates that there is a low probability that the tanks were ever used. If they were used, only nonradioactive acids were collected. Smears were collected from the building-end of the waste line and tested negative for radioactivity.

During the fall of 1993, ground-penetrating radar was used to pinpoint the possible location of an underground diesel fuel storage tank (PRS 18-008) (see Figure 2-15). Excavation this quarter did not locate the tank. No further work is planned at this PRS.

Quarterly water sampling continued at previously existing monitoring wells in the shallow groundwater in Pajarito Canyon (see Figures 2-18 and Figure 2-19). Field surveys for radiation and VOCs did not indicate readings above instrument background.

RFI Report. Final resolution was reached on the notice of deficiency for the RFI work plan for OU 1093, which was submitted in May 1993. The notice specified that an RFI Report will be submitted to the EPA by January 30, 1995, and will include PRSs 18-001(a,b, and c), 18-007, 27-001, and 27-003. Data assessment for these PRSs was completed this quarter.



AOC = area of concern

Source LANL, 1989, ENG-R5112, Sh 1
Modified by cARTography by A. Kron 5/7/93

Figure 2-15. Locations of PRSs at TA-18 and former TA-27, ADS 1093.

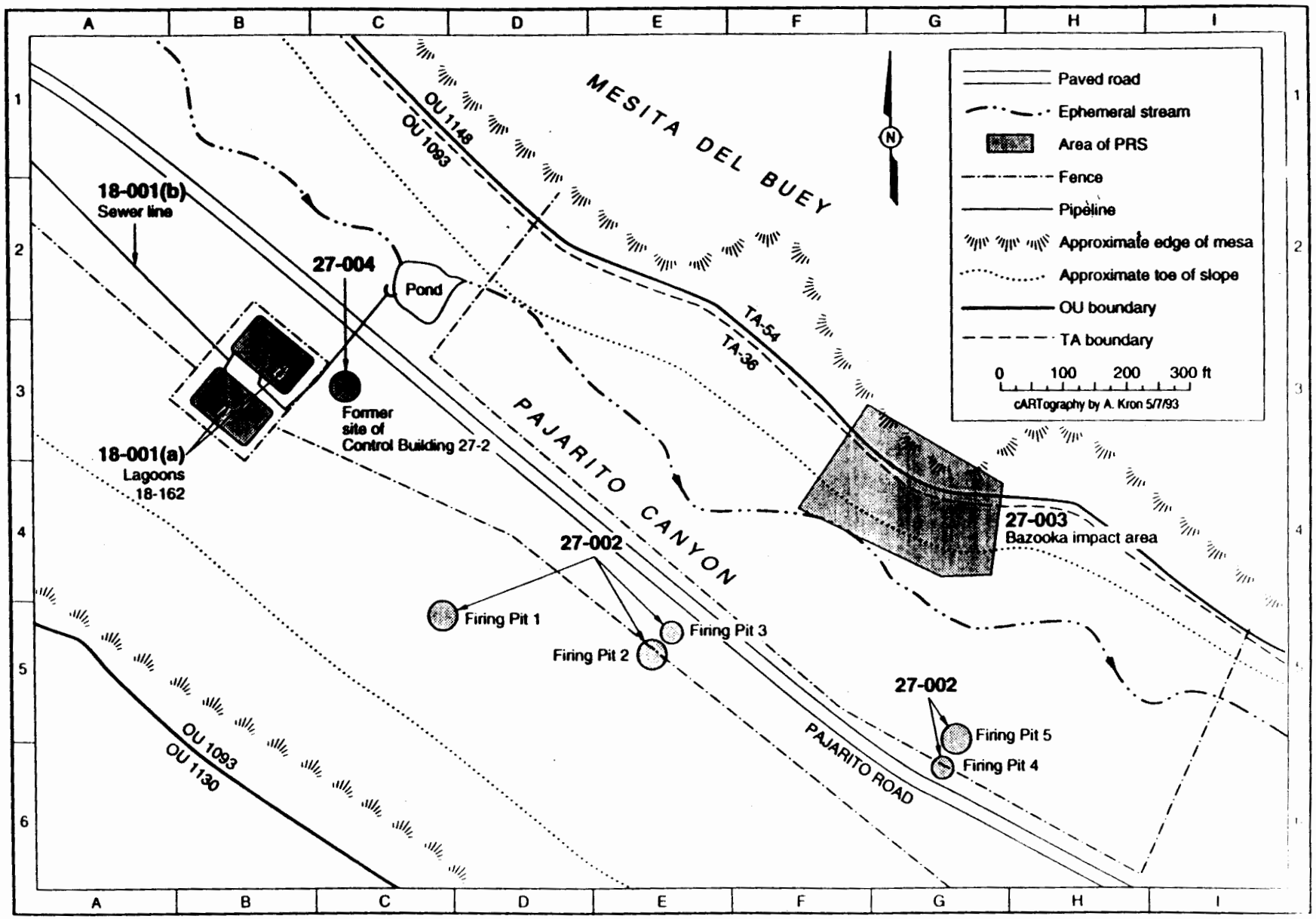


Figure 2-16. Locations of PRSs at former TA-27, ADS 1093.

TABLE 2-8

SUMMARY OF ADS 1093 WATER SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1	Acenaphthene	63				2,100	µg/l	63	10	20		63	
2	Acenaphthylene	63					µg/l	63	10	20			
3	Acetone	83	4	69	1,300	3,500	µg/l	79	20	520		83	
4	Amino-2,6-dinitrotoluene [4-]	49					µg/l	49	0.11	0.112			
5	Amino-4,6-dinitrotoluene [2-]	49					µg/l	49	0.091	0.096			
6	Aniline	51					µg/l	51	10	20			
7	Anthracene	63				10,000	µg/l	63	10	20		63	
8	Azobenzene	51					µg/l	51	10	20			
9	Barium	67	47	3	590	2,000	µg/l	20	1	25		67	
10	Benzene	83	2	9	9	5	µg/l	81	5	130	2		81
11	Benzidine [m-]	44					µg/l	44	10	20			
12	Benzo[a]anthracene	63				0.1	µg/l	63	10	20			63
13	Benzo[a]pyrene	66				0.2	µg/l	66	0.5	20			66
14	Benzo[b]fluoranthene	63				0.2	µg/l	63	10	20			63
15	Benzo[g,h,i]perylene	63					µg/l	63	10	20			
16	Benzo[k]fluoranthene	63				0.2	µg/l	63	10	20			63
17	Benzoic acid	63	4	21	160	140,000	µg/l	59	10	53		63	
18	Benzyl alcohol	63	3	11	19		µg/l	60	10	20			
19	Beryllium	67				4	µg/l	67	1	5		55	12
20	Bis(2-chloroethoxy)methane	63					µg/l	63	10	20			
21	Bis(2-chloroethyl)ether	63				0.032	µg/l	63	10	20			63
22	Bis(2-chloroisopropyl)ether	63				0.5	µg/l	63	10	20			63
23	Bis(2-ethylhexyl)phthalate	63	6	10	37	4	µg/l	57	10	11	6		57
24	Bromobenzene	67					µg/l	67	5	130			
25	Bromochloromethane	67					µg/l	67	5	130			
26	Bromodichloromethane	83	2	770	1,400	0.56	µg/l	81	5	130	2		81
27	Bromoform	83				4.4	µg/l	83	5	130			83
28	Bromomethane	83				49	µg/l	83	10	260		79	4
29	Bromophenylphenyl ether [4-]	63					µg/l	63	10	20			
30	Butanone [2-]	83				1,700	µg/l	83	20	520		83	
31	Butyl benzyl phthalate	63				100	µg/l	63	10	20		63	
32	Butylbenzene [n-]	67	1	30	30		µg/l	66	5	130			
33	Butylbenzene [sec-]	67					µg/l	67	5	130			
34	Butylbenzene [tert-]	67					µg/l	67	5	130			
35	Cadmium	67				5	µg/l	67	3	5		55	12
36	Calcium	10	8	260	130,000		µg/l	2	100	100			
37	Carbon disulfide	83				3,500	µg/l	83	5	130		83	

TABLE 2-8

SUMMARY OF ADS 1093 WATER SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
38	Carbon tetrachloride	83				5	µg/l	83	5	130			83
39	Chlorine	46	36	2,000	267,400		µg/l	10	250	1,000			
40	Chloro-3-methylphenol [4-]	63				7,000	µg/l	63	10	20		63	
41	Chloroaniline [4-]	63				140	µg/l	63	10	20		63	
42	Chlorobenzene	83				100	µg/l	83	5	130		80	3
43	Chlorodibromomethane	83				4.2	µg/l	83	5	130			83
44	Chloroethane	83	4	87	2,000		µg/l	79	10	260			
45	Chloroethylvinyl ether [2-]	16					µg/l	16	21	21			
46	Chloroform	83				100	µg/l	83	5	130		80	3
47	Chloromethane	83				27	µg/l	83	10	260		79	4
48	Chloronaphthalene [2-]	63				2,800	µg/l	63	10	20		63	
49	Chlorophenol [o-]	63				170	µg/l	63	10	20		63	
50	Chlorophenylphenyl ether [4-]	63					µg/l	63	10	20			
51	Chlorotoluene [o-]	67					µg/l	67	5	130			
52	Chlorotoluene [p-]	67					µg/l	67	5	130			
53	Chromium	67	5	5	95	100	µg/l	62	4	10		67	
54	Chrysene	63				0.2	µg/l	63	10	20			63
55	Conductivity	47	43	3	1,890		µmho/cm	4	10	10			
56	Di-n-butyl phthalate	63	1	10	10	3,500	µg/l	62	10	63		63	
57	Di-n-octyl phthalate	63				700	µg/l	63	10	20		63	
58	Dibenzo[a,h]anthracene	63				0.3	µg/l	63	10	20			63
59	Dibenzofuran	63					µg/l	63	10	20			
60	Dibromo-3-chloropropane [1,2-]	67					µg/l	67	5	260			
61	Dibromoethane [1,2-]	67					µg/l	67	5	130			
62	Dibromomethane	67					µg/l	67	5	130			
63	Dichlorobenzene [1,2-]	130				600	µg/l	130	5	130		130	
64	Dichlorobenzene [1,3-]	130				600	µg/l	130	5	130		130	
65	Dichlorobenzene [1,4-]	130				75	µg/l	130	5	130		127	3
66	Dichlorobenzidine [3,3'-]	63				0.078	µg/l	63	10	20			63
67	Dichlorodifluoromethane	67					µg/l	67	10	260			
68	Dichloroethane [1,1-]	83	4	220	4,100	3,500	µg/l	79	5	130	1	82	
69	Dichloroethane [1,2-]	83	2	5	5.2	5	µg/l	81	5	130	2		81
70	Dichloroethene [1,1-]	83				7	µg/l	83	5	130		77	6
71	Dichloroethene [1,2-]	16					µg/l	16	5	5			
72	Dichloroethene [trans-1,2-]	67				100	µg/l	67	5	130		64	3
73	Dichloroethylene [cis-1,2-]	67	6	86	4,000	70	µg/l	61	5	130	6	59	2
74	Dichlorophenol [2,4-]	63				100	µg/l	63	10	20		63	

TABLE 2-8

SUMMARY OF ADS 1093 WATER SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
75	Dichloropropane [1,2-]	83				5	µg/l	83	5	130			83
76	Dichloropropane [1,3-]	67					µg/l	67	5	130			
77	Dichloropropane [2,2-]	67					µg/l	67	5	130			
78	Dichloropropene [1,1-]	67					µg/l	67	5	130			
79	Dichloropropene [cis-1,3-]	83				0.19	µg/l	83	5	130			83
80	Dichloropropene [trans-1,3-]	83				0.19	µg/l	83	5	130			83
81	Diethyl phthalate	63				5,000	µg/l	63	10	20		63	
82	Dimethyl phthalate	63				350,000	µg/l	63	10	20		63	
83	Dimethylphenol [2,4-]	63				700	µg/l	63	10	20		63	
84	Dinitrobenzene [1,3-]	49				3.5	µg/l	49	0.074	0.083		49	
85	Dinitrophenol [2,4-]	63				70	µg/l	63	10	30		63	
86	Dinitrotoluene [2,4-]	112				0.05	µg/l	112	0.064	20			112
87	Dinitrotoluene [2,6-]	112				0.05	µg/l	112	0.092	20			112
88	Ethylbenzene	83				700	µg/l	83	5	130		83	
89	Fluoranthene	63				1,400	µg/l	63	10	20		63	
90	Fluorene	63	1	10	10	1,400	µg/l	62	10	20		63	
91	Fluorine	50	31	100	350		µg/l	19	100	125			
92	HMX	49	25	0.292	4.54	1,800	µg/l	24	0.204	0.204		49	
93	Hardness	55	38	33,600	730,000		µg/l	17	1,000	1,000			
94	Hexachlorobenzene	63				1	µg/l	63	10	20			63
95	Hexachlorobutadiene	63				4.5	µg/l	63	10	20			63
96	Hexachlorocyclopentadiene	63				50	µg/l	63	10	20		63	
97	Hexachloroethane	63				25	µg/l	63	10	20		63	
98	Hexanone [2-]	83					µg/l	83	20	520			
99	Indeno[1,2,3-cd]pyrene	63				0.4	µg/l	63	10	20			63
100	Isophorone	63				370	µg/l	63	10	20		63	
101	Isopropylbenzene	67					µg/l	67	5	130			
102	Isopropyltoluene [4-]	67	1	200	200		µg/l	66	5	130			
103	Lead	66	43	1	21.5	50	µg/l	23	1	30		66	
104	Magnesium	10	7	3,240	30,000		µg/l	3	50	50			
105	Mercury	64				2	µg/l	64	0.2	0.2		64	
106	Methyl iodide	67					µg/l	67	5	130			
107	Methyl-2-pentanone [4-]	83	1	1,400	1,400	1,700	µg/l	82	20	520		83	
108	Methyl-4,6-dinitrophenol [2-]	63					µg/l	63	10	30			
109	Methylene chloride	83	5	6	14	5	µg/l	78	5	130	5		78
110	Methylnaphthalene [2-]	63					µg/l	63	10	20			
111	Methylphenol [2-]	63				1,700	µg/l	63	10	20		63	

TABLE 2-8

SUMMARY OF ADS 1093 WATER SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
112	Methylphenol [4-]	63	4	73	1,100	175	µg/l	59	10	20	2	61	
113	Naphthalene	66				1,400	µg/l	66	10	20		66	
114	Nickel	67	9	16	40	100	µg/l	58	10	15		67	
115	Nitroaniline [2-]	63					µg/l	63	10	30			
116	Nitroaniline [3-]	63					µg/l	63	10	30			
117	Nitroaniline [4-]	63					µg/l	63	10	30			
118	Nitrobenzene	112	1	1.67	1.67	18	µg/l	111	0.093	20		111	1
119	Nitrophenol [2-]	63					µg/l	63	10	20			
120	Nitrophenol [4-]	63					µg/l	63	10	30			
121	Nitrosodi-n-propylamine [N-]	63				0.005	µg/l	63	10	20			63
122	Nitrosodimethylamine [N-]	51					µg/l	51	10	20			
123	Nitrosodiphenylamine [N-]	63				7.1	µg/l	63	10	20			63
124	Nitrotoluene [m-]	49					µg/l	49	0.181	0.198			
125	Nitrotoluene [o-]	49	2	0.183	0.31		µg/l	47	0.171	0.18			
126	Nitrotoluene [p-]	49					µg/l	49	0.225	0.23			
127	Pentachlorophenol	63				1	µg/l	63	10	30			63
128	Petroleum Hydrocarbons, Total Recoverable	2					µg/l	2	1,000	1,000			
129	pH	79	79	5.1	8.14		pH						
130	Phenanthrene	63					µg/l	63	10	20			
131	Phenol	63	4	11	67	21,000	µg/l	59	10	20		63	
132	Phenolphthalein Alkalinity	49					µg/l	49	5,000	5,000			
133	Phosphate Phosphorus	11	7	190	1,780		µg/l	4	10	10			
134	Plutonium-238	53	13	0.048	5.361	15	pCi/l	40	0.04	0.04		53	
135	Plutonium-239	53	10	0.072	0.947	15	pCi/l	43	0.04	0.04		53	
136	Potassium	10	7	2,820	3,660		µg/l	3	550	550			
137	Propylbenzene	67					µg/l	67	5	130			
138	Pyrene	63				1,000	µg/l	63	10	20		63	
139	RDX	49	15	0.226	3.01	3.2	µg/l	34	0.207	0.21		49	
140	Silicon Dioxide	39	28	31,000	40,000		µg/l	11	10,000	10,000			
141	Silver	67				170	µg/l	67	5	20		67	
142	Sodium	10	9	147	138,000		µg/l	1	100	100			
143	Styrene	83				100	µg/l	83	5	130		80	3
144	Sulfate	46	35	2,000	14,000		µg/l	11	500	1250			
145	Tetrachloroethane [1,1,1,2-]	67					µg/l	67	5	130			
146	Tetrachloroethane [1,1,2,2-]	83				1.8	µg/l	83	5	130			83
147	Tetrachloroethylene	83	2	1,700	2,000	5	µg/l	81	5	130	2		81

TABLE 2-8

SUMMARY OF ADS 1093 WATER SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
148	Tetryl	49	6	0.54	0.816	350	µg/l	43	0.113	0.135		49	
149	Thorium-228	40	29	0.012	16.6		pCi/l	11	0.01	0.01			
150	Thorium-230	40	37	0.074	16.7	15	pCi/l	3	0.01	0.01	1	39	
151	Thorium-232	40	32	0.018	14.4	15	pCi/l	8	0.01	0.01		40	
152	Toluene	83	15	5	1,600	1,000	µg/l	68	5	130	1	82	
153	Total Alkalinity	51	37	45,000	422,000		µg/l	14	1,000	5,000			
154	Total Dissolved Solids	48	41	2,000	1,620,000		µg/l	7	1,000	10,000			
155	Total Suspended Solids	13	9	7,000	10,700,000		µg/l	4	4,000	5,000			
156	Trichloro-1,2,2-trifluoroethane [1,1,2-]	67					µg/l	67	5	130			
157	Trichlorobenzene [1,2,4-]	63				70	µg/l	63	10	20		63	
158	Trichloroethane [1,1,1-]	83				200	µg/l	83	5	130		83	
159	Trichloroethane [1,1,2-]	83	1	19	19	5	µg/l	82	5	130	1		82
160	Trichloroethene	83	6	30	409,800	5	µg/l	77	5	10	6		77
161	Trichlorofluoromethane	83					µg/l	83	5	130			
162	Trichlorophenol [2,4,5-]	63				3,500	µg/l	63	10	30		63	
163	Trichlorophenol [2,4,6-]	63				3.2	µg/l	63	10	20			63
164	Trichloropropane [1,2,3-]	67					µg/l	67	5	130			
165	Trimethylbenzene [1,2,4-]	67					µg/l	67	5	130			
166	Trimethylbenzene [1,3,5-]	67					µg/l	67	5	130			
167	Trinitrobenzene [1,3,5-]	49				1.8	µg/l	49	0.111	0.112		49	
168	Trinitrotoluene [2,4,6-]	49				12	µg/l	49	0.104	0.104		49	
169	Uranium	54	54	0.028	144.5	30	µg/l				3	51	
170	Uranium-234	7	5	0.08	4.75	19	pCi/l	2	0.06	0.06		7	
171	Uranium-235	7	3	0.09	0.85	21	pCi/l	4	0.07	0.07		7	
172	Uranium-238	7	4	0.53	4.39	6.7	pCi/l	3	0.08	0.08		7	
173	Vinyl acetate	16					µg/l	16	10	10			
174	Vinyl chloride	83				2	µg/l	83	10	260			83
175	Xylenes [o-, m-, p-]	83				10,000	µg/l	83	5	130		83	
176	Zinc	67	21	20	410	10,000	µg/l	46	10	30		67	
	Total Number of Values	**11,123**	**855**					**10,268**			**40**	**4,669**	**2,573**

TABLE 2-9

SUMMARY OF ADS 1093 SOIL SAMPLES

Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
Acenaphthene	52	2	34.7	35.9	4,800	mg/kg	50	0.16	1.1		52	
Acenaphthylene	52	1	1.5	1.5		mg/kg	51	0.16	1.1			
Acetone	50	32	0.03	0.69	8,000	mg/kg	18	0.02	5		50	
Amino-2,6-dinitrotoluene [4-]	30					mg/kg	30	0.221	0.247			
Amino-4,6-dinitrotoluene [2-]	30					mg/kg	30	0.194	0.217			
Aniline	46					mg/kg	46	0.33	1.1			
Anthracene	52	2	54.1	59	24,000	mg/kg	50	0.16	1.1		52	
Azobenzene	46					mg/kg	46	0.33	1.1			
Barium	57	57	21	9,400	5,600	mg/kg				1	56	
Benzene	50				0.67	mg/kg	50	0.005	1.2		49	1
Benzidine [m-]	43	1	0.49	0.49		mg/kg	42	0.87	5.5			
Benzo[a]anthracene	52	2	65.3	66.7	0.64	mg/kg	50	0.16	1.1	2	45	5
Benzo[a]pyrene	52	3	0.43	53.8	0.1	mg/kg	49	0.16	1.1	3		49
Benzo[b]fluoranthene	52	4	0.47	102.7	0.7	mg/kg	48	0.16	1.1	3	44	5
Benzo[g,h,i]perylene	52	2	65.4	81.9	44	mg/kg	50	0.19	1.1	2	50	
Benzo[k]fluoranthene	52	2	11.8	14	1.5	mg/kg	50	0.16	1.1	2	50	
Benzoic acid	52				320,000	mg/kg	52	0.33	11		52	
Benzyl alcohol	52					mg/kg	52	0.16	4.5			
Beryllium	57	56	0.12	3.9	0.16	mg/kg	1	0.1	0.1	55	2	
Bis(2-chloroethoxy)methane	52					mg/kg	52	0.16	1.1			
Bis(2-chloroethyl)ether	52				0.12	mg/kg	52	0.16	1.1			52
Bis(2-chloroisopropyl)ether	52				100	mg/kg	52	0.16	1.1		52	
Bis(2-ethylhexyl)phthalate	52	11	0.24	103.8	50	mg/kg	41	0.16	1.1	2	50	
Bromobenzene	50					mg/kg	50	0.005	1.2			
Bromochloromethane	50					mg/kg	50	0.005	1.2			
Bromodichloromethane	50				11	mg/kg	50	0.005	1.2		50	
Bromoform	50				89	mg/kg	50	0.005	1.2		50	
Bromomethane	50				0.43	mg/kg	50	0.01	2.5		49	1
Bromophenylphenyl ether [4-]	52					mg/kg	52	0.16	1.1			
Butanone [2-]	50	6	0.11	0.2	4,000	mg/kg	44	0.02	5		50	
Butyl benzyl phthalate	52	2	0.47	2.1	16,000	mg/kg	50	0.16	1.1		52	
Butylbenzene [n-]	50					mg/kg	50	0.005	1.2			
Butylbenzene [sec-]	50					mg/kg	50	0.005	1.2			
Butylbenzene [tert-]	50					mg/kg	50	0.005	1.2			
Cadmium	57	19	0.6	14.7	80	mg/kg	38	0.4	1		57	
Carbon disulfide	50	2	0.012	0.012	7.4	mg/kg	48	0.005	1.2		50	
Carbon tetrachloride	50				0.21	mg/kg	50	0.005	1.2		49	1

TABLE 2-9

SUMMARY OF ADS 1093 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
38	Chlorine	3	3	5.6	8.2		mg/kg						
39	Chloro-3-methylphenol [4-]	52				16,000	mg/kg	52	0.16	2.3		52	
40	Chloroaniline [4-]	52				320	mg/kg	52	0.16	4.5		52	
41	Chlorobenzene	50				67	mg/kg	50	0.005	1.2		50	
42	Chlorodibromomethane	50				83	mg/kg	50	0.005	1.2		50	
43	Chloroethane	50				3,300	mg/kg	50	0.01	2.5		50	
44	Chloroform	50	2	0.019	0.029	0.21	mg/kg	48	0.005	1.2		49	1
45	Chloromethane	50				6.4	mg/kg	50	0.01	2.5		50	
46	Chloronaphthalene [2-]	52				6,400	mg/kg	52	0.16	1.1		52	
47	Chlorophenol [o-]	52				400	mg/kg	52	0.16	1.1		52	
48	Chlorophenylphenyl ether [4-]	52					mg/kg	52	0.16	1.1			
49	Chlorotoluene [o-]	50					mg/kg	50	0.005	1.2			
50	Chlorotoluene [p-]	50					mg/kg	50	0.005	1.2			
51	Chromium	57	56	2.6	64	400	mg/kg	1	0.5	0.5		57	
52	Chrysene	52	3	0.45	75	22	mg/kg	49	0.16	1.1	2	50	
53	Di-n-butyl phthalate	52	3	0.17	3.9	8,000	mg/kg	49	0.16	1.1		52	
54	Di-n-octyl phthalate	52	1	1.5	1.5	1,600	mg/kg	51	0.16	1.1		52	
55	Dibenzo[a,h]anthracene	52	2	4.9	5.9	0.086	mg/kg	50	0.19	1.1	2		50
56	Dibenzofuran	52	2	35.9	51.4		mg/kg	50	0.16	1.1			
57	Dibromo-3-chloropropane [1,2-]	50					mg/kg	50	0.01	1.2			
58	Dibromoethane [1,2-]	50					mg/kg	50	0.005	1.2			
59	Dibromomethane	50					mg/kg	50	0.005	1.2			
60	Dichlorobenzene [1,2-]	102				1,600	mg/kg	102	0.005	1.2		102	
61	Dichlorobenzene [1,3-]	102				7,200	mg/kg	102	0.005	1.2		102	
62	Dichlorobenzene [1,4-]	102	2	33	198.8	290	mg/kg	100	0.005	1.1		102	
63	Dichlorobenzidine [3,3'-]	52				1.6	mg/kg	52	0.33	2.3		49	3
64	Dichlorodifluoromethane	50					mg/kg	50	0.01	2.5			
65	Dichloroethane [1,1-]	50				410	mg/kg	50	0.005	1.2		50	
66	Dichloroethane [1,2-]	50				0.2	mg/kg	50	0.005	1.2		49	1
67	Dichloroethene [1,1-]	50				0.4	mg/kg	50	0.005	1.2		49	1
68	Dichloroethene [trans-1,2-]	50				1,600	mg/kg	50	0.005	1.2		50	
69	Dichloroethylene [cis-1,2-]	50	1	5.5	5.5	800	mg/kg	49	0.005	0.009		50	
70	Dichlorophenol [2,4-]	52				240	mg/kg	52	0.16	1.1		52	
71	Dichloropropane [1,2-]	50				6.5	mg/kg	50	0.005	1.2		50	
72	Dichloropropane [1,3-]	50					mg/kg	50	0.005	1.2			
73	Dichloropropane [2,2-]	50					mg/kg	50	0.005	1.2			
74	Dichloropropene [1,1-]	50					mg/kg	50	0.005	1.2			

TABLE 2-9

SUMMARY OF ADS 1093 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
75	Dichloropropene [cis-1,3-]	50				0.17	mg/kg	50	0.005	1.2		49	1
76	Dichloropropene [trans-1,3-]	50				0.17	mg/kg	50	0.005	1.2		49	1
77	Diethyl phthalate	52				64,000	mg/kg	52	0.16	1.1		52	
78	Dimethyl phthalate	52				800,000	mg/kg	52	0.16	1.1		52	
79	Dimethylphenol [2,4-]	52				1,600	mg/kg	52	0.16	1.1		52	
80	Dinitrobenzene [1,3-]	30				8	mg/kg	30	0.166	0.186		30	
81	Dinitrophenol [2,4-]	52				160	mg/kg	52	0.33	5.5		52	
82	Dinitrotoluene [2,4-]	82				1	mg/kg	82	0.129	1.1		80	2
83	Dinitrotoluene [2,6-]	82				1	mg/kg	82	0.16	1.1		80	2
84	Ethylbenzene	50				3,100	mg/kg	50	0.005	1.2		50	
85	Fluoranthene	52	5	0.48	211.5	3,200	mg/kg	47	0.16	1.1		52	
86	Fluorene	52	2	16.2	34.6	3,200	mg/kg	50	0.16	1.1		52	
87	HMX	30				4,000	mg/kg	30	0.411	0.46		30	
88	Hexachlorobenzene	52				0.44	mg/kg	52	0.16	1.1		33	19
89	Hexachlorobutadiene	52				90	mg/kg	52	0.16	1.1		52	
90	Hexachlorocyclopentadiene	52				560	mg/kg	52	0.33	1.2		52	
91	Hexachloroethane	52				80	mg/kg	52	0.16	1.1		52	
92	Hexanone [2-]	50					mg/kg	50	0.02	5			
93	Indeno[1,2,3-cd]pyrene	52	2	51.3	52.8	0.41	mg/kg	50	0.19	1.1	2	21	29
94	Isophorone	52				7,400	mg/kg	52	0.16	1.1		52	
95	Isopropylbenzene	50					mg/kg	50	0.005	1.2			
96	Isopropyltoluene [4-]	50					mg/kg	50	0.005	1.2			
97	Lead	57	53	8	740	500	mg/kg	4	4	11	1	56	
98	Mercury	171	71	0.1	253	24	mg/kg	100	0.1	0.1	6	165	
99	Methyl iodide	50					mg/kg	50	0.005	1.2			
100	Methyl-2-pentanone [4-]	50				510	mg/kg	50	0.02	5		50	
101	Methyl-4,6-dinitrophenol [2-]	52					mg/kg	52	0.33	5.5			
102	Methylene chloride	50	2	0.01	0.013	5.6	mg/kg	48	0.005	1.2		50	
103	Methylnaphthalene [2-]	52	2	8.1	11.3		mg/kg	50	0.16	1.1			
104	Methylphenol [2-]	52	2	0.46	0.68	4,000	mg/kg	50	0.16	1.1		52	
105	Methylphenol [4-]	52	2	1	51.4	400	mg/kg	50	0.16	1.1		52	
106	Naphthalene	52	3	2.9	72.2	3,200	mg/kg	49	0.16	1.1		52	
107	Nickel	57	51	3	94	1,600	mg/kg	6	2	2		57	
108	Nitrate Nitrogen	3	3	0.5	19		mg/kg						
109	Nitrite Nitrogen	3	3	0.4	1.1		mg/kg						
110	Nitroaniline [2-]	52					mg/kg	52	0.33	5.5			
111	Nitroaniline [3-]	52					mg/kg	52	0.33	5.5			

TABLE 2-9

SUMMARY OF ADS 1093 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
112	Nitroaniline [4-]	52					mg/kg	52	0.33	2.7			
113	Nitrobenzene	82				5.3	mg/kg	82	0.16	1.1		82	
114	Nitrophenol [2-]	52					mg/kg	52	0.16	1.1			
115	Nitrophenol [4-]	52					mg/kg	52	0.33	5.5			
116	Nitrosodi-n-propylamine [N-]	52				0.1	mg/kg	52	0.16	1.1			52
117	Nitrosodimethylamine [N-]	46					mg/kg	46	0.33	1.1			
118	Nitrosodiphenylamine [N-]	52				140	mg/kg	52	0.16	1.1		52	
119	Nitrotoluene [m-]	30					mg/kg	30	0.364	0.407			
120	Nitrotoluene [o-]	30					mg/kg	30	0.361	0.404			
121	Nitrotoluene [p-]	30					mg/kg	30	0.453	0.507			
122	Pentachlorophenol	52				5.8	mg/kg	52	0.33	5.5		52	
123	Petroleum Hydrocarbons, Total Recoverable	6	2	35.8	83.1		mg/kg	4	33.4	45.7			
124	Phenanthrene	52	5	0.42	259.6		mg/kg	47	0.16	1.1			
125	Phenol	52				48,000	mg/kg	52	0.16	1.1		52	
126	Plutonium-238	30	10	0.021	2.36	27	pCi/l	20	0.01	0.01		30	
127	Plutonium-239	29	15	0.018	2.63	24	pCi/g	14	0.01	0.01		29	
128	Propylbenzene	50					mg/kg	50	0.005	1.2			
129	Pyrene	52	5	0.56	167.9	2,400	mg/kg	47	0.16	1.1		52	
130	RDX	30				64	mg/kg	30	0.417	0.466		30	
131	Silver	57	17	1.1	170	400	mg/kg	40	1	1		57	
132	Styrene	50				16,000	mg/kg	50	0.005	1.2		50	
133	Tetrachloroethane [1,1,1,2-]	50					mg/kg	50	0.005	1.2			
134	Tetrachloroethane [1,1,2,2-]	50				3.9	mg/kg	50	0.005	1.2		50	
135	Tetrachloroethylene	50				5.9	mg/kg	50	0.005	1.2		50	
136	Tetryl	30				800	mg/kg	30	0.272	0.304		30	
137	Thorium-228	20	20	0.768	8.23		pCi/l						
138	Thorium-230	20	20	0.357	3.94	10	pCi/l					20	
139	Thorium-232	20	20	0.384	2.33	0.88	pCi/l				16	4	
140	Toluene	50	6	0.01	0.43	890	mg/kg	44	0.005	1.2		50	
141	Trichloro-1,2,2-trifluoroethane [1,1,2-]	50					mg/kg	50	0.005	1.2			
142	Trichlorobenzene [1,2,4-]	52	1	64.7	64.7	160	mg/kg	51	0.16	1.1		52	
143	Trichloroethane [1,1,1-]	50				1,000	mg/kg	50	0.005	1.2		50	
144	Trichloroethane [1,1,2-]	50				6.3	mg/kg	50	0.005	1.2		50	
145	Trichloroethene	50	1	11	11	3.2	mg/kg	49	0.005	0.009	1	49	
146	Trichlorofluoromethane	50					mg/kg	50	0.005	2.5			
147	Trichlorophenol [2,4,5-]	52				8,000	mg/kg	52	0.33	5.5		52	

TABLE 2-9

SUMMARY OF ADS 1093 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
148	Trichlorophenol [2,4,6-]	52				64	mg/kg	52	0.16	1.1		52	
149	Trichloropropane [1,2,3-]	50					mg/kg	50	0.005	1.2			
150	Trimethylbenzene [1,2,4-]	50					mg/kg	50	0.005	1.2			
151	Trimethylbenzene [1,3,5-]	50					mg/kg	50	0.005	1.2			
152	Trinitrobenzene [1,3,5-]	30				4	mg/kg	30	0.224	0.251		30	
153	Trinitrotoluene [2,4,6-]	30				40	mg/kg	30	0.21	0.235		30	
154	Uranium	49	48	0.69	45.4	160	mg/kg	1	2.69	2.69		49	
155	Vinyl chloride	50				0.012	mg/kg	50	0.01	2.5		32	18
156	Xylenes [o-, m-, p-]	50				160,000	mg/kg	50	0.005	1.2		50	
157	Zinc	57	57	29	1200	24,000	mg/kg					57	
	Total Number of Values	**7,841**	**707**					**7,134**			**100**	**5,103**	**294**

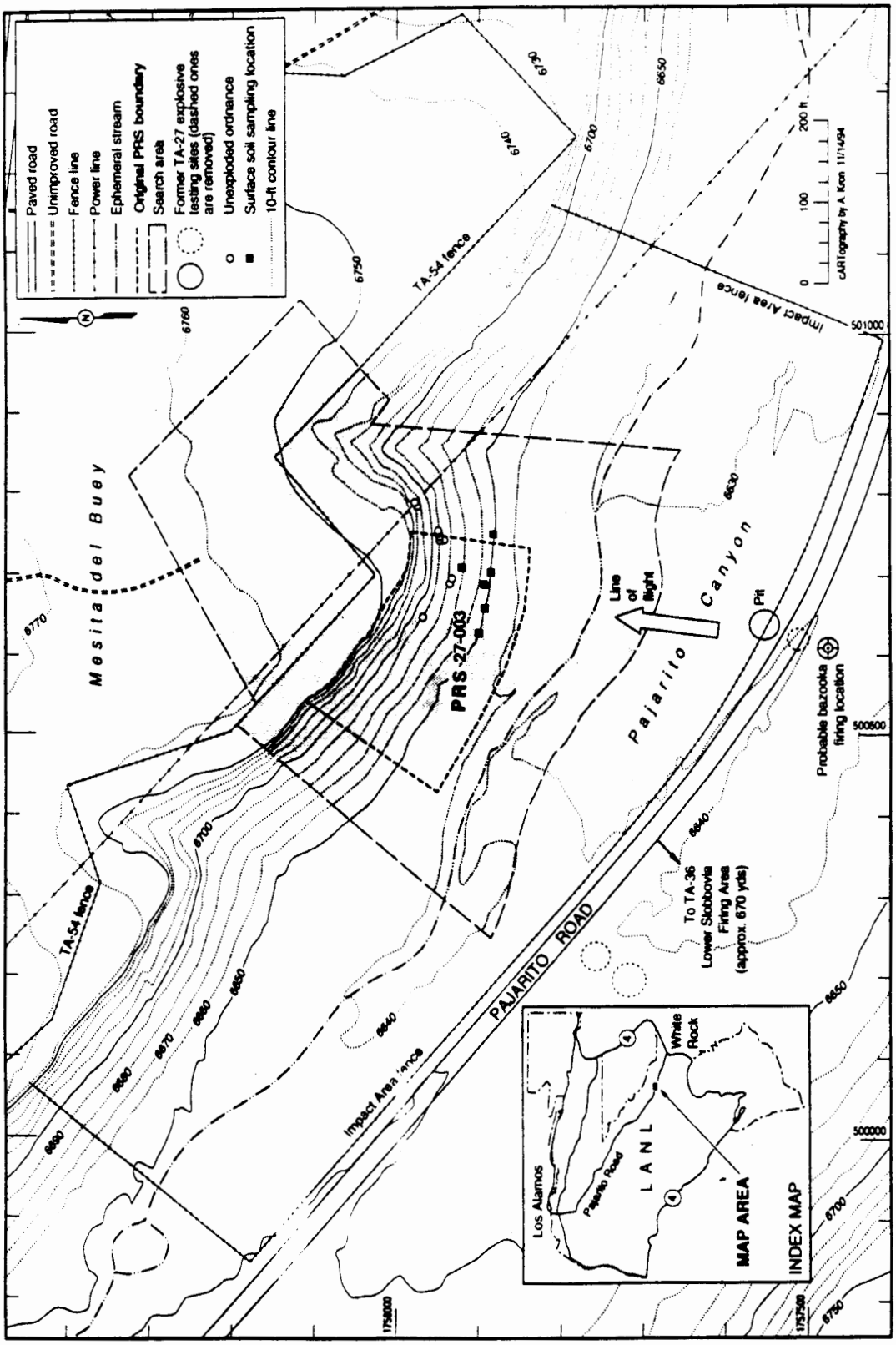


Figure 2-17. Bazooka Impact Area (PRS 27-003), ADS 1093.

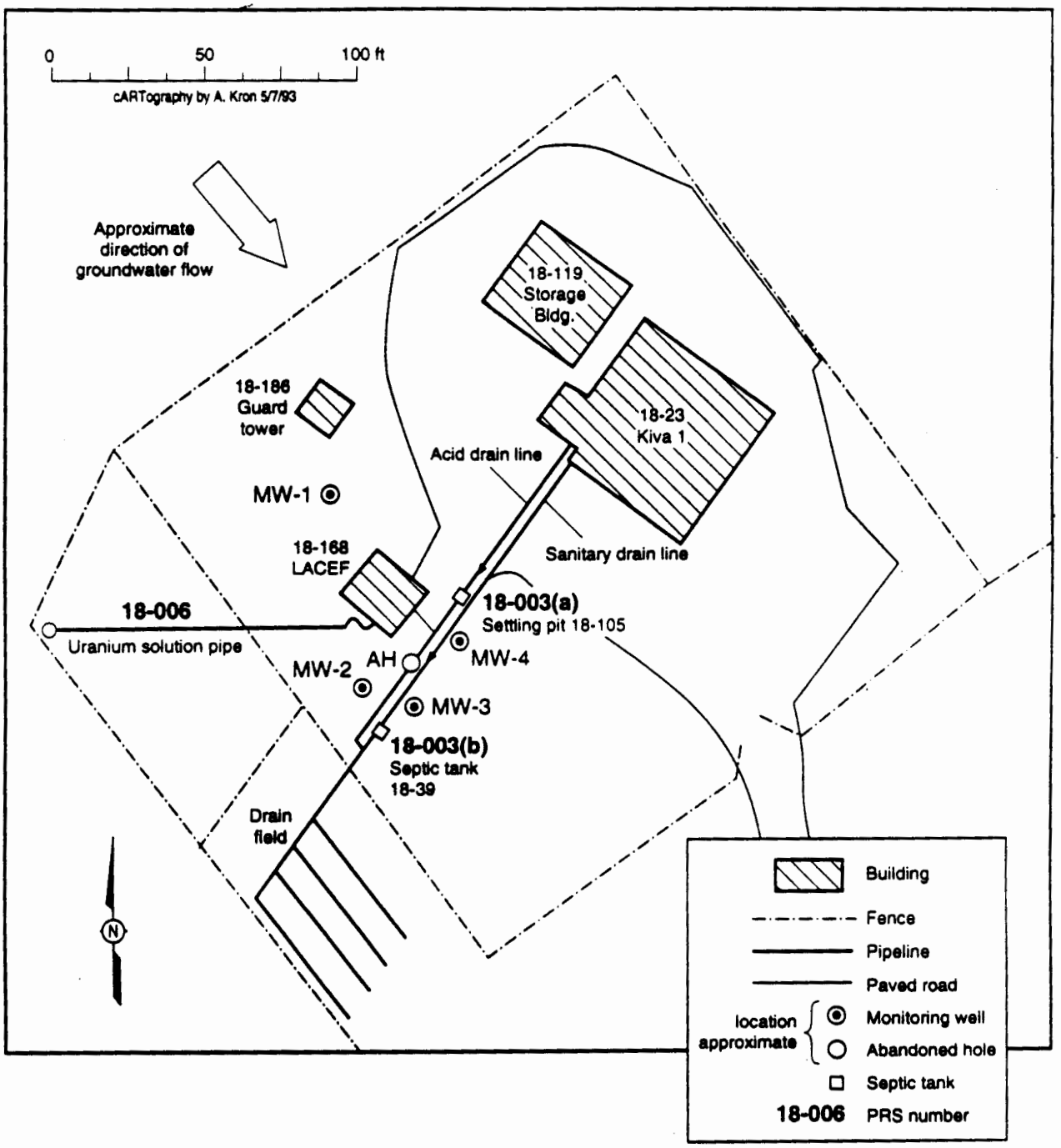


Figure 2-18. Locations of shallow monitoring wells near the Los Alamos Critical Experiments Facility (LACEF) (18-168), ADS 1093.

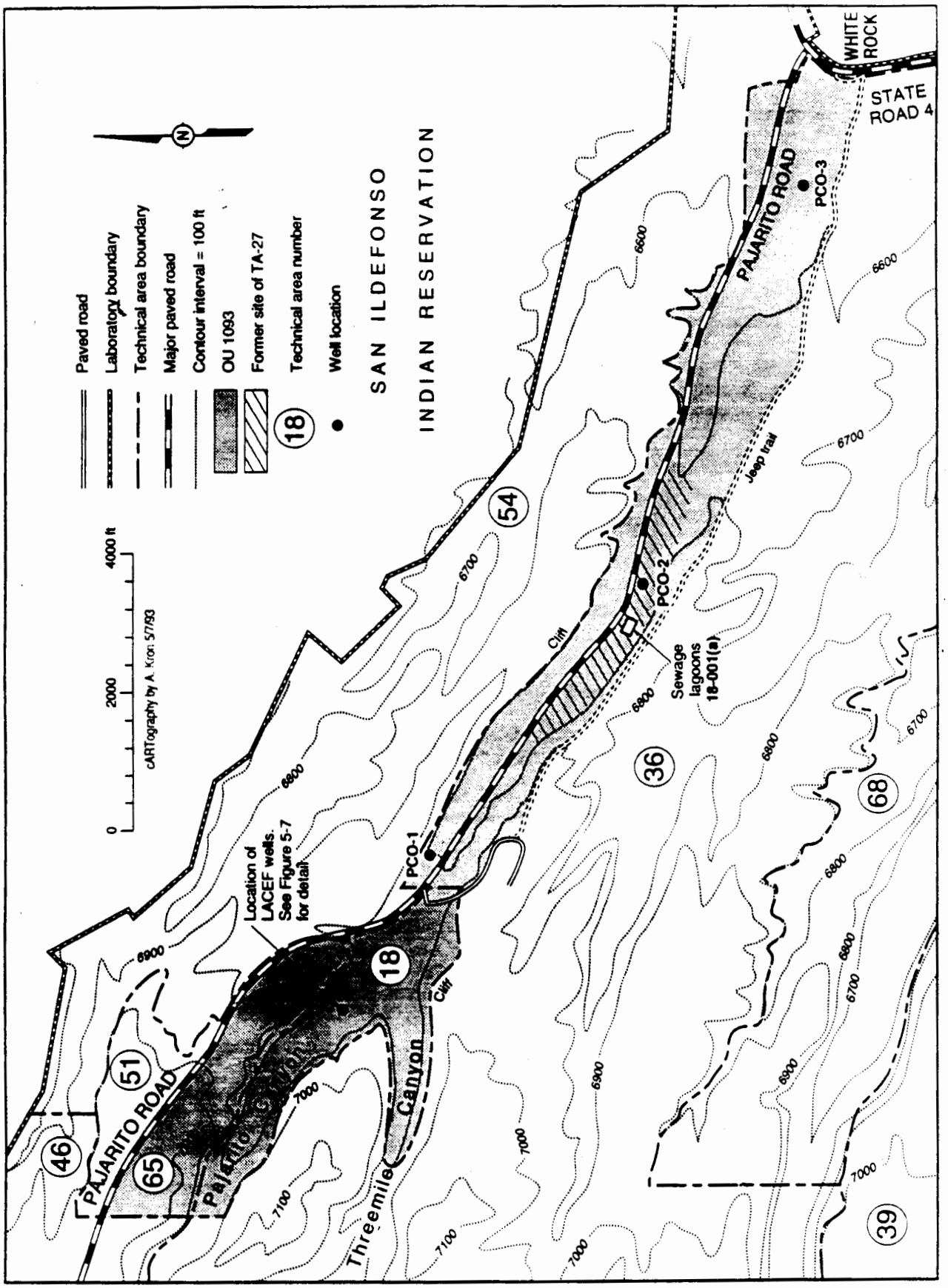


Figure 2-19. Locations of existing shallow monitoring wells, ADS 1093.

2.2.3 ADS 1100—TA-53

Field work began on September 19. The following activities were completed: sludge sampling at the TA-53 surface impoundments; magnetometer and electromagnetic induction surveys at TA-20 landfills; and radiation surveys at TA-20 firing sites.

2.2.4 ADS 1132—TA-39

This past quarter, drilling and sampling were conducted at PRSs 39-001(a and b) and in the stream channel (see Figure 2-20). Sample data from PRSs 39-002(a–f), 39-005, 39-006(a), and 39-007(a–d) were reviewed. Analytical results received to date for samples collected for ADS 1132 are summarized in Table 2-10 (see Section 1.0 for an explanation of this summary table).

Landfills. Phase I drilling and sampling were completed at PRS 39-001(a) (see Figure 2-21). Eleven coreholes were completed: five angle coreholes and six vertical coreholes. Three monitoring wells were installed. The geophysical logging of the drill holes will be completed later. The following samples were collected: 17 surface, 3 near-surface, and 119 subsurface. Field surveys for radiological activity and organic vapors indicated no contamination. No visible signs of contamination were observed.

Phase I drilling and sampling were completed at PRS 39-001(b) (see Figure 2-22). Ten coreholes were completed: nine angle coreholes and one vertical corehole. Two monitoring wells were installed. Saturated soils were encountered in two of the angled (45° angle) coreholes at a depth of 80 ft. It appears that a water zone may be located beneath the landfills. Attempts were made to find the water zone and to construct a monitoring well. The geophysical logging of the drill holes will be completed later. The following samples were collected: 20 surface, 9 near-surface, and 109 subsurface. Field surveys for radiological activity and organic vapors indicated no contamination. No visible signs of contamination were observed.

The depth to water of the five monitoring wells installed at PRSs 39-001(a and b) was investigated, but no water was found.

Stream channel. Preliminary sampling for radioactivity and metals in the stream channel was conducted. The purpose of the sampling was to locate the areas of deposition that showed the greatest concentration of metals and radioactivity and to determine the best locations for the stream channel sampling. Seventeen locations along the stream channel were selected and sampled. Thirty-four soil samples were collected along the banks and the channel, including quality assurance/quality control samples.

Waste Storage Areas. At PRSs 39-002(a–f), analytical results for Buildings 2, 56, and 57 indicate that several polycyclic aromatic hydrocarbons exceeded their SALs, including those with measured values below the LOD for the analysis method used. Several samples show that SALs were exceeded for lead at Building 2, beryllium at Building 57, copper at Buildings 6 and 88, and uranium at Buildings 56 and 57. One sample at Building 56 showed alpha, beta, and gamma activity—most likely from uranium. One sample at Building 2 showed the presence of 1,3,5-trinitrobenzene above the SAL. Several samples at Buildings 6 and 63 also indicate the presence of PCBs (mixed Aroclors) above the SAL. Voluntary corrective actions are planned at PRSs 39-002(a–d) in 1995.

At PRSs 39-007(a–d), three samples for PCBs (mixed Aroclors) were found to be above the SAL. No other constituents above SALs were encountered. Voluntary corrective action is planned for these PRSs in 1995.

High Explosives Seepage Pit. There was no radiological or chemical contamination above SALs at PRS 39-005. No further action is planned.

Inactive septic system and chemical seepage pit (proposed solid waste management unit). Investigations at PRS 39-006(a) revealed no radiological or chemical contamination above SALs in the active and inactive sand filters, the outfall, or in the immediate area of the inactive septic tank. The chemical seepage pit and one of the samples taken near the active septic tank showed beryllium above

the SAL. The background level for beryllium in the soils in TA-39 (south of State Road 4) ranges from 1.6 to 3.9 parts per million. Several samples for PCBs (mixed Aroclors) were found to be above the SAL.

A follow-up ground-penetrating radar survey was conducted in the general vicinity of the inactive septic system. The survey was performed east of Building 100 in an area approximately 30 by 30 ft, where the septic system is thought to be located. Results indicate about 15 ft of the septic tank's 20-ft length lies underneath the building. In the 1950s, the original septic tank was installed in an open field. Building 100, a transportable office, was later placed in this location. Building 100 is scheduled to be relocated in November or December of 1994. Voluntary corrective action is planned for this PRS in the spring of 1995.

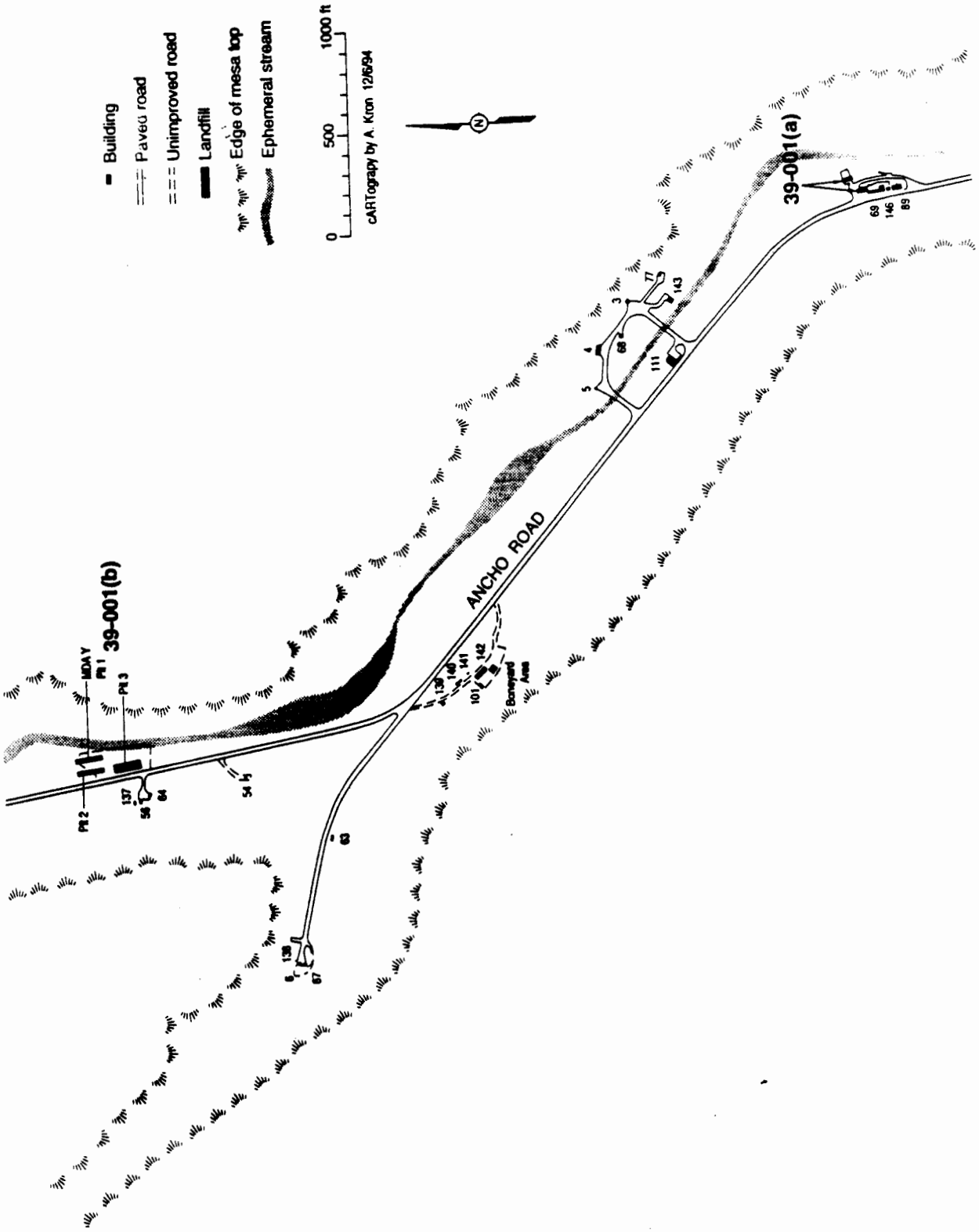


Figure 2-20. Location of PRS Aggregate 1 (Landfills) at TA-39, ADS 1132.

TABLE 2-10

SUMMARY OF ADS 1132 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1	Acenaphthene	128				4,800	mg/kg	128	0.33	3.5		128	
2	Acenaphthylene	128					mg/kg	128	0.33	3.5			
3	Acetone	84	16	0.023	0.12	8,000	mg/kg	68	0.02	0.051		84	
4	Aldrin	56					mg/kg	56	0.0017	0.0024			
5	Aluminum	33	33	1,100	13,400		mg/kg						
6	Amino-2,6-dinitrotoluene [4-]	109	1	0.454	0.454		mg/kg	108	0.09	0.248			
7	Amino-4,6-dinitrotoluene [2-]	109	2	0.427	0.553		mg/kg	107	0.073	0.218			
8	Aniline	128					mg/kg	128	0.33	3.5			
9	Anthracene	128				24,000	mg/kg	128	0.33	3.5		128	
10	Antimony	34				32	mg/kg	34	5.4	8.4		34	
11	Aroclor 1016	72					mg/kg	72	0.034	0.054			
12	Aroclor 1221	72					mg/kg	72	0.036	0.093			
13	Aroclor 1232	72					mg/kg	72	0.034	0.054			
14	Aroclor 1242	77					mg/kg	77	0.034	0.278			
15	Aroclor 1248	72					mg/kg	72	0.034	0.054			
16	Aroclor 1254	77					mg/kg	77	0.034	0.278			
17	Aroclor 1260	77	1	0.047	0.047		mg/kg	76	0.034	0.278			
18	Aroclor [Mixed-]	21				0.09	mg/kg	21	0.036	0.278		16	5
19	Arsenic	34	4	0.46	2.2	0.4	mg/kg	30	0.25	1.9	4	8	22
20	Azobenzene	128					mg/kg	128	0.33	3.5			
21	Barium	114	99	1.1	360	5,600	mg/kg	15	20.2	45.2		114	
22	Benzene	84				0.67	mg/kg	84	0.005	0.008		84	
23	Benzidine [m-]	89					mg/kg	89	0.33	35			
24	Benzoic acid	128				320,000	mg/kg	128	0.33	35		128	
25	Benzo[a]anthracene	128	1	0.48	0.48	0.64	mg/kg	127	0.33	3.5		126	2
26	Benzo[a]pyrene	128				0.1	mg/kg	128	0.33	3.5			128
27	Benzo[b]fluoranthene	128	1	0.87	0.87	0.7	mg/kg	127	0.33	3.5	1	125	2
28	Benzo[g,h,i]perylene	128				44	mg/kg	128	0.33	3.5		128	
29	Benzo[k]fluoranthene	128				1.5	mg/kg	128	0.33	3.5		126	2
30	Benzyl alcohol	128					mg/kg	128	0.33	14			
31	Beryllium	113	66	0.18	4.4	0.16	mg/kg	47	0.08	1.1	66	19	28
32	BHC [alpha-]	56				0.1	mg/kg	56	0.0017	0.0024		56	
33	BHC [beta-]	56				4	mg/kg	56	0.0017	0.0024		56	
34	BHC [delta-]	56					mg/kg	56	0.0017	0.0024			

TABLE 2-10

SUMMARY OF ADS 1132 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
35	Bis(2-chloroethoxy)methane	128					mg/kg	128	0.33	3.5			
36	Bis(2-chloroethyl)ether	128				0.12	mg/kg	128	0.33	3.5			128
37	Bis(2-chloroisopropyl)ether	128				100	mg/kg	128	0.33	3.5		128	
38	Bis(2-ethylhexyl)phthalate	128	9	0.38	1.7	50	mg/kg	119	0.33	3.5		128	
39	Bromobenzene	84					mg/kg	84	0.005	0.008			
40	Bromochloromethane	84					mg/kg	84	0.005	0.008			
41	Bromodichloromethane	84				11	mg/kg	84	0.005	0.008		84	
42	Bromoform	84				89	mg/kg	84	0.005	0.008		84	
43	Bromomethane	84				0.43	mg/kg	84	0.01	0.016		84	
44	Bromophenylphenyl ether [4-]	128					mg/kg	128	0.33	3.5			
45	Butanone [2-]	84				4,000	mg/kg	84	0.02	0.032		84	
46	Butyl benzyl phthalate	128				16,000	mg/kg	128	0.33	3.5		128	
47	Butylbenzene [n-]	84					mg/kg	84	0.005	0.008			
48	Butylbenzene [sec-]	84					mg/kg	84	0.005	0.008			
49	Butylbenzene [tert-]	84					mg/kg	84	0.005	0.008			
50	Cadmium	114	13	0.48	4.1	80	mg/kg	101	0.4	2		114	
51	Calcium	33	25	1,120	4,160		mg/kg	8	678	1,420			
52	Carbon disulfide	84				7.4	mg/kg	84	0.005	0.008		84	
53	Carbon tetrachloride	84				0.21	mg/kg	84	0.005	0.008		84	
54	Chlordane [alpha-]	56					mg/kg	56	0.0017	0.0024			
55	Chlordane [gamma-]	56					mg/kg	56	0.0017	0.0024			
56	Chloro-3-methylphenol [4-]	128				16,000	mg/kg	128	0.33	7.1		128	
57	Chloroaniline [4-]	128				320	mg/kg	128	0.33	14		128	
58	Chlorobenzene	84				67	mg/kg	84	0.005	0.008		84	
59	Chlorodibromomethane	84				83	mg/kg	84	0.005	0.008		84	
60	Chloroethane	84				3,300	mg/kg	84	0.01	0.023		84	
61	Chloroform	84				0.21	mg/kg	84	0.005	0.008		84	
62	Chloromethane	84				6.4	mg/kg	84	0.01	0.016		84	
63	Chloronaphthalene [2-]	128				6,400	mg/kg	128	0.33	3.5		128	
64	Chlorophenol [o-]	128				400	mg/kg	128	0.33	3.5		128	
65	Chlorophenylphenyl ether [4-]	128					mg/kg	128	0.33	3.5			
66	Chlorotoluene [o-]	84					mg/kg	84	0.005	0.008			
67	Chlorotoluene [p-]	84					mg/kg	84	0.005	0.008			
68	Chromium	114	99	1.2	48	400	mg/kg	15	0.5	2.2		114	

TABLE 2-10

SUMMARY OF ADS 1132 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
69	Chrysene	128	1	0.87	0.87	22	mg/kg	127	0.33	3.5		128	
70	Cobalt	114	83	0.86	9.1		mg/kg	31	0.5	3.9			
71	Copper	114	93	0.82	3,200	3,000	mg/kg	21	1	5.5	2	112	
72	Cyanide	112	8	1.31	107	1,600	mg/kg	104	0.05	0.23		112	
73	DDD [p,p'-]	56				2.9	mg/kg	56	0.003	0.005		56	
74	DDE [p,p'-]	56					mg/kg	56	0.003	0.005			
75	DDT [p,p'-]	56				2.1	mg/kg	56	0.003	0.005		56	
76	Di-n-butyl phthalate	128	4	0.45	1.2	8,000	mg/kg	124	0.33	3.5		128	
77	Di-n-octyl phthalate	128	1	4.5	4.5	1,600	mg/kg	127	0.33	3.5		128	
78	Dibenzofuran	128					mg/kg	128	0.33	3.5			
79	Dibenzo[a,h]anthracene	128				0.086	mg/kg	128	0.33	3.5			128
80	Dibromo-3-chloropropane [1,2-]	84					mg/kg	84	0.01	0.016			
81	Dibromoethane [1,2-]	84					mg/kg	84	0.005	0.008			
82	Dibromomethane	84					mg/kg	84	0.005	0.008			
83	Dichlorobenzene [1,2-]	212				1,600	mg/kg	212	0.005	3.5		212	
84	Dichlorobenzene [1,3-]	212				7,200	mg/kg	212	0.005	3.5		212	
85	Dichlorobenzene [1,4-]	212				290	mg/kg	212	0.005	3.5		212	
86	Dichlorobenzidine [3,3'-]	128				1.6	mg/kg	128	0.33	7.1		126	2
87	Dichlorodifluoromethane	84					mg/kg	84	0.01	0.016			
88	Dichloroethane [1,1-]	84				410	mg/kg	84	0.005	0.008		84	
89	Dichloroethane [1,2-]	84				0.2	mg/kg	84	0.005	0.008		84	
90	Dichloroethene [1,1-]	84				0.4	mg/kg	84	0.005	0.008		84	
91	Dichloroethene [trans-1,2-]	84				1,600	mg/kg	84	0.005	0.008		84	
92	Dichloroethylene [cis-1,2-]	84				800	mg/kg	84	0.005	0.008		84	
93	Dichlorophenol [2,4-]	128				240	mg/kg	128	0.33	3.5		128	
94	Dichloropropane [1,2-]	84				6.5	mg/kg	84	0.005	0.008		84	
95	Dichloropropane [1,3-]	84					mg/kg	84	0.005	0.008			
96	Dichloropropane [2,2-]	84					mg/kg	84	0.005	0.008			
97	Dichloropropene [1,1-]	84					mg/kg	84	0.005	0.008			
98	Dichloropropene [cis-1,3-]	84				0.17	mg/kg	84	0.005	0.008		84	
99	Dichloropropene [trans-1,3-]	84				0.17	mg/kg	84	0.005	0.008		84	
100	Dieldrin	56					mg/kg	56	0.003	0.005			
101	Diethyl phthalate	128				64,000	mg/kg	128	0.33	3.5		128	
102	Dimethyl phthalate	128				800,000	mg/kg	128	0.33	3.5		128	

TABLE 2-10

SUMMARY OF ADS 1132 SOIL SAMPLES

Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
103 Dimethylphenol [2,4-]	128				1,600	mg/kg	128	0.33	3.5		128	
104 Dinitrobenzene [1,3-]	109	4	0.254	1.61	8	mg/kg	105	0.06	0.187		109	
105 Dinitrophenol [2,4-]	128				160	mg/kg	128	0.33	17		128	
106 Dinitrotoluene [2,4-]	237	4	0.186	0.886	1	mg/kg	233	0.061	3.5		236	1
107 Dinitrotoluene [2,6-]	237	1	0.96	0.96	1	mg/kg	236	0.092	3.5		236	1
108 Endosulfan I	56					mg/kg	56	0.0017	0.0024			
109 Endosulfan II	56					mg/kg	56	0.003	0.005			
110 Endosulfan sulfate	56					mg/kg	56	0.003	0.005			
111 Endrin	56					mg/kg	56	0.003	0.005			
112 Endrin aldehyde	50					mg/kg	50	0.003	0.005			
113 Endrin ketone	56	1	0.014	0.014		mg/kg	55	0.003	0.005			
114 Ethylbenzene	84				3,100	mg/kg	84	0.005	0.008		84	
115 Fluoranthene	128				3,200	mg/kg	128	0.33	3.5		128	
116 Fluorene	128				3,200	mg/kg	128	0.33	3.5		128	
117 Heptachlor	56					mg/kg	56	0.0017	0.0024			
118 Heptachlor epoxide	56					mg/kg	56	0.0017	0.0024			
119 Hexachlorobenzene	128				0.44	mg/kg	128	0.33	3.5		117	11
120 Hexachlorobutadiene	128				90	mg/kg	128	0.33	3.5		128	
121 Hexachlorocyclopentadiene	128				560	mg/kg	128	0.33	3.5		128	
122 Hexachloroethane	128				80	mg/kg	128	0.33	3.5		128	
123 Hexanone [2-]	84					mg/kg	84	0.02	0.032			
124 HMX	109	2	1.29	17.9	4,000	mg/kg	107	0.164	0.463		109	
125 Indeno[1,2,3-cd]pyrene	128				0.41	mg/kg	128	0.33	3.5		110	18
126 Iron	33	33	2,020	14,000		mg/kg						
127 Isophorone	128				7,400	mg/kg	128	0.33	3.5		128	
128 Isopropylbenzene	84					mg/kg	84	0.005	0.008			
129 Isopropyltoluene [4-]	84					mg/kg	84	0.005	0.008			
130 Lead	116	116	1.4	7,000	500	mg/kg				5	111	
131 Lindane	56					mg/kg	56	0.0017	0.0024			
132 Magnesium	33	12	533	2,200		mg/kg	21	367	1,020			
133 Manganese	34	34	53	397	8,000	mg/kg					34	
134 Mercury	268	51	0.06	6	24	mg/kg	217	0.05	0.1		268	
135 Methoxychlor	56					mg/kg	56	0.017	0.024			
136 Methyl iodide	84					mg/kg	84	0.005	0.008			

TABLE 2-10

SUMMARY OF ADS 1132 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
137	Methyl-2-pentanone [4-]	84				510	mg/kg	84	0.02	0.032		84	
138	Methyl-4,6-dinitrophenol [2-]	128					mg/kg	128	0.33	17			
139	Methylene chloride	84				5.6	mg/kg	84	0.005	0.008		84	
140	Methylnaphthalene [2-]	128					mg/kg	128	0.33	3.5			
141	Methylphenol [2-]	128				4,000	mg/kg	128	0.33	3.5		128	
142	Methylphenol [4-]	128				400	mg/kg	128	0.33	3.5		128	
143	Naphthalene	128				3,200	mg/kg	128	0.33	3.5		128	
144	Nickel	115	61	2	30	1,600	mg/kg	54	2	10.5		115	
145	Nitroaniline [2-]	128					mg/kg	128	0.33	17			
146	Nitroaniline [3-]	128					mg/kg	128	0.33	17			
147	Nitroaniline [4-]	128					mg/kg	128	0.33	7.1			
148	Nitrobenzene	237				5.3	mg/kg	237	0.074	3.5		237	
149	Nitrophenol [2-]	128					mg/kg	128	0.33	3.5			
150	Nitrophenol [4-]	128					mg/kg	128	0.33	17			
151	Nitrosodi-n-propylamine [N-]	128				0.1	mg/kg	128	0.33	3.5			128
152	Nitrosodimethylamine [N-]	128					mg/kg	128	0.33	3.5			
153	Nitrosodiphenylamine [N-]	128				140	mg/kg	128	0.33	3.5		128	
154	Nitrotoluene [m-]	109	1	4.76	4.76		mg/kg	108	0.159	0.41			
155	Nitrotoluene [o-]	109	2	1.62	1.89		mg/kg	107	0.137	0.407			
156	Nitrotoluene [p-]	109	2	3.22	5.43		mg/kg	107	0.184	0.51			
157	Pentachlorophenol	128				5.8	mg/kg	128	0.33	17		126	2
158	Petroleum Hydrocarbons, Total Recoverable	60	34	3	2,200		mg/kg	26	1	5			
159	Phenanthrene	128					mg/kg	128	0.33	3.5			
160	Phenol	128				48,000	mg/kg	128	0.33	3.5		128	
161	Potassium	33	7	1,110	1,850		mg/kg	26	651	1210			
162	Propylbenzene	84					mg/kg	84	0.005	0.008			
163	Pyrene	128	1	0.43	0.43	2,400	mg/kg	127	0.33	3.5		128	
164	RDX	109				64	mg/kg	109	0.168	0.463		109	
165	Selenium	34				400	mg/kg	34	0.19	0.57		34	
166	Silver	114	11	2.8	17	400	mg/kg	103	0.7	1.1		114	
167	Sodium	33	2	81.1	159		mg/kg	31	52.7	313			
168	Styrene	84				16,000	mg/kg	84	0.005	0.008		84	
169	Tetrachloroethane [1,1,1,2-]	84					mg/kg	84	0.005	0.008			

TABLE 2-10

SUMMARY OF ADS 1132 SOIL SAMPLES

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
170	Tetrachloroethane [1,1,2,2-]	84				3.9	mg/kg	84	0.005	0.008		84	
171	Tetrachloroethylene	84				5.9	mg/kg	84	0.005	0.008		84	
172	Tetryl	109	1	1.98	1.98	800	mg/kg	108	0.091	0.306		109	
173	Thallium	115	8	0.12	0.3	6.4	mg/kg	107	0.12	1		115	
174	Thorium	34	4	3.2	14.9		mg/kg	30	2.6	9.2			
175	Toluene	84				890	mg/kg	84	0.005	0.008		84	
176	Toxaphene	56					mg/kg	56	0.17	0.24			
177	Trichloro-1,2,2-trifluoroethane [1,1,2-]	84					mg/kg	84	0.005	0.008			
178	Trichlorobenzene [1,2,4-]	128				160	mg/kg	128	0.33	3.5		128	
179	Trichloroethane [1,1,1-]	84				1,000	mg/kg	84	0.005	0.008		84	
180	Trichloroethane [1,1,2-]	84				6.3	mg/kg	84	0.005	0.008		84	
181	Trichloroethene	84				3.2	mg/kg	84	0.005	0.008		84	
182	Trichlorofluoromethane	84					mg/kg	84	0.005	0.013			
183	Trichlorophenol [2,4,5-]	128				8,000	mg/kg	128	0.33	17		128	
184	Trichlorophenol [2,4,6-]	128				64	mg/kg	128	0.33	3.5		128	
185	Trichloropropane [1,2,3-]	84					mg/kg	84	0.005	0.008			
186	Trimethylbenzene [1,2,4-]	84					mg/kg	84	0.005	0.008			
187	Trimethylbenzene [1,3,5-]	84					mg/kg	84	0.005	0.008			
188	Trinitrobenzene [1,3,5-]	109	3	0.306	8.02	4	mg/kg	106	0.089	0.253	1	108	
189	Trinitrotoluene [2,4,6-]	109				40	mg/kg	109	0.084	0.236		109	
190	Uranium	176	130	0.42	6,100	160	mg/kg	46	0.2	24.9	2	174	
191	Vanadium	34	9	4.4	14.7	560	mg/kg	25	1.8	12.9		34	
192	Vinyl chloride	84				0.012	mg/kg	84	0.01	0.016		59	25
193	Xylenes [o-, m-, p-]	84				160,000	mg/kg	84	0.005	0.008		84	
194	Zinc	114	114	8.4	860	24,000	mg/kg					114	
	Total Number of Values	**19,428**	**1,208**					**18,220**			**81**	**11,933**	**633**

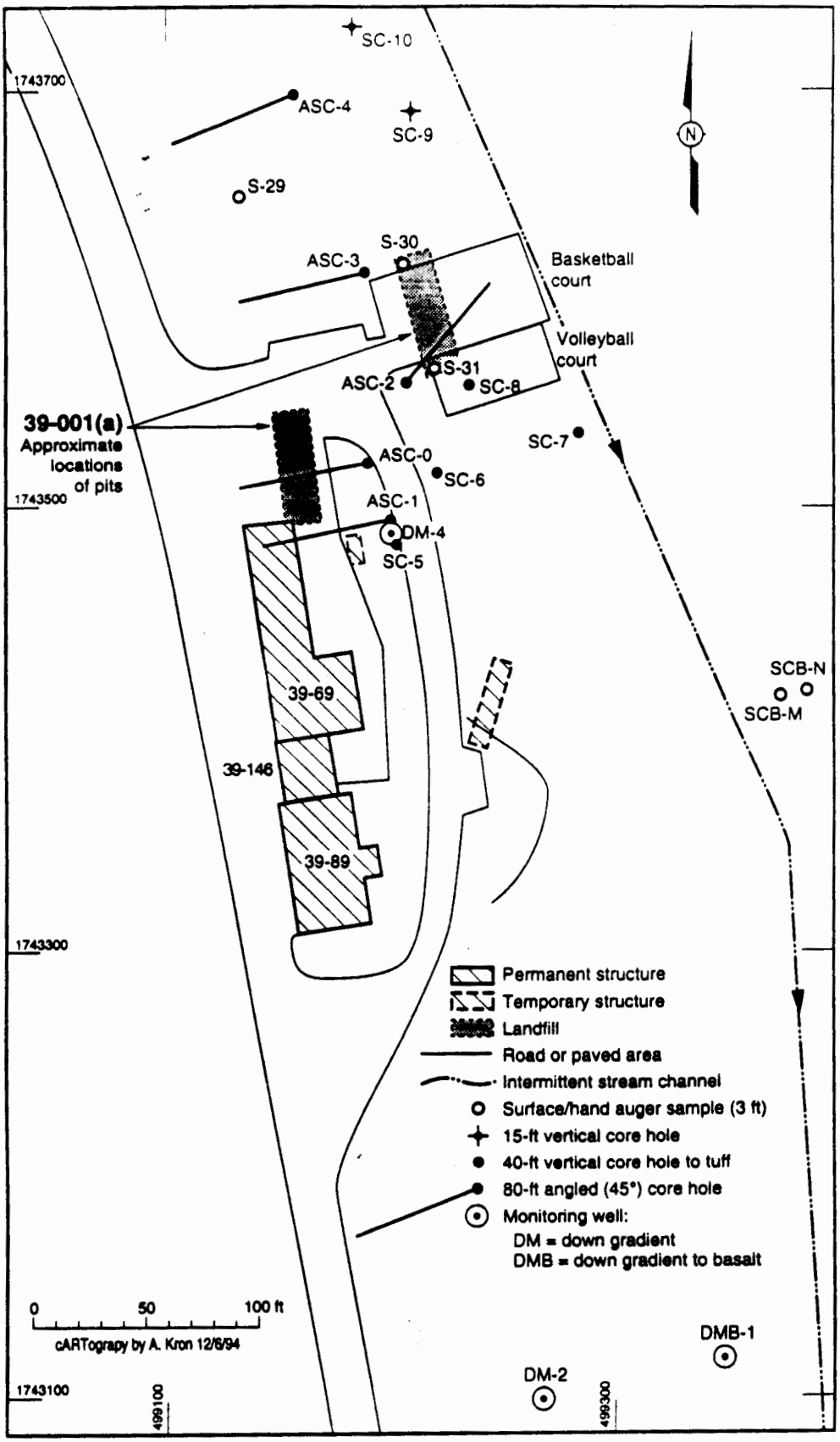


Figure 2-21. Sampling locations for PRS 39-001(a). ADS 1132.

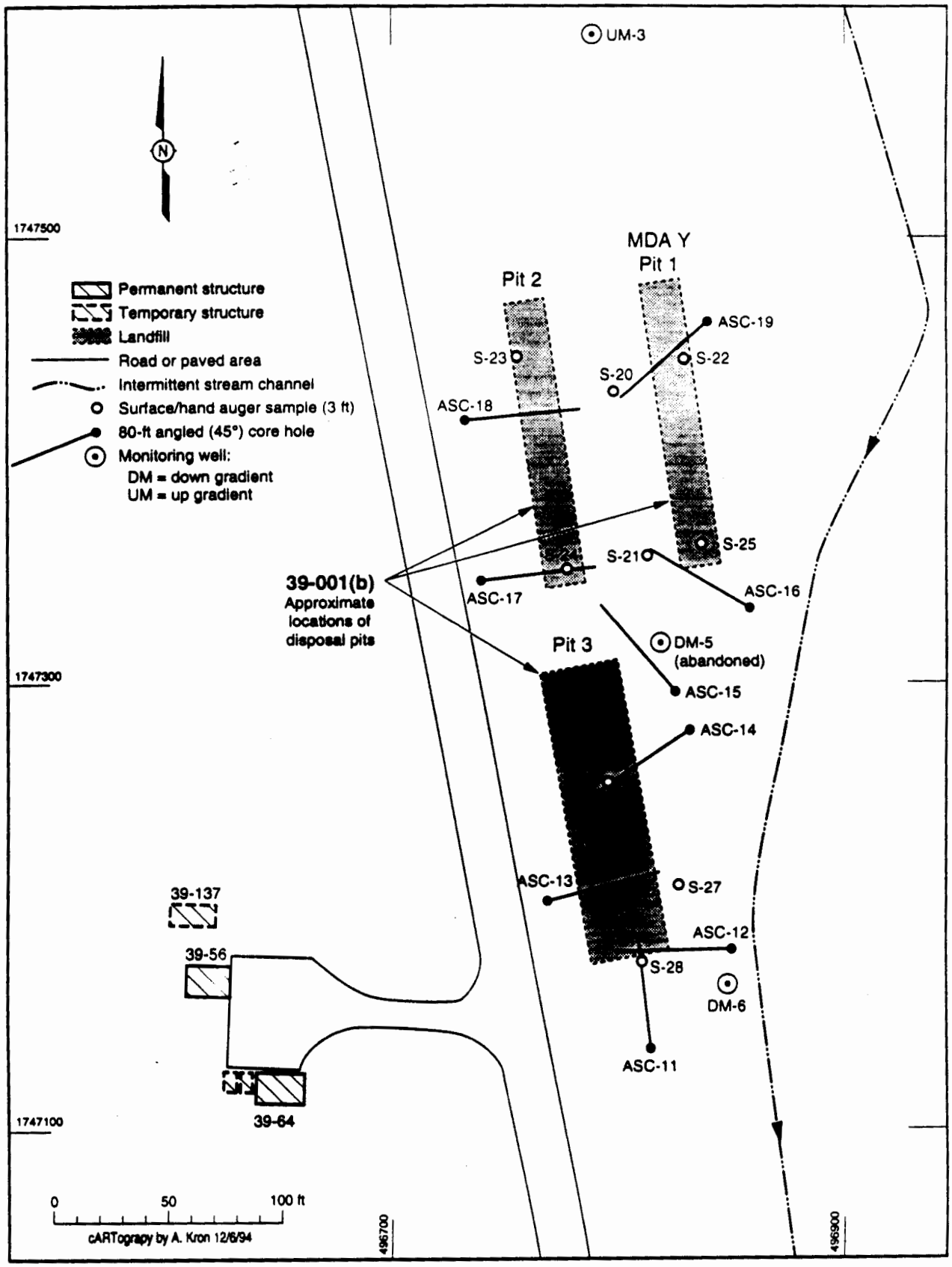


Figure 2-22. Sampling locations for PRS 39-001(b), ADS 1132.

2.3 Field Unit 3 (Field Project Leader: Brad Martin)

2.3.1 ADS 1082—TAs-11, -13, -16, -24, -25, -28, -37

The final draft of Volume II of the RFI work plan for OU 1082 was delivered to the EPA on schedule July 7, 1994. Work is progressing for Volume III of the RFI work plan to be delivered in July of 1995. Sampling activities in support of the MDA P closure proceeded on schedule, but late in the quarter the NMED accepted the withdrawal of the existing closure plan in favor of replacing it with a clean closure option.

2.3.2 ADS 1122—TAs-33, -70

The team completed data assessment for 19 PRSs sampled in 1993. Of the 19 PRSs, twelve were recommended for no further action, and seven were recommended for voluntary corrective action or Phase II investigation. One additional PRS may not be included in the RFI Report because radiation analysis data, critical to decision-making, are still outstanding.

The 1994 sampling campaign was completed at TA-33. One berm and one catcher box were found to contain uranium metal fragments and other debris; these areas were cordoned off with temporary fence posts and signs.

2.3.3 ADS 1140—TA-46

The EPA's notice of deficiency for the RFI work plan for OU 1140 was received in July. The response to the notice was submitted on August 19, 1994. Informal discussions have occurred with Barbara Driscoll at EPA Region VI regarding the response.

Sampling activity was started in August and is progressing well ahead of schedule. Sampling in the canyon bottom has been completed, and sampling on the mesa top will be completed in early October. The golf-cart-with-trailer system for transporting personnel and equipment is the primary reason for the field activity being so far ahead of schedule. Above background radiation was detected at only one sample location, and the amounts detected were well below screening action levels. No other contamination has been detected during the sampling campaign. Several samples were split with the NMED Agreement in Principle office.

2.4 Field Unit 4 (Field Project Leader: Allyn Pratt)

2.4.1 ADS 1049—Canyons

The technical team developed a proposed outline for a streamlined work plan for all eight canyon systems.

2.4.2 ADS 1129—TAs-4, -5, -35, -42, -48, -52, -55, -63, -66

Field unit personnel coordinated the survey of control monuments and central geodetic control points for all site characterization activities at TA-35. Geodetic surveys at TA-35 PRS Aggregates D, S, T, and V were also coordinated. The field team completed detailed engineering and health and safety surveys for Aggregates S and T at TA-35 and initiated these surveys for Aggregates U and V at TA-35.

The following data management and analysis activities have taken place during this quarter.

- The report *Fast-Turnaround RCRA Site Characterization of Former TA-42 at Los Alamos National Laboratory* (LA-UR-94-3260) was completed.
- Macros in Microsoft Excel were developed to streamline comparisons of analytical data with SALs. These macros have been used in the preliminary analysis of data from TA-48.
- Documentation was prepared for the processes for collection, management, quality assurance, and analysis of data. Flow charts were created outlining the processes and how they are part of a start-to-finish data management system.

- A meeting was held with quality assurance personnel from the Environmental Chemistry Group (CST-9) and the ER Project to discuss CST-9 data validation of contract laboratory reports.

Analytical results, as of September 28, of Phase I site characterizations at TA-35 and TA-48 are summarized in Tables 2-11 and 2-12 (see Section 1.0 for an explanation of these summary tables). The data have been compared with Chain of Custody/Request for Analysis forms and CST-9 service agreements to verify ownership and content. The data have been reviewed for consistency and completeness: however, the data have not been validated.

TABLE 2-11

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-35, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
1	Acenaphthene	17				4,800	mg/kg	17	0.33	0.33		17		No Concern
2	Acenapthylene	17	1	2.8	2.8		mg/kg	16	0.33	0.33				Further Evaluation
3	Acetone	2				8,000	mg/kg	2	0.02	0.02		2		No Concern
4	Aluminum	43	43	306	15,800		mg/kg							Further Evaluation
5	Americium-241	17	13	0.001	0.146	22.0	pCi/g	4	0.024	0.169		17		No Concern
6	Aniline	17					mg/kg	17	0.33	0.33				Null Case
7	Anthracene	17	1	3.1	3.1	24,000	mg/kg	16	0.33	0.33		17		No Concern
8	Antimony	211	4	0.005	0.005	32	mg/kg	207	0.04	4		211		No Concern
9	Aroclor 1016	19					mg/kg	19	0.014	0.15				Null Case
10	Aroclor 1221	19					mg/kg	19	0.014	0.15				Null Case
11	Aroclor 1232	19					mg/kg	19	0.014	0.15				Null Case
12	Aroclor 1242	142					mg/kg	142	0.014	0.15				Null Case
13	Aroclor 1248	19					mg/kg	19	0.014	0.15				Null Case
14	Aroclor 1254	142	6	0.06	1.1		mg/kg	136	0.014	0.15				Further Evaluation
15	Aroclor 1260	142	5	0.37	0.9		mg/kg	137	0.014	0.15				Further Evaluation
16	Aroclor [Mixed-]	142	11	0.06	1.1	0.09	mg/kg	131	0.15	0.15	9	2	131	Exceeds SAL
17	Arsenic	211	46	0.8	5	0.4	mg/kg	165	4	4	46		165	Exceeds SAL
18	Azobenzene	17					mg/kg	17	0.33	0.33				Null Case
19	Barium	211	211	5.1	901	5,600	mg/kg					211		No Concern
20	Barium-140	17	11	0.022	1.95		pCi/g	6	0.02	0.205				Further Evaluation
21	Benzene	3				0.67	mg/kg	3	0.005	0.005		3		No Concern
22	Benzoic acid	17				320,000	mg/kg	17	0.33	0.33		17		No Concern
23	Benzo[a]anthracene	17				0.64	mg/kg	17	0.33	0.33		17		No Concern
24	Benzo[a]pyrene	17	2	4	6	0.1	mg/kg	15	0.33	0.33	2		15	Exceeds SAL
25	Benzo[b]fluoranthene	17	1	5.6	5.6	0.7	mg/kg	16	0.33	0.33	1	16		Exceeds SAL
26	Benzo[g,h,i]perylene	17	1	3.4	3.4	44	mg/kg	16	0.33	0.33		17		No Concern
27	Benzo[k]fluoranthene	17	1	12.1	12.1	1.5	mg/kg	16	0.33	0.33	1	16		Exceeds SAL
28	Benzyl alcohol	17					mg/kg	17	0.33	0.33				Null Case
29	Beryllium	43	43	0.22	1.9	0.16	mg/kg				43			Exceeds SAL
30	Bis(2-chloroethoxy)methane	17					mg/kg	17	0.33	0.33				Null Case
31	Bis(2-chloroethyl)ether	17				0.13	mg/kg	17	0.33	0.33		17		No Concern
32	Bis(2-chloroisopropyl)ether	17					mg/kg	17	0.33	0.33				Null Case
33	Bis(2-ethylhexyl)phthalate	17	5	0.21	19	50	mg/kg	12	0.33	0.33		17		No Concern
34	Bromodichloromethane	3				11	mg/kg	3	0.005	0.005		3		No Concern
35	Bromoform	3				89	mg/kg	3	0.005	0.005		3		No Concern
36	Bromomethane	3				0.43	mg/kg	3	0.01	0.01		3		No Concern
37	Bromophenylphenyl ether [4-]	17					mg/kg	17	0.33	0.33				Null Case
38	Butanone [2-]	3				4,000	mg/kg	3	0.02	0.02		3		No Concern
39	Butyl benzyl phthalate	17	2	1.6	1.7	16,000	mg/kg	15	0.33	0.33		17		No Concern

TABLE 2-11

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-35, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
40	Cadmium	211	7	1.2	6	80	mg/kg	204	0.4	3		211		No Concern
41	Calcium	211	211	212	9,400		mg/kg							Further Evaluation
42	Carbon disulfide	3				7.4	mg/kg	3	0.005	0.005		3		No Concern
43	Carbon tetrachloride	3				0.21	mg/kg	3	0.005	0.005		3		No Concern
44	Cerium-144	17	7	0.008	0.067		pCi/g	10	0.015	0.192				Further Evaluation
45	Cesium-137	17	8	0.001	0.837	4.0	pCi/g	9	0.001	0.051		17		No Concern
46	Chloro-3-methylphenol [4-]	17				16,000	mg/kg	17	0.33	0.33		17		No Concern
47	Chloroaniline [4-]	17				320	mg/kg	17	0.33	0.33		17		No Concern
48	Chlorobenzene	3				67	mg/kg	3	0.005	0.005		3		No Concern
49	Chlorodibromomethane	3				83	mg/kg	3	0.005	0.005		3		No Concern
50	Chloroethane	3				3,300	mg/kg	3	0.01	0.01		3		No Concern
51	Chloroform	3				0.21	mg/kg	3	0.005	0.005		3		No Concern
52	Chloromethane	3				6.4	mg/kg	3	0.01	0.01		3		No Concern
53	Chloronaphthalene [2-]	17				6,400	mg/kg	17	0.33	0.33		17		No Concern
54	Chlorophenol [o-]	17					mg/kg	17	0.33	0.33				Null Case
55	Chlorophenylphenyl ether [4-]	17					mg/kg	17	0.33	0.33				Null Case
56	Chromium	211	29	13	43	400	mg/kg	182	0.5	27		211		No Concern
57	Chrysene	17	1	17.9	17.9	22	mg/kg	16	0.33	0.33		17		No Concern
58	Cobalt	43	7	0.002	0.41		mg/kg	36	1	1				Further Evaluation
59	Cobalt-60	17	12	0.003	0.071	0.9	pCi/g	5	0.002	0.035		17		No Concern
60	Copper	211	54	1.4	160	3,000	mg/kg	157	0.6	8		211		No Concern
61	Di-n-butyl phthalate	17	3	0.6	1.8	8,000	mg/kg	14	0.33	0.33		17		No Concern
62	Di-n-octyl phthalate	17				1,600	mg/kg	17	0.33	0.33		17		No Concern
63	Dibenzofuran	17	1	1.5	1.5		mg/kg	16	0.33	0.33				Further Evaluation
64	Dibenzo[a,h]anthracene	17				0.086	mg/kg	17	0.33	0.33			17	No Concern
65	Dichlorobenzene [1,2-]	17					mg/kg	17	0.005	0.005				Null Case
66	Dichlorobenzene [1,3-]	17					mg/kg	17	0.005	0.005				Null Case
67	Dichlorobenzene [1,4-]	17					mg/kg	17	0.005	0.005				Null Case
68	Dichlorobenzidine [3,3-]	17				1.6	mg/kg	17	0.33	0.33		17		No Concern
69	Dichloroethane [1,1-]	3				410	mg/kg	3	0.005	0.005		3		No Concern
70	Dichloroethane [1,2-]	3				0.2	mg/kg	3	0.005	0.005		3		No Concern
71	Dichlorophenol [2,4-]	17				240	mg/kg	17	0.33	0.33		17		No Concern
72	Dichloropropane [1,2-]	3				6.5	mg/kg	3	0.005	0.005		3		No Concern
73	Dichloropropene [cis-1,3-]	3				0.17	mg/kg	3	0.005	0.005		3		No Concern
74	Dichloropropene [trans-1,3-]	3				0.17	mg/kg	3	0.005	0.005		3		No Concern
75	Diethyl phthalate	17	2	0.18	7.9	64,000	mg/kg	15	0.33	0.33		17		No Concern
76	Dimethyl phthalate	17					mg/kg	17	0.33	0.33				Null Case
77	Dimethylphenol [2,4-]	17				1,600	mg/kg	17	0.33	0.33		17		No Concern
78	Dinitrophenol [2,4-]	17				160	mg/kg	17	0.33	0.33		17		No Concern

TABLE 2-11

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-35, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
79	Dinitrotoluene [2,4-]	17					mg/kg	17	0.33	0.33				Null Case
80	Dinitrotoluene [2,6-]	17					mg/kg	17	0.33	0.33				Null Case
81	Ethylbenzene	3				3,100	mg/kg	3	0.005	0.005		3		No Concern
82	Europium-152	17	14	0.024	0.39		pCi/g	3	0.005	0.077				Further Evaluation
83	Fluoranthene	17	3	0.72	10.7	3,200	mg/kg	14	0.33	0.33		17		No Concern
84	Fluorene	17	1	2.4	2.4	3,200	mg/kg	16	0.33	0.33		17		No Concern
85	Hexachlorethane	17				80	mg/kg	17	0.33	0.33		17		No Concern
86	Hexachlorobenzene	17				0.44	mg/kg	17	0.33	0.33		17		No Concern
87	Hexachlorobutadiene	17				90	mg/kg	17	0.33	0.33		17		No Concern
88	Hexachlorocyclopentadiene	17				560	mg/kg	17	0.33	0.33		17		No Concern
89	Hexanone [2-]	3					mg/kg	3	0.02	0.02				Null Case
90	Indeno[1,2,3-cd]pyrene	17	1	3.9	3.9	0.41	mg/kg	16	0.33	0.33	1	16		Exceeds SAL
91	Iron	211	211	1,990	35,500		mg/kg							Further Evaluation
92	Isophorone	17				7,400	mg/kg	17	0.33	0.33		17		No Concern
93	Lead	211	172	2	90	500	mg/kg	39	4	7		211		No Concern
94	Magnesium	43	43	462	3,550		mg/kg							Further Evaluation
95	Manganese	211	211	61.8	748	8,000	mg/kg					211		No Concern
96	Mercury	168	168	0.005	0.005	24	mg/kg		10	10		168		No Concern
97	Methyl-2-pentanone [4-]	3				510	mg/kg	3	0.02	0.02		3		No Concern
98	Methyl-4,6-dinitrophenol [2-]	17					mg/kg	17	0.33	0.33				Null Case
99	Methylnaphthalene [2-]	17	1	0.72	0.72		mg/kg	16	0.33	0.33				Further Evaluation
100	Methylphenol [2-]	17				4,000	mg/kg	17	0.33	0.33		17		No Concern
101	Methylphenol [4-]	17				4,000	mg/kg	17	0.33	0.33		17		No Concern
102	Naphthalene	17	1	2.1	2.1	3,200	mg/kg	16	0.33	0.33		17		No Concern
103	Neptunium-237	17	6	0.004	0.031		pCi/g	11	0.0004	0.427				Further Evaluation
104	Nickel	211	11	0.0038	27	1,600	mg/kg	200	3	13		211		No Concern
105	Nitroaniline [2-]	17				4.8	mg/kg	17	0.33	0.33		17		No Concern
106	Nitroaniline [3-]	17					mg/kg	17	0.33	0.33				Null Case
107	Nitroaniline [4-]	17					mg/kg	17	0.33	0.33				Null Case
108	Nitrobenzene	17				5.3	mg/kg	17	0.33	0.33		17		No Concern
109	Nitrophenol [2-]	17					mg/kg	17	0.33	0.33				Null Case
110	Nitrophenol [4-]	17					mg/kg	17	0.33	0.33				Null Case
111	Nitrosodi-n-propylamine [N-]	17				0.1	mg/kg	17	0.33	0.33		17		Special Case
112	Nitrosodimethylamine [N-]	17					mg/kg	17	0.33	0.33				Null Case
113	Nitrosodiphenylamine [N-]	17				140	mg/kg	17	0.33	0.33		17		No Concern
114	Pentachlorophenol	17				5.8	mg/kg	17	0.33	0.33		17		No Concern
115	Phenanthrene	17	2	6.2	11.4		mg/kg	15	0.33	0.33				Further Evaluation
116	Phenol	17				48,000	mg/kg	17	0.33	0.33		17		No Concern
117	Plutonium-238	233	193	0.001	0.228	27.0	pCi/g	40	0.001	0.776		233		No Concern

TABLE 2-11

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-35, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
118	Plutonium-239	233	194	0.001	6.61	24.0	pCi/g	39	0.002	0.601		233		No Concern
119	Potassium	211	211	173	39,100		mg/kg							Further Evaluation
120	Pyrene	17	5	0.37	9.5	2,400	mg/kg	12	0.33	0.33		17		No Concern
121	Ruthenium-106	17	9	0.015	0.326	15.0	pCi/g	8	0.022	0.295		17		No Concern
122	Selenium	211	3	0.3	0.5	400	mg/kg	208	0.2	4		211		No Concern
123	Silver	43				400	mg/kg	43	1	1		43		No Concern
124	Sodium	43	43	103	240		mg/kg							Further Evaluation
125	Sodium-22	17	10	0.003	0.051	1.3	pCi/g	7	0.003	0.039		17		No Concern
126	Styrene	3				16,000	mg/kg	3	0.005	0.005		3		No Concern
127	Tetrachloroethane [1,1,2,2-]	3				3.9	mg/kg	3	0.005	0.005		3		No Concern
128	Tetrachloroethylene	3					mg/kg	3	0.005	0.005				Null Case
129	Thallium	43	1	0.2	0.2	6.4	mg/kg	42	0.04	0.1		43		No Concern
130	Thorium	168	164	9	39		mg/kg	4	4	4				Further Evaluation
131	Titanium	168	168	276	3,280		mg/kg							Further Evaluation
132	Toluene	3				890	mg/kg	3	0.005	0.005		3		No Concern
133	Trichlorobenzene [1,2,4-]	17				160	mg/kg	17	0.33	0.33		17		No Concern
134	Trichloroethane [1,1,1-]	3				1,000	mg/kg	3	0.005	0.005		3		No Concern
135	Trichloroethane [1,1,2-]	3				6.3	mg/kg	3	0.005	0.005		3		No Concern
136	Trichloroethene	3				3.2	mg/kg	3	0.005	0.005		3		No Concern
137	Trichlorophenol [2,4,5-]	17				8,000	mg/kg	17	0.33	0.33		17		No Concern
138	Trichlorophenol [2,4,6-]	17				64	mg/kg	17	0.33	0.33		17		No Concern
139	Trimethylbenzene [1,2,4-]	3	1	0.083	0.083		mg/kg	2	0.005	0.005				Further Evaluation
140	Uranium	168	29	9	128	174.6	mg/kg	139	8	8		168		No Concern
141	Uranium-234	232	232	0.014	9.75	86.0	pCi/g					232		No Concern
142	Uranium-235	232	228	0.002	1.124	18.0	pCi/g	4	0.004	0.214		232		No Concern
143	Uranium-238	232	232	0.08	55.3	59.0	pCi/g					232		No Concern
144	Vanadium	43	43	0.15	4	560	mg/kg					43		No Concern
145	Vinyl chloride	3				0.013	mg/kg	3	0.01	0.01		3		No Concern
146	Xylenes [o-, m-, p-]	3				160,000	mg/kg	3	0.005	0.005		3		No Concern
147	Zinc	211	211	14	152	24,000	mg/kg					211		No Concern
	Total Number of Values	7,177	3,571					3,606			103	4,618	328	

TABLE 2-12

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-48, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Mini-mum	Concentration Range Maxi-mum	SAL	Units	Number of Values <LOD	LOD Range Mini-mum	LOD Range Maxi-mum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
1	Acenaphthene	147	4	0.41	2.6	4,800	mg/kg	143	0.33	0.33		147		No Concern
2	Acenapthylene	147					mg/kg	147	0.33	0.33				Null Case
3	Acetone	111	11	0.025	0.2	8,000	mg/kg	100	0.02	0.02		111		No Concern
4	Aluminum	30	30	970	29,000		mg/kg							Further Evaluation
5	Americium-241	31	14	0.001	1.16	22.0	pCi/g	17	NRD*	NRD		14		No Concern
6	Aniline	147					mg/kg	147	0.33	0.33				Null Case
7	Anthracene	147	5	0.33	5.1	24,000	mg/kg	142	0.33	0.33		147		No Concern
8	Antimony	159	3	5	7	32	mg/kg	156	0.0006	10		159		No Concern
9	Aroclor 1016	4					mg/kg	4	0.05	0.05				Null Case
10	Aroclor 1221	4					mg/kg	4	0.05	0.05				Null Case
11	Aroclor 1232	4					mg/kg	4	0.05	0.05				Null Case
12	Aroclor 1242	15					mg/kg	15	0.05	0.05				Null Case
13	Aroclor 1248	15					mg/kg	15	0.05	0.05				Null Case
14	Aroclor 1254	15	2	0.15	0.26		mg/kg	13	0.05	0.05				Further Evaluation
15	Aroclor 1260	15					mg/kg	15	0.05	0.05				Null Case
16	Aroclor [Mixed-]	15	2	0.15	0.26	0.09	mg/kg	13	0.05	0.05	2	13		Exceeds SAL
17	Arsenic	159	31	0.7	36	0.4	mg/kg	128	4	10	31		128	Exceeds SAL
18	Azobenzene	147					mg/kg	147	0.33	0.33				Null Case
19	Barium	159	157	16	733	5,600	mg/kg	2	10	10		159		No Concern
20	Benzene	111				0.67	mg/kg	111	0.005	0.005		111		No Concern
21	Benzidine [m-]	147					mg/kg	147	0.33	0.33				Null Case
22	Benzoic acid	147				320,000	mg/kg	147	0.33	0.33		147		No Concern
23	Benzo[a]anthracene	147	18	0.39	23.3	0.64	mg/kg	129	0.33	0.33	8	139		Exceeds SAL
24	Benzo[a]pyrene	147	19	0.37	22.6	0.1	mg/kg	128	0.33	0.33	19		128	Exceeds SAL
25	Benzo[b]fluoranthene	147	20	0.44	25.8	0.7	mg/kg	127	0.33	0.33	12	135		Exceeds SAL
26	Benzo[g,h,i]perylene	147	8	0.41	13.3	44	mg/kg	139	0.33	0.33		147		No Concern
27	Benzo[k]fluoranthene	147	7	0.8	10.7	1.5	mg/kg	140	0.33	0.33	6	141		Exceeds SAL
28	Benzyl alcohol	147					mg/kg	147	0.33	0.33				Null Case
29	Beryllium	30	30	0.18	2.2	0.16	mg/kg				30			Exceeds SAL
30	Bis(2-chloroethoxy)methane	147					mg/kg	147	0.33	0.33				Null Case
31	Bis(2-chloroethyl)ether	147				0.13	mg/kg	147	0.33	0.33		147		No Concern
32	Bis(2-chloroisopropyl)ether	147					mg/kg	147	0.33	0.33				Null Case
33	Bis(2-ethylhexyl)phthalate	147	8	0.01	14	50	mg/kg	139	0.33	0.33		147		No Concern
34	Bromobenzene	111					mg/kg	111	0.005	0.005				Null Case
35	Bromochloromethane	111					mg/kg	111	0.005	0.005				Null Case
36	Bromodichloromethane	111				11	mg/kg	111	0.005	0.005		111		No Concern
37	Bromoform	111				89	mg/kg	111	0.005	0.005		111		No Concern
38	Bromomethane	111				0.43	mg/kg	111	0.01	0.01		111		No Concern
39	Bromophenylphenyl ether [4-]	147					mg/kg	147	0.33	0.33				Null Case
40	Butanone [2-]	111	1	0.053	0.053	4,000	mg/kg	110	0.02	0.02		111		No Concern
41	Butyl benzyl phthalate	147				16,000	mg/kg	147	0.33	0.33		147		No Concern

TABLE 2-12

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-48, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
42	Butylbenzene [n-]	111					mg/kg	111	0.005	0.005				Null Case
43	Butylbenzene [sec-]	111					mg/kg	111	0.005	0.005				Null Case
44	Butylbenzene [tert-]	111					mg/kg	111	0.005	0.005				Null Case
45	Cadmium	159				80	mg/kg	159	0.4	10		159		No Concern
46	Calcium	159	159	100	58,000		mg/kg							Further Evaluation
47	Carbon disulfide	111	2	0.006	0.006	7.4	mg/kg	109	0.005	0.005		111		No Concern
48	Carbon tetrachloride	111				0.21	mg/kg	111	0.005	0.005		111		No Concern
49	Cerium-144	35	10	0.048	0.458		pCi/g	25	NRD	NRD				Further Evaluation
50	Cesium-137	35	25	0.009	2.549	4.0	pCi/g	10	NRD	NRD		25		Further Evaluation
51	Chloro-3-methylphenol [4-]	147				16,000	mg/kg	147	0.33	0.33		147		No Concern
52	Chloroaniline [4-]	147				320	mg/kg	147	0.33	0.33		147		No Concern
53	Chlorobenzene	111				67	mg/kg	111	0.005	0.005		111		No Concern
54	Chlorodibromomethane	111				83	mg/kg	111	0.005	0.005		111		No Concern
55	Chloroethane	111				3,300	mg/kg	111	0.01	0.01		111		No Concern
56	Chloroform	111				0.21	mg/kg	111	0.005	0.005		111		No Concern
57	Chloromethane	111				6.4	mg/kg	111	0.01	0.01		111		No Concern
58	Chloronaphthalene [2-]	147				6,400	mg/kg	147	0.33	0.33		147		No Concern
59	Chlorophenol [o-]	147					mg/kg	147	0.33	0.33				Null Case
60	Chlorophenylphenyl ether [4-]	147					mg/kg	147	0.33	0.33				Null Case
61	Chlorotoluene [o-]	111					mg/kg	111	0.005	0.005				Null Case
62	Chlorotoluene [p-]	111					mg/kg	111	0.005	0.005				Null Case
63	Chromium	159	75	2.2	107	400	mg/kg	84	0.5	13		159		No Concern
64	Chrysene	147	19	0.36	26	22	mg/kg	128	0.33	0.33	1	146		Exceeds SAL
65	Cobalt	30	26	0.6	5		mg/kg	4	1	1				Further Evaluation
66	Cobalt-60	35	9	0.011	0.080	0.9	pCi/g	26	NRD	NRD		9		Further Evaluation
67	Copper	159	79	0.82	55	3,000	mg/kg	80	0.6	10		159		No Concern
68	Di-n-butyl phthalate	147	4	0.022	1.8	8,000	mg/kg	143	0.33	0.33		147		No Concern
69	Di-n-octyl phthalate	147				1,600	mg/kg	147	0.33	0.33		147		No Concern
70	Dibenzofuran	147	1	0.94	0.94		mg/kg	146	0.33	0.33				Further Evaluation
71	Dibenzo[a,h]anthracene	147	4	0.63	2.7	0.086	mg/kg	143	0.33	0.33	4		143	Exceeds SAL
72	Dibromo-3-chloropropane [1,2-]	111					mg/kg	111	0.01	0.01				Null Case
73	Dibromomethane	111					mg/kg	111	0.005	0.005				Null Case
74	Dichlorobenzene [1,2-]	258				1,600	mg/kg	258	0.005	0.33		258		No Concern
75	Dichlorobenzene [1,3-]	258				7,200	mg/kg	258	0.005	0.33		258		No Concern
76	Dichlorobenzene [1,4-]	258				290	mg/kg	258	0.005	0.33		258		No Concern
77	Dichlorobenzidine [3,3-]	147				1.6	mg/kg	147	0.33	0.33		147		No Concern
78	Dichlorodifluoromethane	111					mg/kg	111	0.005	0.005				Null Case
79	Dichloroethane [1,1-]	111				410	mg/kg	111	0.005	0.005		111		No Concern
80	Dichloroethane [1,2-]	111				0.2	mg/kg	111	0.005	0.005		111		No Concern
81	Dichloroethene [1,1-]	111				0.59	mg/kg	111	0.005	0.005		111		No Concern
82	Dichloroethene [trans-1,2-]	111				1,600	mg/kg	111	0.005	0.005		111		No Concern

TABLE 2-12

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-48, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
83	Dichloroethylene [cis-1,2-]	111					mg/kg	111	0.005	0.005				Null Case
84	Dichlorophenol [2,4-]	147				240	mg/kg	147	0.33	0.33		147		No Concern
85	Dichloropropane [1,2-]	111				6.5	mg/kg	111	0.005	0.005		111		No Concern
86	Dichloropropane [1,3-]	111					mg/kg	111	0.005	0.005				Null Case
87	Dichloropropane [2,2-]	111					mg/kg	111	0.005	0.005				Null Case
88	Dichloropropene [1,1-]	111					mg/kg	111	0.005	0.005				Null Case
89	Dichloropropene [cis-1,3-]	111				0.17	mg/kg	111	0.005	0.005		111		No Concern
90	Dichloropropene [trans-1,3-]	111				0.17	mg/kg	111	0.005	0.005		111		No Concern
91	Diethyl phthalate	147				64,000	mg/kg	147	0.33	0.33		147		No Concern
92	Dimethyl phthalate	147					mg/kg	147	0.33	0.33				Null Case
93	Dimethylphenol [2,4-]	147				1,600	mg/kg	147	0.33	0.33		147		No Concern
94	Dinitrophenol [2,4-]	147				160	mg/kg	147	0.33	0.33		147		No Concern
95	Dinitrotoluene [2,4-]	147					mg/kg	147	0.33	0.33				Null Case
96	Dinitrotoluene [2,6-]	147					mg/kg	147	0.33	0.33				Null Case
97	Ethylbenzene	111				3,100	mg/kg	111	0.005	0.005		111		No Concern
98	Ethylene dibromide	111					mg/kg	111	0.005	0.005				Null Case
99	Fluoranthene	147	26	0.36	27.2	3,200	mg/kg	121	0.33	0.33		147		No Concern
100	Fluorene	147	3	0.41	2.1	3,200	mg/kg	144	0.33	0.33		147		No Concern
101	Hexachlorethane	147				80	mg/kg	147	0.33	0.33		147		No Concern
102	Hexachlorobenzene	147				0.44	mg/kg	147	0.33	0.33		147		No Concern
103	Hexachlorobutadiene	147				90	mg/kg	147	0.33	0.33		147		No Concern
104	Hexachlorocyclopentadiene	147				560	mg/kg	147	0.33	0.33		147		No Concern
105	Hexanone [2-]	111					mg/kg	111	0.02	0.02				Null Case
106	Indeno[1,2,3-cd]pyrene	147	9	0.39	13.7	0.41	mg/kg	138	0.33	0.33	7	140		Exceeds SAL
107	Iron	159	157	4,300	51,000		mg/kg	2	100	100				further evaluation
108	Isophorone	147				7,400	mg/kg	147	0.33	0.33		147		No Concern
109	Isopropylbenzene	111					mg/kg	111	0.005	0.005				Null Case
110	Isopropyltoluene [4-]	111	1	0.01	0.01		mg/kg	110	0.005	0.005				further evaluation
111	Lead	159	147	2	47	500	mg/kg	12	4	10		159		No Concern
112	Magnesium	30	30	270	3,500		mg/kg							further evaluation
113	Manganese	159	156	100	1,253	8,000	mg/kg	3	16	16		159		No Concern
114	Mercury	140	9	2.7	50,110	24	mg/kg	131	0.1	10	6	134		Exceeds SAL
115	Methyl iodide	111					mg/kg	111	0.005	0.005				Null Case
116	Methyl-2-pentanone [4-]	111				510	mg/kg	111	0.02	0.02		111		No Concern
117	Methyl-4,6-dinitrophenol [2-]	147					mg/kg	147	0.33	0.33				Null Case
118	Methylene chloride	111				5.6	mg/kg	111	0.005	0.005		111		No Concern
119	Methylnaphthalene [2-]	147					mg/kg	147	0.33	0.33				Null Case
120	Methylphenol [2-]	147				4,000	mg/kg	147	0.33	0.33		147		No Concern
121	Methylphenol [4-]	147				4,000	mg/kg	147	0.33	0.33		147		No Concern
122	Naphthalene	147	1	0.61	0.61	3,200	mg/kg	146	0.33	0.33		147		No Concern
123	Nickel	159	30	4	20	1,600	mg/kg	129	3	120		159		No Concern

TABLE 2-12

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-48, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
124	Nitroaniline [2-]	147				4.8	mg/kg	147	0.33	0.33		147		No Concern
125	Nitroaniline [3-]	147					mg/kg	147	0.33	0.33				Null Case
126	Nitroaniline [4-]	147					mg/kg	147	0.33	0.33				Null Case
127	Nitrobenzene	147				5.3	mg/kg	147	0.33	0.33		147		No Concern
128	Nitrophenol [2-]	147					mg/kg	147	0.33	0.33				Null Case
129	Nitrophenol [4-]	147					mg/kg	147	0.33	0.33				Null Case
130	Nitrosodi-n-propylamine [N-]	147				0.1	mg/kg	147	0.33	0.33		147		special case
131	Nitrosodimethylamine [N-]	147					mg/kg	147	0.33	0.33				Null Case
132	Nitrosodiphenylamine [N-]	147				140	mg/kg	147	0.33	0.33		147		No Concern
133	Pentachlorophenol	147				5.8	mg/kg	147	0.33	0.33		147		No Concern
134	Phenanthrene	147	23	0.33	26.2		mg/kg	124	0.33	0.33				Further Evaluation
135	Phenol	147				48,000	mg/kg	147	0.33	0.33		147		No Concern
136	Plutonium-238	122	104	0.001	223	27.0	pCi/g	18	NRD	NRD	1	103		Exceeds SAL
137	Plutonium-239	122	110	0.001	11.9	24.0	pCi/g	12	NRD	NRD		110		Further Evaluation
138	Potassium	159	157	160	55,300		mg/kg	2	100	100				Further Evaluation
139	Propylbenzene	111					mg/kg	111	0.005	0.005				Null Case
140	Pyrene	147	26	0.38	44.4	2,400	mg/kg	121	0.33	0.33		147		No Concern
141	Ruthenium-106	39	7	0.028	3	15.0	pCi/g	32	NRD	NRD		7		Further Evaluation
142	Selenium	159	5	0.3	0.6	400	mg/kg	154	0.2	10		159		No Concern
143	Silver	30				400	mg/kg	30	1	1		30		No Concern
144	Sodium	30	30	49	200		mg/kg							Further Evaluation
145	Styrene	111				16,000	mg/kg	111	0.005	0.005		111		No Concern
146	Tetrachloroethane [1,1,1,2-]	111					mg/kg	111	0.005	0.005				Null Case
147	Tetrachloroethane [1,1,2,2-]	111				3.9	mg/kg	111	0.005	0.005		111		No Concern
148	Tetrachloroethylene	111					mg/kg	111	0.005	0.005				Null Case
149	Thallium	30	11	0.00002	0.0002	6.4	mg/kg	19	0.04	0.1		30		No Concern
150	Thorium	129	108	10	57		mg/kg	21	8	10				Further Evaluation
151	Thorium-228	117	117	0.196	3.29		pCi/g							Further Evaluation
152	Thorium-230	117	117	0.474	3.89	10	pCi/g					117		No Concern
153	Thorium-232	117	101	0.752	1.61	0.88	pCi/g	16	NRD	NRD	100	1		Exceeds SAL
154	Titanium	129	123	552	7,000		mg/kg	6	10	10				Further Evaluation
155	Toluene	111				890	mg/kg	111	0.005	0.005		111		No Concern
156	Trichloro-1,2,2-trifluoroethane [1,1,2-]	111					mg/kg	111	0.005	0.005				Null Case
157	Trichlorobenzene [1,2,4-]	147				160	mg/kg	147	0.33	0.33		147		No Concern
158	Trichloroethane [1,1,1-]	111				1,000	mg/kg	111	0.005	0.005		111		No Concern
159	Trichloroethane [1,1,2-]	111				6.3	mg/kg	111	0.005	0.005		111		No Concern
160	Trichloroethene	111				3.2	mg/kg	111	0.005	0.005		111		No Concern
161	Trichlorofluoromethane	111					mg/kg	111	0.005	0.005				Null Case
162	Trichlorophenol [2,4,5-]	147				8,000	mg/kg	147	0.33	0.33		147		No Concern
163	Trichlorophenol [2,4,6-]	147				64	mg/kg	147	0.33	0.33		147		No Concern

TABLE 2-12

SUMMARY OF SOIL SAMPLE ANALYSES FOR TA-48, ADS 1129

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
164	Trichloropropane [1,2,3-]	111					mg/kg	111	0.005	0.005				Null Case
165	Trimethylbenzene [1,2,4-]	111					mg/kg	111	0.005	0.005				Null Case
166	Trimethylbenzene [1,3,5-]	111					mg/kg	111	0.005	0.005				Null Case
167	Uranium	129	14	10	18	174.6	mg/kg	115	8	10				No Concern
168	Uranium-234	107	107	0.509	6.63	86	pCi/g					107		No Concern
169	Uranium-235	107	98	0.003	0.403	18	pCi/g	9	NRD	NRD		98		Further Evaluation
170	Uranium-238	107	107	0.43	4.65	59	pCi/g					107		No Concern
171	Vanadium	30	30	2.5	23	560	mg/kg					30		No Concern
172	Vinyl chloride	111				0.013	mg/kg	111	0.01	0.01		111		No Concern
173	Xylenes [o-, m-, p-]	111				160,000	mg/kg	111	0.005	0.005		111		No Concern
174	Zinc	159	155	18	720	24,000	mg/kg	4	10	10		159		No Concern
	Total Number of Values	**21,085**	**2,902**					**18,183**			**227**	**12,878**	**399**	

Notes:

Analyte Disposition column categories:

1. "Exceeds SAL" indicates that one or more analyte values exceeded the SAL for that analyte.
2. "Further Evaluation" indicates that one or more analyte values were greater than the LOD and there is no current SAL for comparison or that the LOD range was unavailable.
3. "No Concern" indicates that the analyte values are all less than the SAL for that analyte.
4. "Null Case" indicates that the analyte values are less than the LOD for that analyte and the SAL is unknown.
5. "Special Case" indicates that the analyte values are less than the LOD for that analyte and the SAL is known to be less than the LOD.

*NRD = not reported to date; therefore the LOD cannot be compared with SAL.

2.5 Field Unit 5 (Field Project Leader: Cheryl Rofer)

2.5.1 ADS 1111—TAs-6, -7, -22, -40, -58, -62

Location of waste burials in Aggregate 1. The locations of waste burials in Aggregate 1, MDA F and Adjacent Pit [PRSs 6-005 and 6-007(a-e)], are being determined by overlay of data from aerial photo analysis and geophysics. It is necessary to locate burial areas accurately before drilling can take place because reports state that explosives were buried in MDA F. The work reported in the "ER Quarterly Technical Report, April–June 1994" is being prepared for publication in a remote-sensing journal. It was also presented as a poster session at the First Hawaii National Technologies Conference, Honolulu, Hawaii, September 12-15.

Sampling in Aggregates 3, 4, 5, 6, and 9. Surface soil samples, shallow borings, and solid and liquid samples of contents were taken from PRSs in Aggregates 3, 4, 5, 6, and 9. Sampling is summarized in Table 2-13. Samples were screened in the field for radiation, organics, and high explosives. Figures 2-23 through 2-29 indicate the soil sample locations in Aggregates 3, 4, and 6 that were available in the FIMAD as of November 14, 1994. (Maps of Aggregates 5 and 9 sample locations are unavailable at this time.) Water in two tributary canyons leading to Two-Mile Canyon (designated A and B in the RFI work plan for OU 1111) and soil in an uncontaminated area (background) were also sampled. Three hundred twenty-five samples were collected and submitted for chemical analysis.

Landfill cover pilot study. The pilot study on landfill covers continues. During the past winter, very little precipitation fell on the test area, resulting in little data about flow; however, soil moisture measurements continue. The system continues to be upgraded. A draft paper on the results from two years of data collection is being circulated for comments. A report on the comparison of water balances in soil under a gravel mulch and in a comparable unmulched plot has been completed and is under review. Gravel mulches appear to have the potential to stabilize soil inexpensively.

Plating and etching bath outflow pilot study. Samples of altered and unaltered tuff from PRS 22-015(c), the plating bath outflow, are being examined for their mineralogical composition to help determine the nature and degree of contamination and possible remediation schemes. During this quarter, core was taken from a ponded area in the outflow channel, and thin sections of the core were made to compare subsurface material with the material examined earlier. Experiments in which unaltered tuff is exposed to metal-containing solutions were completed; silver was found to diffuse readily through the tuff except where chloride ions are present.

TABLE 2-13

SAMPLING IN AGGREGATES 3, 4, 5, 6, AND 9, ADS 1111

Aggregate Number	PRS Number	PRS Type	Surface Soil Samples	Shallow Borings	Contents (solid and liquid)
3	22-015(a)	inactive dry well		x	
3	22-015(b)	inactive explosives sump			x
3	22-015(d)	inactive seepage pit		x	
4	6-003(a)	inactive firing site	x		
4	6-003(c)	inactive firing site	x		
4	6-003(e)	inactive firing site	x		
4	6-003(f)	inactive firing site	x		
4	6-003(g)	inactive firing site	x		
4	7-001(a)	inactive firing site	x		
4	7-001(b)	inactive firing site	x		
4	7-001(c)	inactive firing site	x		
4	7-001(d)	inactive firing site	x		
4	6-008	decommissioned underground storage tank	x		
4	C-6-019	former building site	x		
5	6-007(f)	surface disposal	x		
5	6-007(g)	surface disposal	x		
5	40-010	surface disposal	x		
6	6-001(a)	inactive septic tank	x		x
6	6-001(b)	inactive septic tank	x	x	x
6	22-010(a)	inactive septic tank and leach field	x	x	x
6	22-010(b)	inactive septic tank and leach field		x	
9	6-006	former container storage area	x		
9	4-004	former container storage area	x		

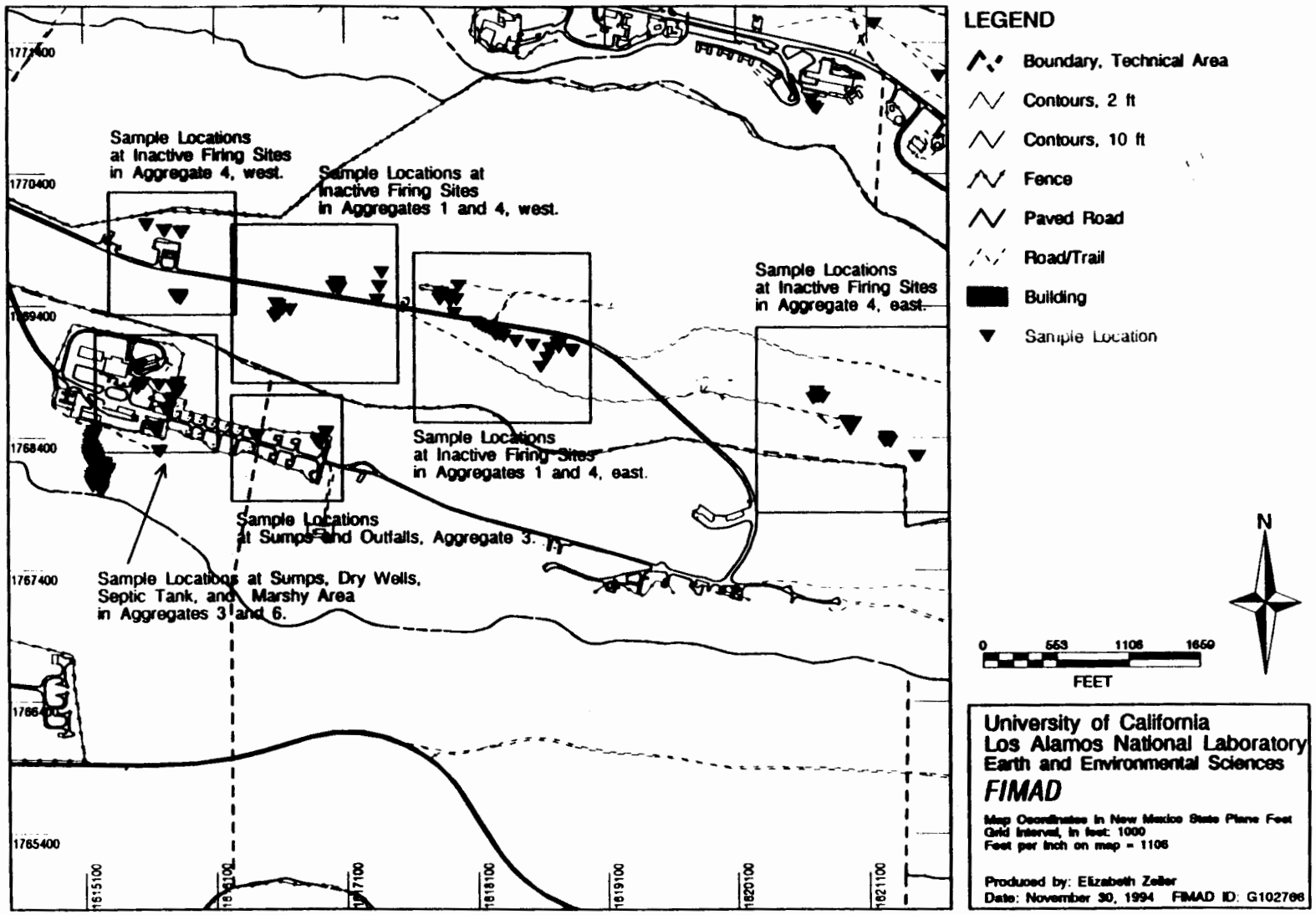


Figure 2-23. Index map of sample locations for ADS 1111.

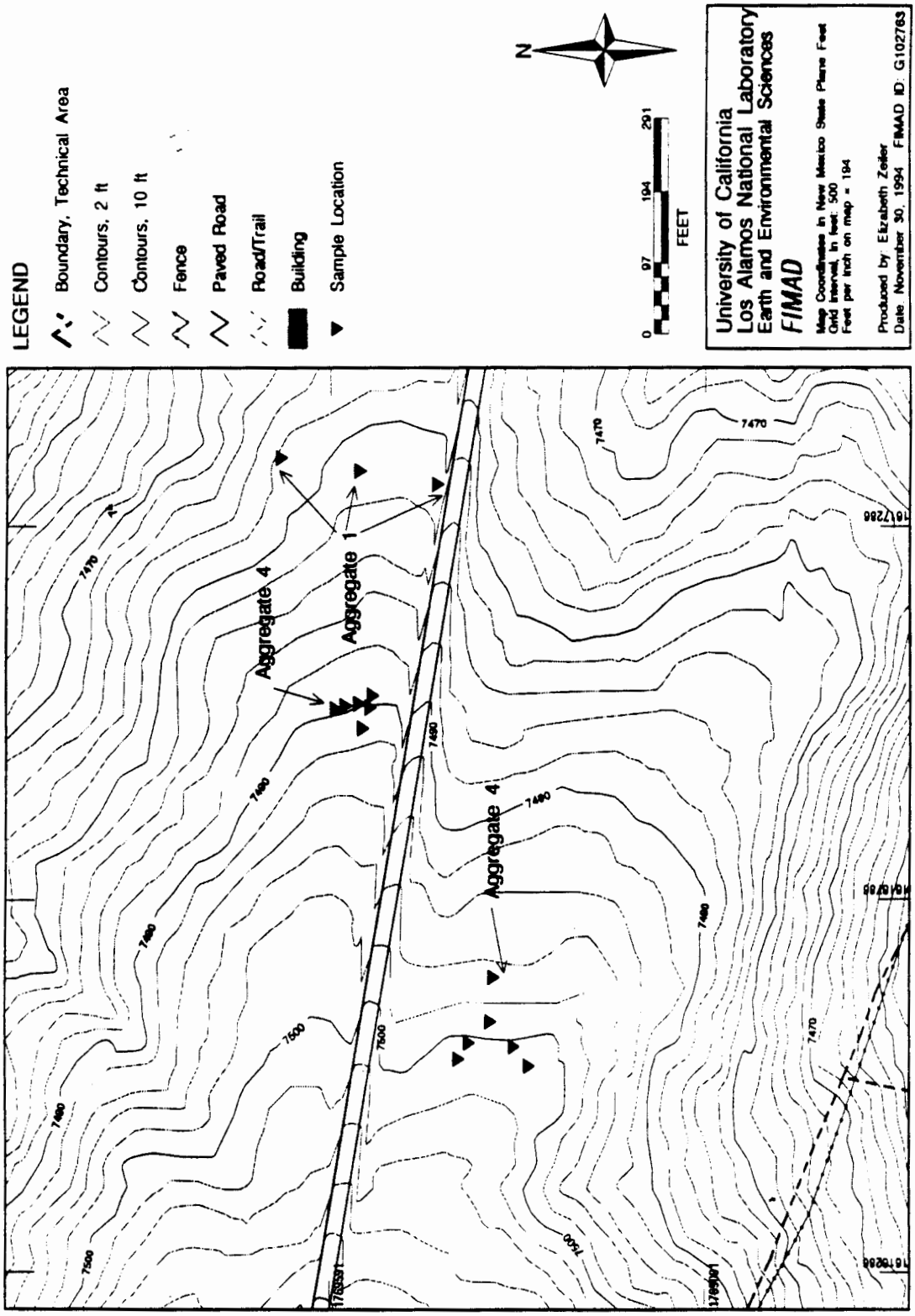


Figure 2-24. Sample locations at inactive firing sites in Aggregates 1 and 4, west (ADS 1111).

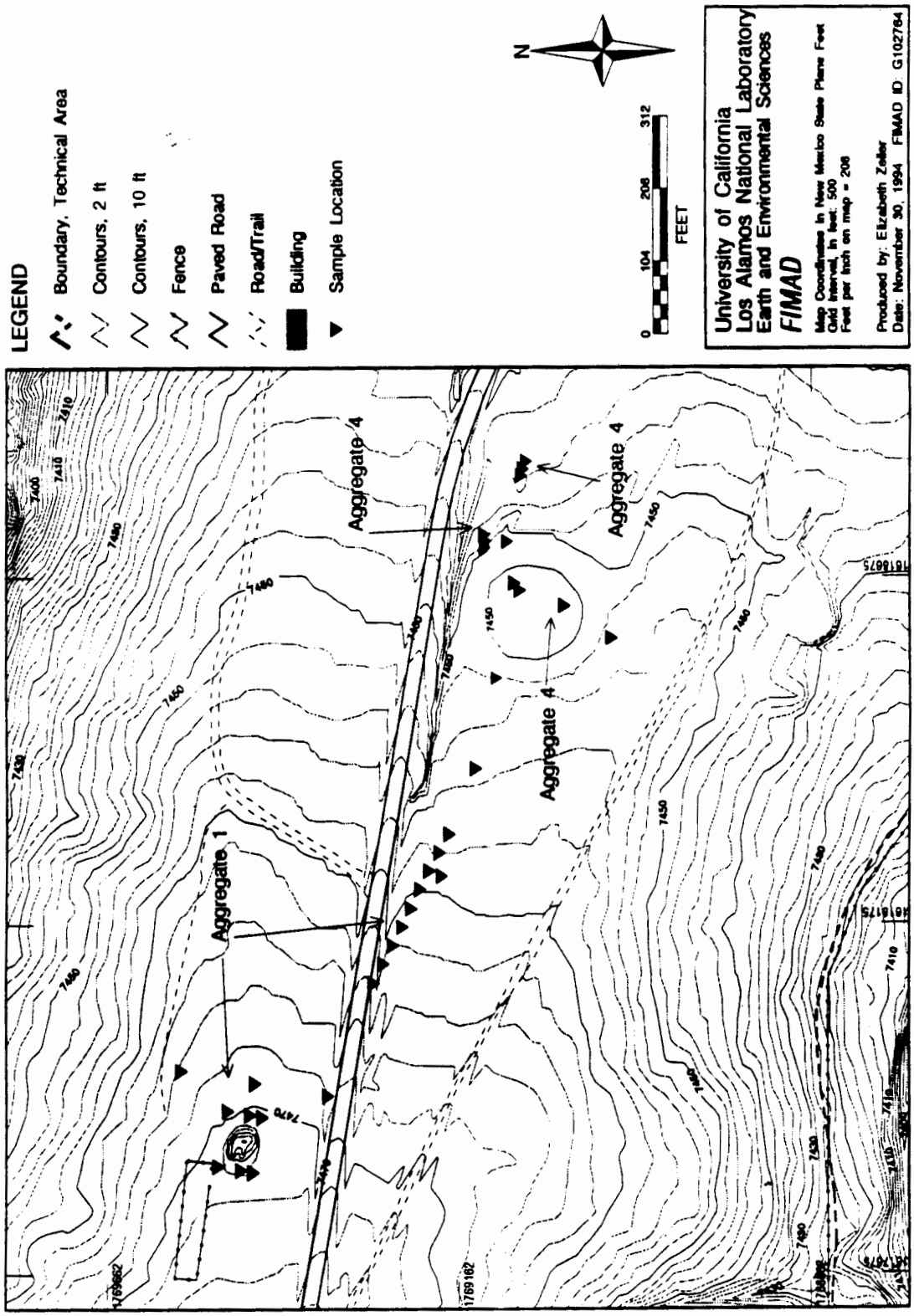


Figure 2-25. Sample locations at inactive firing sites in Aggregates 1 and 4, east (ADS 1111).

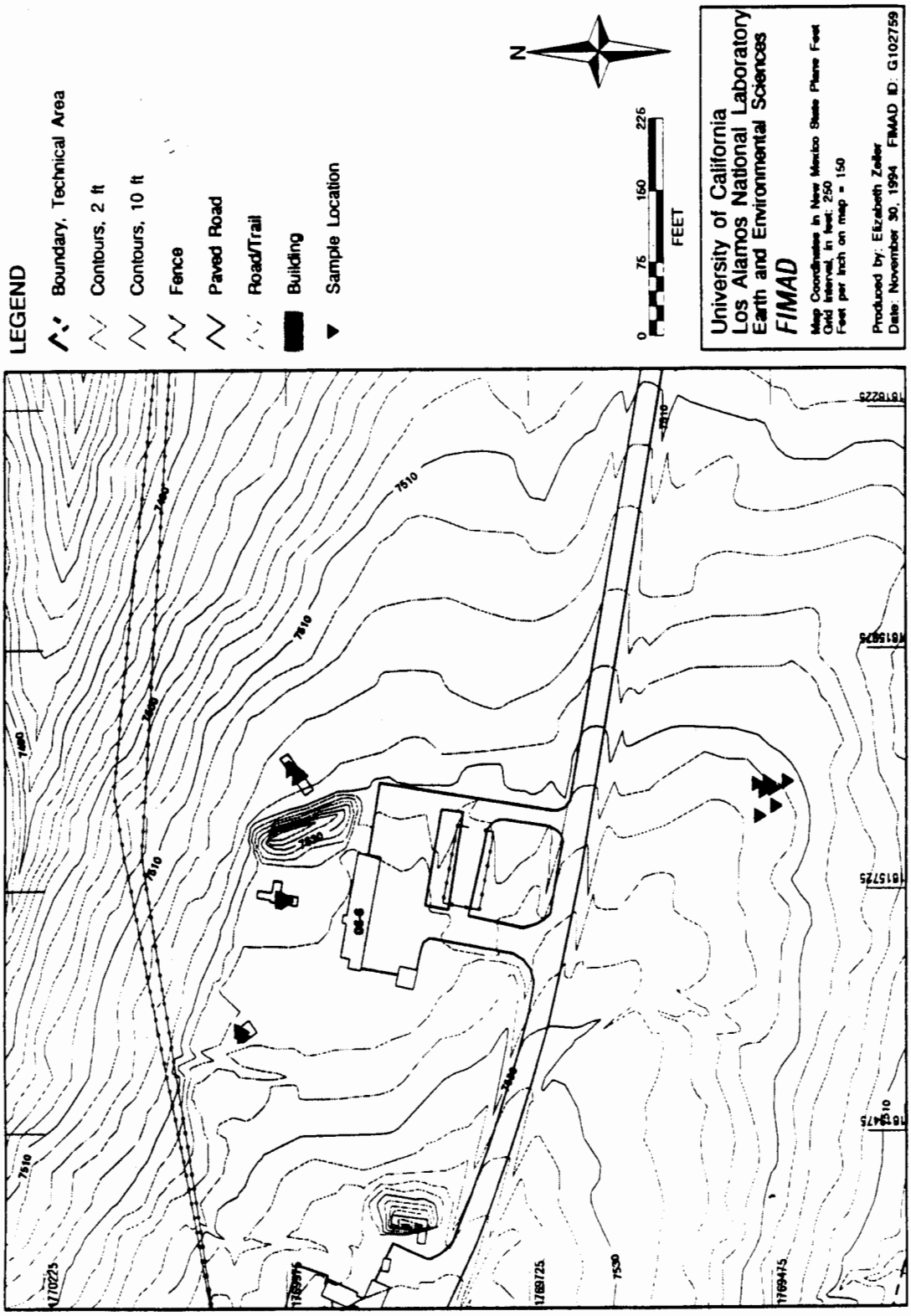


Figure 2-26. Sample locations at inactive firing sites in Aggregate 4, west (ADS 1111).

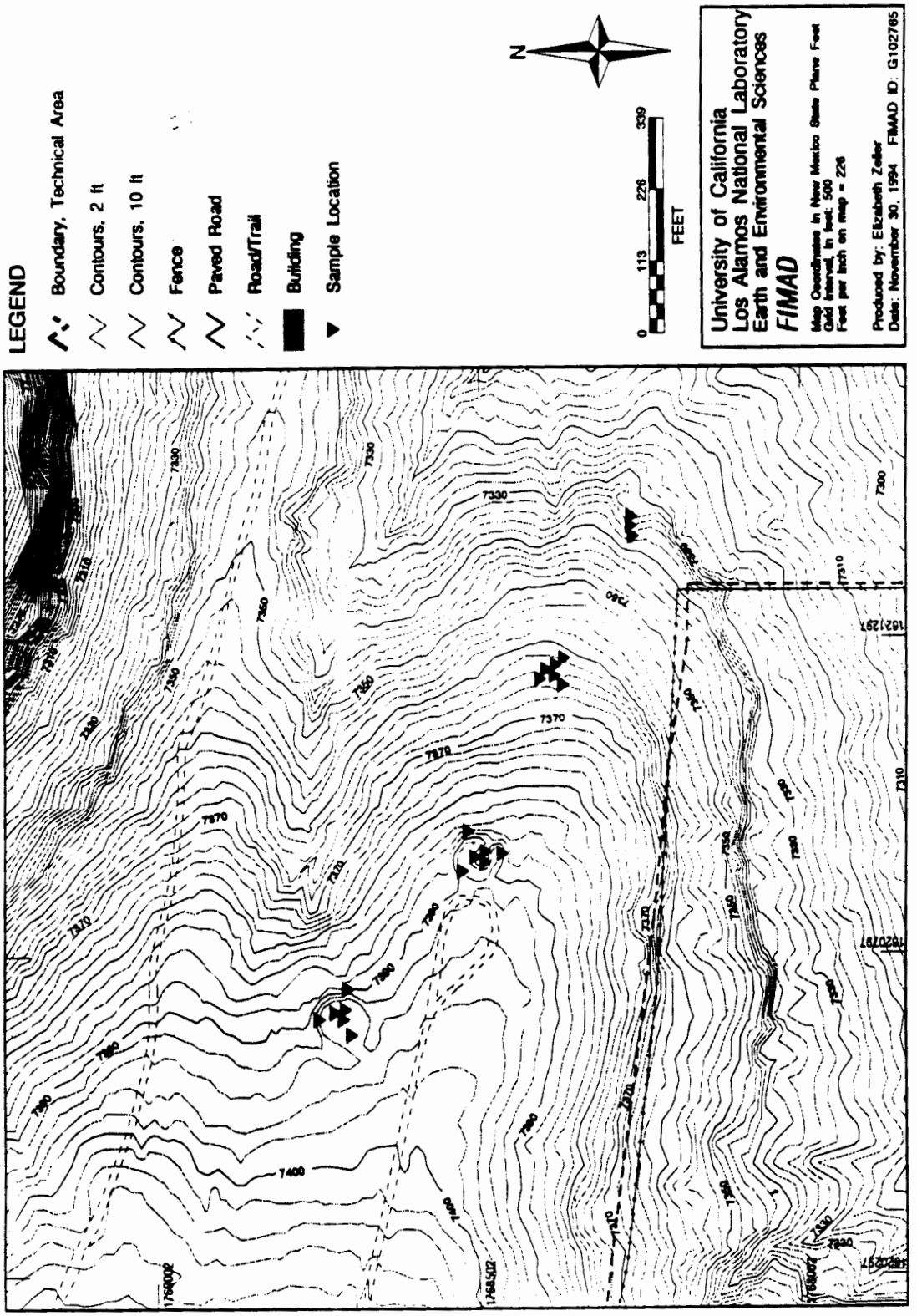


Figure 2-27. Sample locations at inactive firing sites in Aggregate 4, east (ADS 1111).

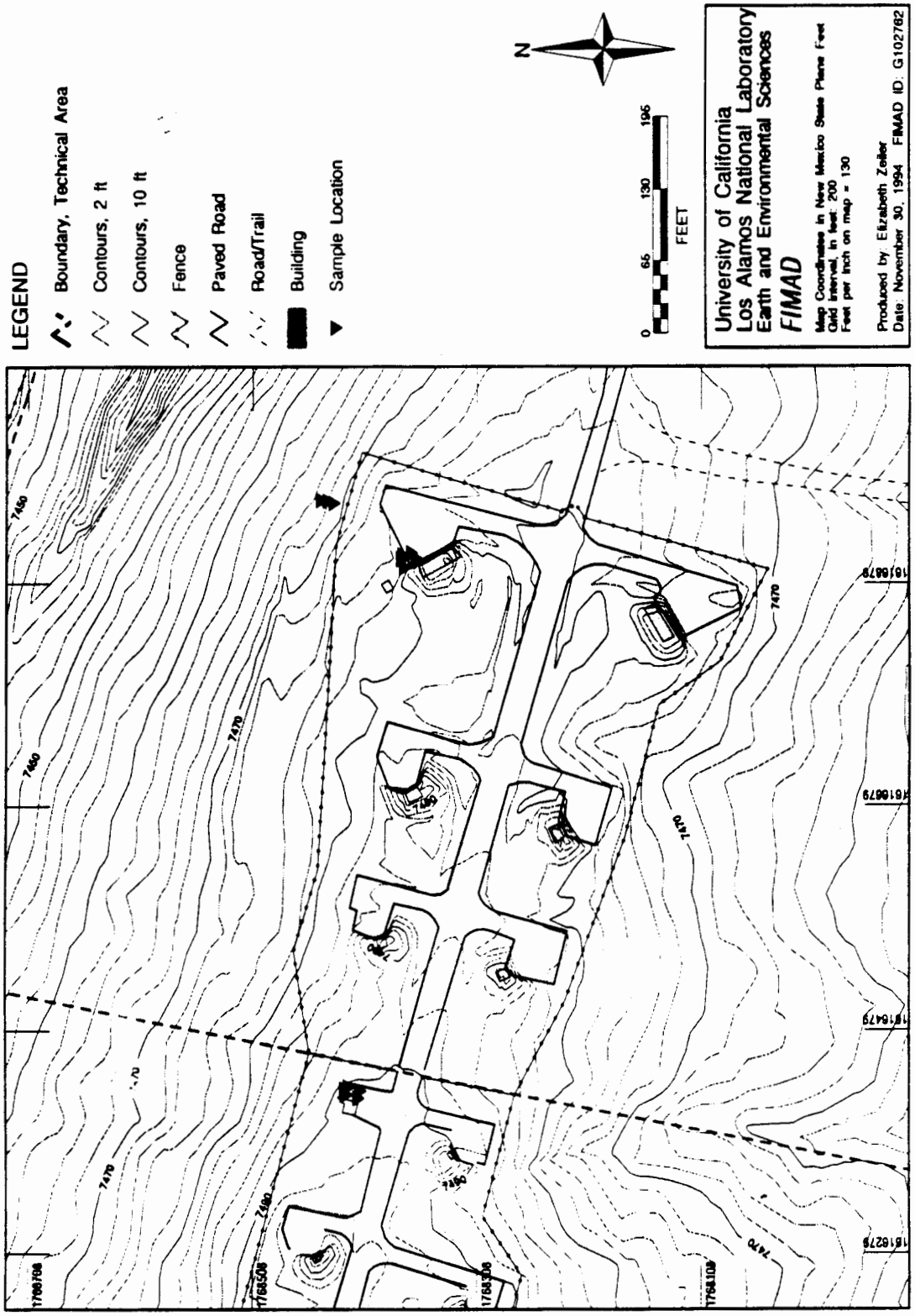


Figure 2-28. Sample locations at sumps and outfalls in Aggregate 3 (ADS 1111).

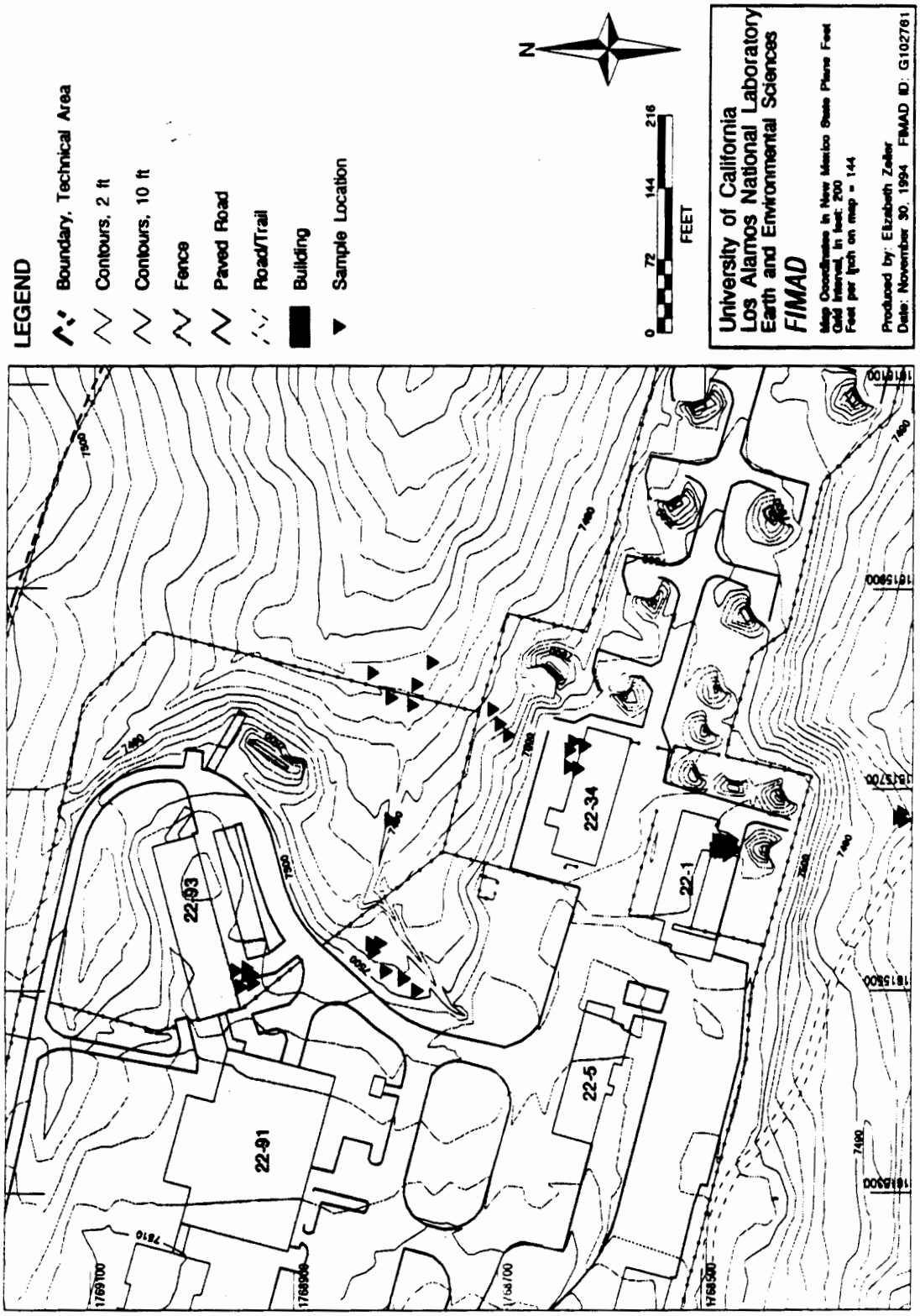


Figure 2-29. Sample locations at sumps, dry wells, septic tank, and marshy area in Aggregates 3 and 6 (ADS 1111).

2.5.2 ADS 1144—TA-49

All of the analytical radiological data have been reported for the two 150-ft boreholes and four 10-ft boreholes in Area 2 and for the 700-ft "cold" hole drilled in Area 12 this past winter. The data thus far indicate no lateral migration of contaminants. As shown in Table 2-14, which summarizes the analytical information available in the FIMAD data base on October 25, 1994, all the data from core samples taken from the 150-ft and 10-ft holes are below the SALs except for two analytes: Pu-239 and Am-241 (see Section 1.0 for an explanation of this summary table). These two contaminants are above the SAL because of two high values from samples taken from Borehole 49-2-10-4 (see Figure 2-30). From this hole at the depth of 2.5-ft to 3-ft, Am-241 is 66.6 +/- 3.4 pCi/g (or approximately three times the SAL) and Pu-239 is 178.2 +/- 10.6 pCi/g (or approximately 7.5 times the SAL). Except for these two values, the radiological data are comparable to the background values obtained from the "cold" hole (Borehole 49-2-700-1). Thirty-seven estimated low values and 21 unusable values were not included in these calculations but are available in the FIMAD data base for review. All of the uranium data for these samples were either estimated to be low or were unusable; therefore, total uranium is not included in the table and could not be evaluated.

Preliminary work is under way at Areas 2, 2A, and 2B. The land survey of 1987 surface-soil sample locations in these areas has been completed, and the resulting information is being compiled.

A readiness review meeting was held in late September, and work continues on the health and safety plan. Grid reference points have been surveyed, and a preliminary radiological screening of Areas 2A and 2B has been completed. A geophysical survey at Areas 2A and 2B using high-performance ground-penetrating radar is scheduled to begin in October 1994.

Several meetings were held to discuss the site-wide radiological survey at TA-49, which is scheduled to be completed during the fall of 1994.

Personnel continue efforts to locate the sump(s) at Area 5 and the small landfill east of Area 10.

TABLE 2-14

SUMMARY OF TA-49 AREA 2 CORE SAMPLE ANALYSES, ADS 1144

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	Baseline Sample Value	SAL	Units	Number of Values <LOD	LOD Range Minimum	LOD Range Maximum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL	Analyte Disposition
1	Americium-241	36	33	0.016	66.639	0.0887	22	pCi/g	3	0.01	0.01	1	35		Exceeds SAL
2	Cesium-137	43				0.0705	4	pCi/g	43	1	1		43		No Concern
3	Plutonium-238	39	6	0.011	3.106	0.1874	27	pCi/g	33	0.01	0.01		39		No Concern
4	Plutonium-239	39	6	0.014	178.16	0.0194	24	pCi/g	33	0.01	0.01	1	38		Exceeds SAL
	Total Number of Values	**157**	**45**						**112**			**2**	**155**	**0**	

Notes:

1. Baseline sample values are an average from 15 background samples taken from Borehole #49-2-700-1 (see location on map).
2. Analyte Disposition column categories:
   "Exceeds SAL" indicates that one or more analyte values exceeded the SAL.
   "No Concern" indicates that the analyte values are all less than the SAL.

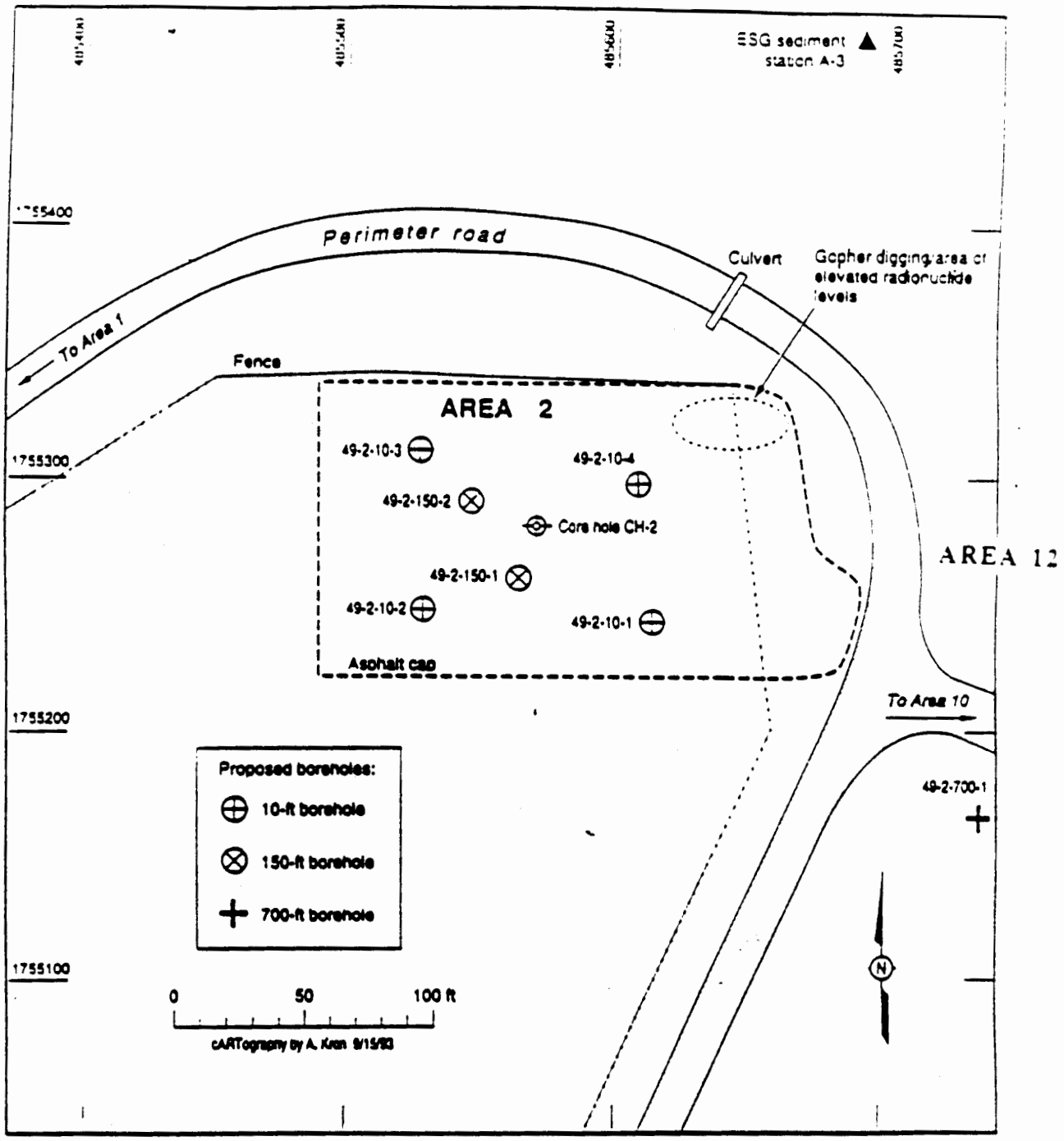


Figure 2-30. Locations of proposed boreholes for Areas 2 and 12, ADS 1144.

2.5.3 ADS 1147—TA-50

Surface soil sampling. During the 1993 field season, soil samples were collected from Aggregate 5, possible fallout from operations at TA-50 [PRSs 50-006(c), 50-007, and 50-008]; Aggregate 6, Ten Site Canyon, [PRS 50-006(a)], and Mortandad Canyon, [PRS 50-006(d)]; and MDA C (PRS 50-009); the samples were analyzed as specified in the RFI work plan for OU 1147 (LANL 1992, 0787). Chemical analysis results for the soil samples have been reviewed. Sample locations were presented in the "ER Quarterly Technical Report, October–December, Fiscal Year 1994." The available results are summarized in the "ER Quarterly Technical Report, April–June 1994."

The surface soil team is preparing an RFI report on Aggregate 5 and Ten Site Canyon. Mortandad Canyon and MDA C require further investigation before RFI reports can be prepared.

2.5.4 ADS 1148—TAs-51, -54

This ADS completed another round of pore-gas sampling of the subsurface organic vapor plume at MDA L, TA-54. Quarterly sampling is required by the HSWA Hazardous Waste Permit, Paragraph C, as modified by the Los Alamos National Laboratory's November 23, 1993, response to the EPA notice of deficiency for the RFI work plan for OU 1148. Instrument problems prolonged efforts to complete the sampling event. Both photoacoustic radiometer results and gas chromatograph/mass spectrometer results on charcoal resin absorbent samples are being analyzed. Figure 2-31 shows the results from the second calendar quarter (April–June 1994) compared with results from the first quarter. The map shows the locations of 20 monitor wells and the sample port depths exhibiting the highest concentration of 1,1,1-trichloroethane measured with the photoacoustic radiometer; the four wells with first quarter results of "0" were not measured during that quarter. Measured concentrations are within the spread of previous analytical values for these wells. The largest apparent increase in concentration was in Well 54-2021 at the west end of MDA L, where 38 parts per million 1,1,1-trichloroethane was measured at the 100-ft sampling port; the highest concentration, 1,190 parts per million was measured in Well 54-2014 at 13-ft depth. This well is located adjacent to the eastern cluster of inactive disposal shafts that constitute one source area for the organic vapor plume present around MDA L. The 1,1,1-trichloroethane values at MDA G are approximately ten parts per million. They show no significant increase from the results obtained in the first quarter of the calendar year. VOC values at MDA G indicate that a VOC source exists within this MDA as well.

RFI characterization activities included environmental sampling near the inactive pits and impoundments at MDA L, where five boreholes were angle-drilled and sampled beneath these structures. One hole was angled beneath each of the three impoundments, B, C, and D, and two were angled beneath Disposal Pit A. The holes were 50 to 60 ft in length and were sampled at 10-ft intervals; pore gas samples were taken from the zone in front of the drill bit at each station. Samples were submitted to analytical laboratories for the following analyses: cyanide, metals, moisture, PCBs/pesticides, SVOCs, total uranium, tritium, and VOCs. Results from the fixed laboratories are not yet available. Level C worker protection was used during the drilling, and worker-breathing-zone air quality was frequently monitored for VOCs. Limits were exceeded at only one depth and, after an overnight stand-down, photoionization detector results showed acceptable levels of organic vapors; drilling safely resumed. Pore gas samples were extracted using a downhole packer assembly and were analyzed using a photoacoustic radiometer and a gas chromatograph/mass spectrometer. Results indicate elevated VOCs. The maximum concentrations of 1,1,1-trichloroethane (1,202 parts per million) and trichloroethene (210 parts per million) were found at 30- to 50-ft depth in Hole 54-1010 beneath Pit A. Maximum tetrachloroethylene concentration of 240 parts per million was found beneath Impoundment C. Results from the gas chromatograph/mass spectrometer indicate that, of the 50 organic compounds looked for, 16 were detected. The highest concentrations found were for 1,1,1-trichloroethane, trichloroethene, and tetrachloroethylene at 1,700, 880, and 400 parts per million, respectively. No previously undetected compounds were found.

Passive soil gas measurements for volatile organic compounds were performed in August 1994 at 110 locations within and surrounding MDAs G, H, J, and L. Most of the measurements were at locations along traverses that extended away from MDA G and MDA L along the steep slopes into the floors of the adjacent valleys. EMFLUX cartridges were used for soil gas collection in both surveys. These sorbent cartridges were sealed into the ground for a period of 72 hours, then analyzed by gas

chromatograph/mass spectrometer for 42 VOCs on the target compound list of the EPA Contract Laboratory Program. The analyses were completed in September and are currently being reviewed.

Plans were made for drilling a deep borehole to the top of the main aquifer. This work will be coordinated with waste management operations at MDA G to meet the requirements of the ER Project and the Performance Assessment at MDA G, required by US Department of Energy (DOE) Order 5820.2A. The borehole is located on top of Mesita del Buey, approximately 400 ft east of MDA G. The borehole will be completed as a monitor well with an anticipated total depth of 860 ft. Drilling is scheduled to begin in December.

Analytical results from Boreholes 54-1001 through 54-1007 indicate that waste generated during the drilling of these holes can be profiled as nonhazardous. During this quarter, the last of the liquid waste was disposed of. Disposition of waste generated from the five angled boreholes at MDA L is pending analysis.

This quarter, a mathematical model was developed for understanding periodic flow from a well with a long screened interval far below the surface. The model is simply a representation in cylindrical geometry of the one-dimensional radial variation of pressure and flow from a well. If actual subsurface flows occur within anisotropic fractures, measurements will deviate strongly from this model. The model provides a method for recognizing and understanding situations that may be too complicated to calculate.

Last quarter, a frequency domain analysis of the subsurface pressure penetration of barometric pressure changes at an older monitoring well (Well 22) was reported. The penetration at Well 22 may not accurately reflect the pressures in the surrounding tuff because the well construction may provide a short circuit for barometric flows. This quarter, we obtained subsurface pressure data from a new well, Well 54-1004, which is completed with a SEAMIST® membrane. The pressures at selected subsurface ports during a period of barometric rise are shown in Figure 2-32. The pressure at Port P1 follows the rise and subsequent oscillation of the barometric pressure (not shown). During the 3-day barometric rise, the pressure at Port P12 (335 ft) rises before the pressure at Ports P10 and P11 rise, which are above Port P12, indicating some connection to atmospheric pressure at deep levels. Note also that the pressures both above and below Port P10 rise before the pressure at P10 rises, indicating flow toward the 255-ft depth from both directions. The variation of pressure amplitude and phase with depth in the same hole are displayed in Figures 2-33 and 2-34. In an isotropic medium, the pressure amplitude would decay exponentially with depth, and the phase would vary linearly with depth. It is obvious that the flow is dominated by some anisotropy at depths below 150 ft. The amplitude of the 5.3-day component and the phases of several components are consistent with a pathway to atmospheric pressure at some depth below the bottom of the well (340 ft). This is the first firm evidence of deep fracture breathing in Bandelier Tuff.

A summary of analytical results received since our last report is provided in Table 2-15 (see Section 1.0 for an explanation of this summary table). Of the 196 analytes (including water), 108 have listed SALs. Only 2 of 196 (arsenic and beryllium) have concentrations above SALs. Of these 88 analytes with no SALs, 11 have concentrations above their respective LODs, and 7 of these (aluminum, calcium, cobalt, iron, magnesium, potassium, and sodium) commonly occur in local rock-forming minerals. Excluding water, the analytes of interest are aldrin (1 of 55 samples), chlordane (1 of 17 samples), and heptachlor epoxide (1 of 55 samples). Analysis of these results is continuing.

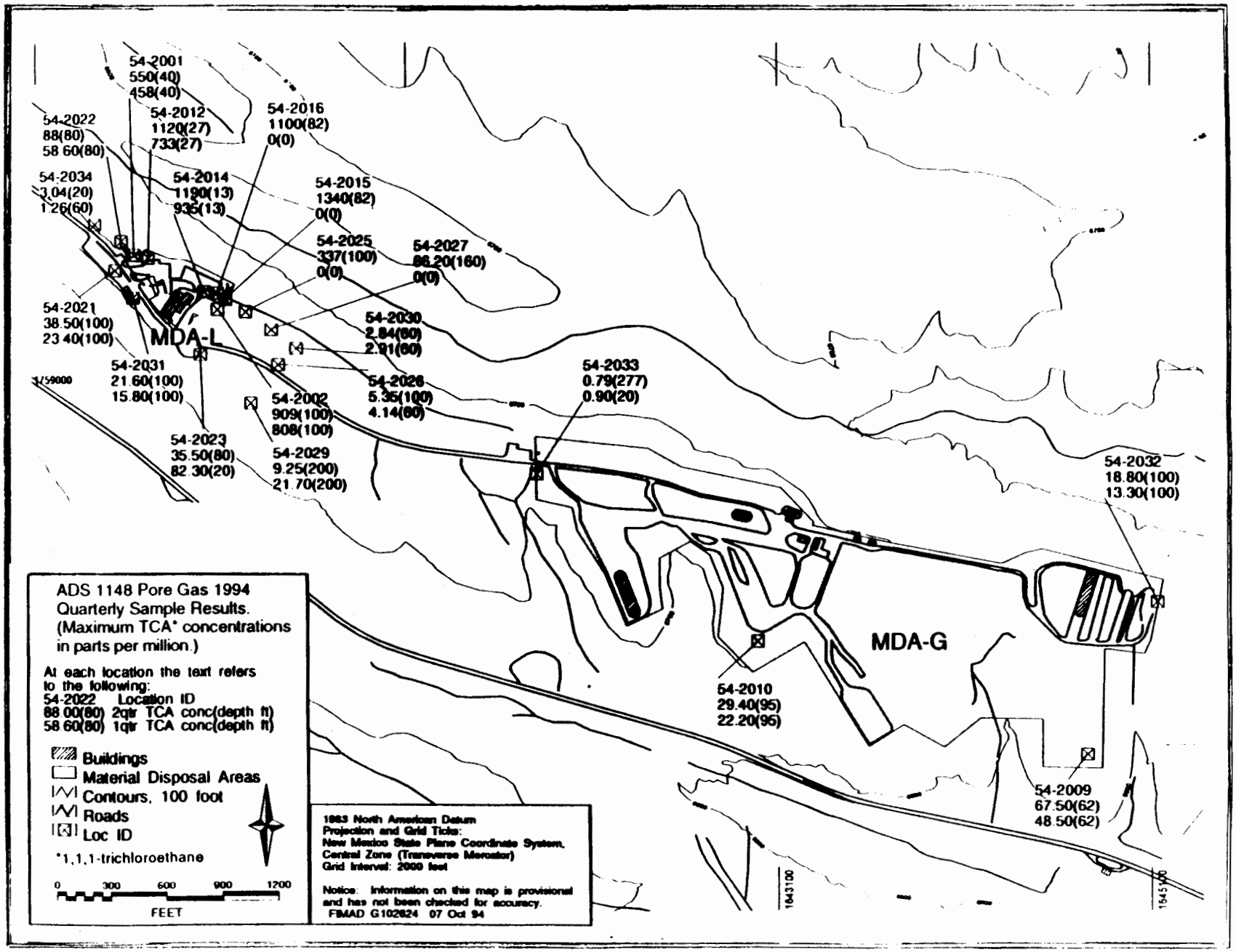


Figure 2-31. ADS 1148 pore gas 1994 quarterly sample results.

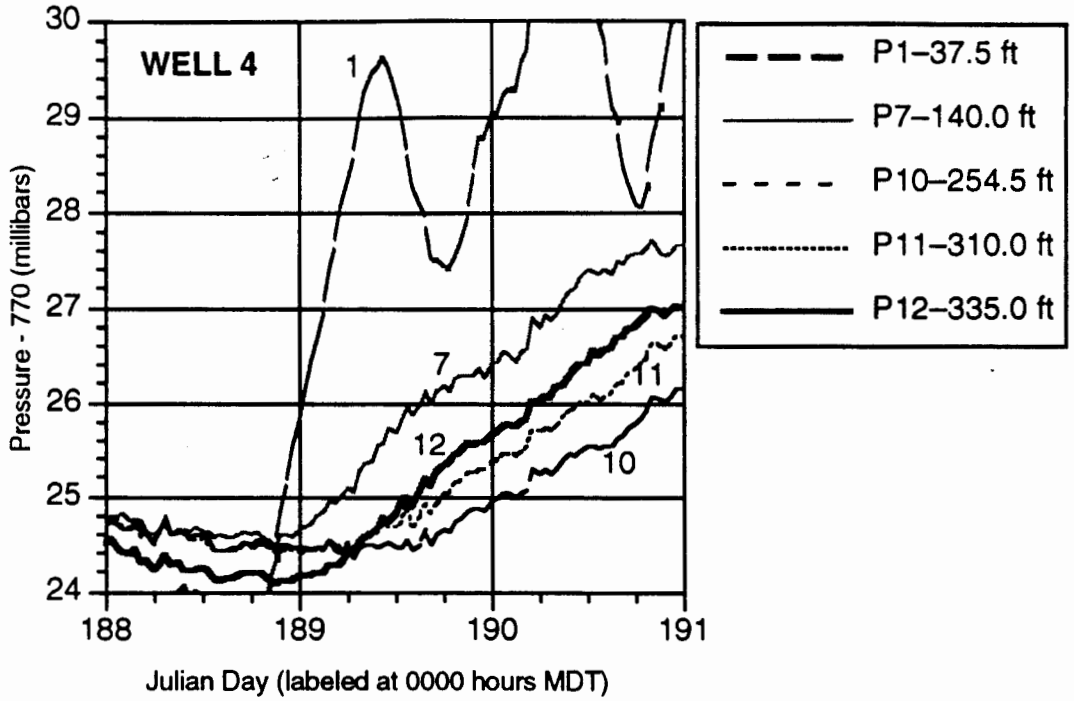


Figure 2-32. Pressure at selected ports during a barometric rise, ADS 1148.

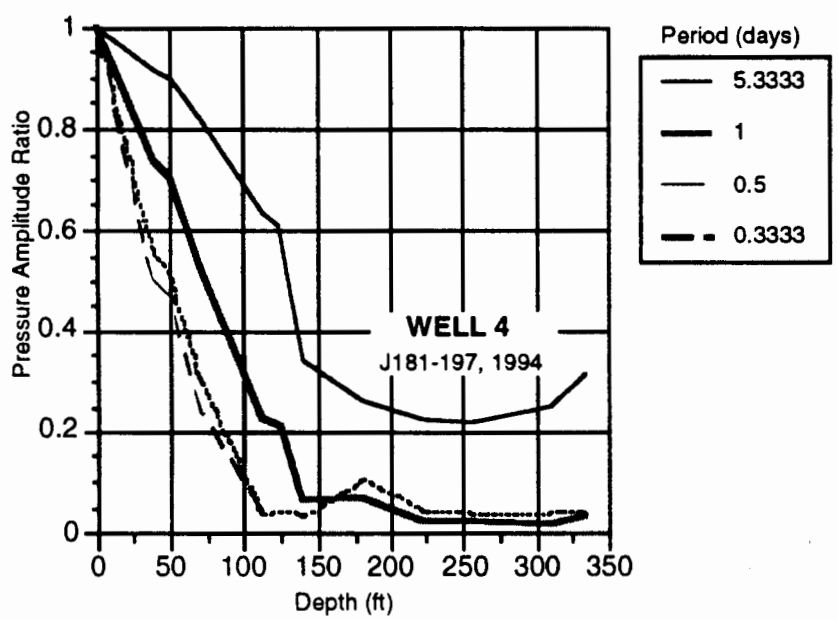


Figure 2-33. Amplitude of selected periodic components vs. depth, ADS 1148.

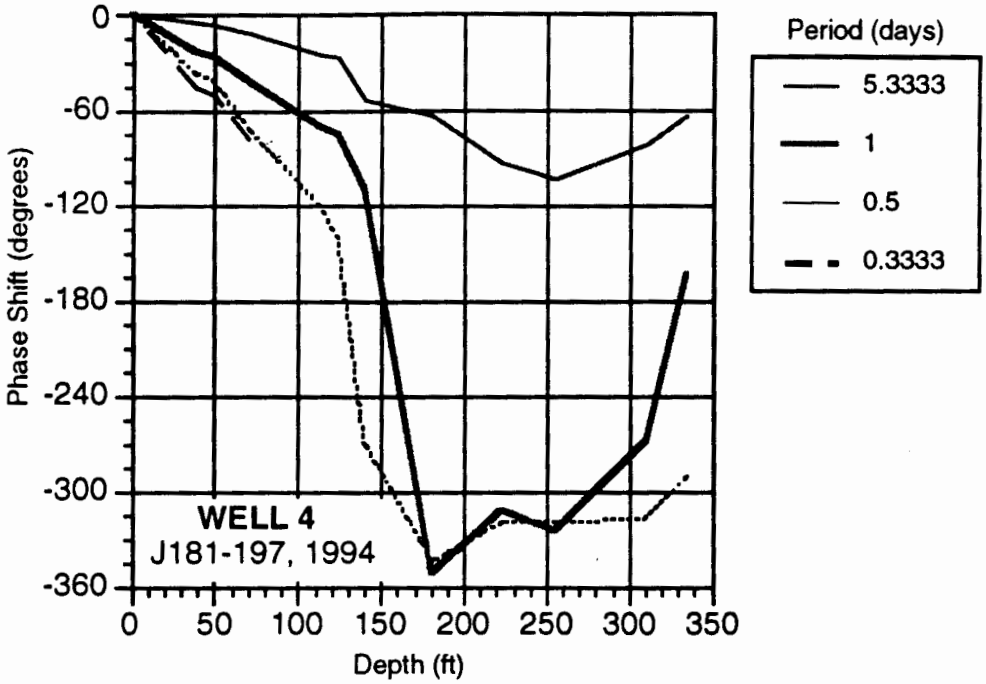


Figure 2-34. Phase of selected periodic components vs. depth, relative to phase at zero depth, ADS 1148.

TABLE 2-15

SUMMARY OF ANALYTICAL RESULTS FOR CORE SAMPLES FROM TA-54 BOREHOLES, ADS 1148

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Maximum	LOD Range Minimum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
1	Acenaphthene	43				4,800	mg/kg	43	0.14	0.35		43	
2	Acenaphthylene	43					mg/kg	43	0.14	0.35			
3	Acetone	42	13	0.023	2.1	8,000	mg/kg	29	0.01	0.048		42	
4	Aldrin	55	1	0.003	0.003		mg/kg	54	0.0007	0.0018			
5	Aluminum	19	19	130	840		mg/kg						
6	Aniline	17					mg/kg	17	0.33	0.35			
7	Anthracene	43				24,000	mg/kg	43	0.14	0.35		43	
8	Antimony	6				32	mg/kg	6	0.2	0.2		6	
9	Aroclor 1016	55					mg/kg	55	0.013	0.035			
10	Aroclor 1221	55					mg/kg	55	0.013	0.07			
11	Aroclor 1232	55					mg/kg	55	0.013	0.035			
12	Aroclor 1242	55					mg/kg	55	0.013	0.035			
13	Aroclor 1248	55					mg/kg	55	0.013	0.035			
14	Aroclor 1254	55					mg/kg	55	0.013	0.035			
15	Aroclor 1260	55					mg/kg	55	0.013	0.035			
16	Arsenic	19	15	0.3	1	0.4	mg/kg	4	0.2	0.2	14	5	
17	Azobenzene	17					mg/kg	17	0.33	0.35			
18	BHC [alpha-]	55				0.1	mg/kg	55	0.0007	0.0018		55	
19	BHC [beta-]	55				4	mg/kg	55	0.0007	0.0018		55	
20	BHC [delta-]	55					mg/kg	55	0.0007	0.0018			
21	Barium	19	18	5.9	44	5,600	mg/kg	1	25	25		19	
22	Benzene	42				0.67	mg/kg	42	0.005	0.007		42	
23	Benzo[a]anthracene	43				0.64	mg/kg	43	0.14	0.35		43	
24	Benzo[a]pyrene	43				0.1	mg/kg	43	0.14	0.35			43
25	Benzo[b]fluoranthene	43				0.7	mg/kg	43	0.14	0.35		43	
26	Benzo[g,h,i]perylene	43				44	mg/kg	43	0.16	0.35		43	
27	Benzo[k]fluoranthene	43				1.5	mg/kg	43	0.14	0.35		43	
28	Benzoic acid	43				320,000	mg/kg	43	1.6	3.3		43	
29	Benzyl alcohol	43					mg/kg	43	0.14	0.35			
30	Beryllium	19	12	0.3	2.6	0.16	mg/kg	7	1.2	1.2	12		7
31	Bis(2-chloroethoxy)methane	43					mg/kg	43	0.14	0.35			
32	Bis(2-chloroethyl)ether	43				0.12	mg/kg	43	0.14	0.7			43
33	Bis(2-chloroisopropyl)ether	43				100	mg/kg	43	0.14	0.35		43	
34	Bis(2-ethylhexyl)phthalate	43				50	mg/kg	43	0.14	0.59		43	
35	Boron	6					mg/kg	6	1	1			

TABLE 2-15

SUMMARY OF ANALYTICAL RESULTS FOR CORE SAMPLES FROM TA-54 BOREHOLES, ADS 1148

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Maximum	LOD Range Minimum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
36	Bromobenzene	15					mg/kg	15	0.005	0.007			
37	Bromochloromethane	15					mg/kg	15	0.005	0.007			
38	Bromodichloromethane	42				11	mg/kg	42	0.005	0.007		42	
39	Bromoform	42				89	mg/kg	42	0.005	0.007		42	
40	Bromomethane	42				0.43	mg/kg	42	0.01	0.014		42	
41	Bromophenylphenyl ether [4-]	43					mg/kg	43	0.14	0.35			
42	Butanone [2-]	42	9	0.014	4.8	4,000	mg/kg	33	0.01	0.028		42	
43	Butyl benzyl phthalate	43				16,000	mg/kg	43	0.14	0.35		43	
44	Butylbenzene [n-]	15					mg/kg	15	0.005	0.007			
45	Butylbenzene [sec-]	15					mg/kg	15	0.005	0.007			
46	Butylbenzene [tert-]	15					mg/kg	15	0.005	0.007			
47	Cadmium	6				80	mg/kg	6	0.4	0.4		6	
48	Calcium	19	6	820	1,800		mg/kg	13	3.1	3.1			
49	Carbon disulfide	42				7.4	mg/kg	42	0.005	0.007		42	
50	Carbon tetrachloride	42				0.21	mg/kg	42	0.005	0.007		42	
51	Chlordane	38				0.54	mg/kg	38	0.003	0.004		38	
52	Chlordane [alpha-]	17					mg/kg	17	0.0017	0.0018			
53	Chlordane [gamma-]	17	1	0.002	0.002		mg/kg	16	0.0017	0.0018			
54	Chloro-3-methylphenol [4-]	43				16,000	mg/kg	43	0.14	0.35		43	
55	Chloro-o-tolyloxyacetic acid [	38					mg/kg	38	0.041	0.065			
56	Chloroaniline [4-]	43				320	mg/kg	43	0.14	0.35		43	
57	Chlorobenzene	42				67	mg/kg	42	0.005	0.007		42	
58	Chlorodibromomethane	42				83	mg/kg	42	0.005	0.007		42	
59	Chloroethane	42				3,300	mg/kg	42	0.01	0.014		42	
60	Chloroethylvinyl ether [2-]	27					mg/kg	27	0.01	0.012			
61	Chloroform	42				0.21	mg/kg	42	0.005	0.007		42	
62	Chloromethane	42				6.4	mg/kg	42	0.01	0.014		42	
63	Chloronaphthalene [2-]	43				6,400	mg/kg	43	0.14	0.35		43	
64	Chlorophenol [o-]	43				400	mg/kg	43	0.14	0.35		43	
65	Chlorophenylphenyl ether [4-]	43					mg/kg	43	0.14	0.35			
66	Chlorotoluene [o-]	15					mg/kg	15	0.005	0.007			
67	Chlorotoluene [p-]	15					mg/kg	15	0.005	0.007			
68	Chromium	6	3	0.54	4.2	400	mg/kg	3	0.5	0.5		6	
69	Chrysene	43				22	mg/kg	43	0.14	0.35		43	
70	Cobalt	6	6	1.6	3.3		mg/kg						

TABLE 2-15

SUMMARY OF ANALYTICAL RESULTS FOR CORE SAMPLES FROM TA-54 BOREHOLES, ADS 1148

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Maximum	LOD Range Minimum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
71	Copper	19	18	1.3	180	3,000	mg/kg	1	0.5	0.5		19	
72	Cyanide	25				1,600	mg/kg	25	0.05	0.05		25	
73	D [2,4-]	38					mg/kg	38	0.002	0.006			
74	DB [2,4-]	38					mg/kg	38	0.002	0.0034			
75	DDD [p,p'-]	55				2.9	mg/kg	55	0.0007	0.0035		55	
76	DDE [p,p'-]	55					mg/kg	55	0.0007	0.0035			
77	DDT [p,p'-]	55				2.1	mg/kg	55	0.0007	0.0035		55	
78	Dalapon	38					mg/kg	38	0.002	0.003			
79	Di-n-butyl phthalate	43				8,000	mg/kg	43	0.14	0.35		43	
80	Di-n-octyl phthalate	43				1,600	mg/kg	43	0.14	0.35		43	
81	Dibenzo[a,h]anthracene	43				0.086	mg/kg	43	0.16	0.35			43
82	Dibenzofuran	43					mg/kg	43	0.14	0.35			
83	Dibromo-3-chloropropane [1,2	15					mg/kg	15	0.005	0.014			
84	Dibromoethane [1,2-]	15					mg/kg	15	0.005	0.007			
85	Dibromomethane	15					mg/kg	15	0.005	0.007			
86	Dicamba	38					mg/kg	38	0.002	0.003			
87	Dichlorobenzene [1,2-]	58				1,600	mg/kg	58	0.005	0.35		58	
88	Dichlorobenzene [1,3-]	58				7,200	mg/kg	58	0.005	0.35		58	
89	Dichlorobenzene [1,4-]	58				290	mg/kg	58	0.005	0.35		58	
90	Dichlorobenzidine [3,3'-]	43				1.6	mg/kg	43	0.33	1.2		43	
91	Dichlorodifluoromethane	15					mg/kg	15	0.01	0.014			
92	Dichloroethane [1,1-]	42				410	mg/kg	42	0.005	0.007		42	
93	Dichloroethane [1,2-]	42				0.2	mg/kg	42	0.005	0.007		42	
94	Dichloroethene [1,1-]	42				0.4	mg/kg	42	0.005	0.007		42	
95	Dichloroethene [1,2-]	32					mg/kg	32	0.005	0.007			
96	Dichloroethene [trans-1,2-]	10				1,600	mg/kg	10	0.005	0.005		10	
97	Dichloroethylene [cis-1,2-]	10				800	mg/kg	10	0.005	0.005		10	
98	(2,4-Dichlorophenoxy) propionic acid [2-]	38					mg/kg	38	0.002	0.0024			
99	Dichlorophenol [2,4-]	43				240	mg/kg	43	0.14	0.35		43	
100	Dichloropropane [1,2-]	42				6.5	mg/kg	42	0.005	0.007		42	
101	Dichloropropane [1,3-]	15					mg/kg	15	0.005	0.007			
102	Dichloropropane [2,2-]	15					mg/kg	15	0.005	0.007			
103	Dichloropropene [1,1-]	15					mg/kg	15	0.005	0.007			
104	Dichloropropene [cis-1,3-]	42				0.17	mg/kg	42	0.005	0.007		42	

TABLE 2-15

SUMMARY OF ANALYTICAL RESULTS FOR CORE SAMPLES FROM TA-54 BOREHOLES, ADS 1148

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Maximum	LOD Range Minimum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
105	Dichloropropene [trans-1,3-]	42				0.17	mg/kg	42	0.005	0.007		42	
106	Dieldrin	55					mg/kg	55	0.0007	0.0035			
107	Diethyl phthalate	43				64,000	mg/kg	43	0.14	0.35		43	
108	Dimethyl phthalate	43				800,000	mg/kg	43	0.14	0.35		43	
109	Dimethylphenol [2,4-]	43				1,600	mg/kg	43	0.14	0.35		43	
110	Dinitrophenol [2,4-]	43				160	mg/kg	43	0.63	1.2		43	
111	Dinitrotoluene [2,4-]	43				1	mg/kg	43	0.14	0.35		43	
112	Dinitrotoluene [2,6-]	43				1	mg/kg	43	0.14	0.35		43	
113	Dinoseb	38					mg/kg	38	0.002	0.0025			
114	Endosulfan I	55					mg/kg	55	0.0007	0.0018			
115	Endosulfan II	55					mg/kg	55	0.0007	0.0035			
116	Endosulfan sulfate	55					mg/kg	55	0.0007	0.0035			
117	Endrin	55					mg/kg	55	0.0007	0.0035			
118	Endrin aldehyde	17					mg/kg	17	0.0033	0.0035			
119	Endrin ketone	17					mg/kg	17	0.0033	0.0035			
120	Ethylbenzene	42				3,100	mg/kg	42	0.005	0.007		42	
121	Fluoranthene	43				3,200	mg/kg	43	0.14	0.35		43	
122	Fluorene	43				3,200	mg/kg	43	0.14	0.35		43	
123	Heptachlor	55					mg/kg	55	0.0007	0.0018			
124	Heptachlor epoxide	55	1	0.003	0.003		mg/kg	54	0.0007	0.0018			
125	Hexachlorobenzene	43				0.44	mg/kg	43	0.14	0.35		43	
126	Hexachlorobutadiene	43				90	mg/kg	43	0.14	0.35		43	
127	Hexachlorocyclopentadiene	43				560	mg/kg	43	0.33	1.2		43	
128	Hexachloroethane	43				80	mg/kg	43	0.14	0.35		43	
129	Hexanone [2-]	42					mg/kg	42	0.01	0.028			
130	Indeno[1,2,3-cd]pyrene	43				0.41	mg/kg	43	0.16	0.35		43	
131	Iron	19	19	2,700	8,800		mg/kg						
132	Isophorone	43				7,400	mg/kg	43	0.14	0.35		43	
133	Isopropylbenzene	15					mg/kg	15	0.005	0.007			
134	Isopropyltoluene [4-]	15					mg/kg	15	0.005	0.007			
135	Lead	6	6	9	13	500	mg/kg					6	
136	Lindane	55					mg/kg	55	0.0007	0.0018			
137	Magnesium	16	16	98	230		mg/kg						
138	Manganese	19	19	90	380	8,000	mg/kg					19	
139	Mecoprop	38					mg/kg	38	0.041	0.053			

TABLE 2-15

SUMMARY OF ANALYTICAL RESULTS FOR CORE SAMPLES FROM TA-54 BOREHOLES, ADS 1148

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Maximum	LOD Range Minimum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
140	Mercury	54				24	mg/kg	54	0.1	0.1		54	
141	Methoxychlor	55					mg/kg	55	0.0007	0.018			
142	Methyl iodide	15					mg/kg	15	0.005	0.007			
143	Methyl-2-pentanone [4-]	42	2	0.012	0.015	510	mg/kg	40	0.01	0.028		42	
144	Methyl-4,6-dinitrophenol [2-]	43					mg/kg	43	0.8	1.2			
145	Methylene chloride	42	1	0.069	0.069	5.6	mg/kg	41	0.005	0.028		42	
146	Methylnaphthalene [2-]	43					mg/kg	43	0.14	0.35			
147	Methylphenol [2-]	43				4,000	mg/kg	43	0.14	0.35		43	
148	Methylphenol [4-]	43				400	mg/kg	43	0.14	0.35		43	
149	Molybdenum	6	4	1.3	1.9	400	mg/kg	2	0.9	0.9		6	
150	Naphthalene	43				3,200	mg/kg	43	0.14	0.35		43	
151	Nickel	19	10	2.5	6.6	1,600	mg/kg	9	1.9	2		19	
152	Nitroaniline [2-]	43					mg/kg	43	0.63	1.2			
153	Nitroaniline [3-]	43					mg/kg	43	0.63	1.2			
154	Nitroaniline [4-]	43					mg/kg	43	0.66	1.2			
155	Nitrobenzene	43				5.3	mg/kg	43	0.14	0.35		43	
156	Nitrophenol [2-]	43					mg/kg	43	0.14	0.35			
157	Nitrophenol [4-]	43					mg/kg	43	0.63	1.2			
158	Nitrosodi-n-propylamine [N-]	43				0.1	mg/kg	43	0.14	0.35			43
159	Nitrosodimethylamine [N-]	17					mg/kg	17	0.33	0.35			
160	Nitrosodiphenylamine [N-]	43				140	mg/kg	43	0.14	0.35		43	
161	Pentachlorophenol	43				5.8	mg/kg	43	0.8	1.2		43	
162	Phenanthrene	43					mg/kg	43	0.14	0.35			
163	Phenol	43				48,000	mg/kg	43	0.14	0.35		43	
164	Potassium	19	19	120	1,300		mg/kg						
165	Propylbenzene	15					mg/kg	15	0.005	0.007			
166	Pyrene	43				2,400	mg/kg	43	0.14	0.35		43	
167	Selenium	19				400	mg/kg	19	0.2	0.3		19	
168	Silver	6				400	mg/kg	6	1	1		6	
169	Sodium	19	19	180	1,600		mg/kg						
170	Styrene	42				16,000	mg/kg	42	0.005	0.007		42	
171	T [2,4,5-]	38					mg/kg	38	0.002	0.003			
172	TP [2,4,5-]	38					mg/kg	38	0.002	0.0025			
173	Tetrachloroethane [1,1,1,2-]	15					mg/kg	15	0.005	0.007			
174	Tetrachloroethane [1,1,2,2-]	42				3.9	mg/kg	42	0.005	0.007		42	

TABLE 2-15

SUMMARY OF ANALYTICAL RESULTS FOR CORE SAMPLES FROM TA-54 BOREHOLES, ADS 1148

	Analyte	Number of Values per Analyte	Number of Values >=LOD	Concentration Range Minimum	Concentration Range Maximum	SAL	Units	Number of Values <LOD	LOD Range Maximum	LOD Range Minimum	Number of Values >=SAL	Number of Values <SAL, Including <LOD	Number of Values <LOD, with LOD>=SAL
175	Tetrachloroethylene	42				5.9	mg/kg	42	0.005	0.007		42	
176	Thallium	6				6.4	mg/kg	6	0.2	0.2		6	
177	Toluene	42				890	mg/kg	42	0.005	0.007		42	
178	Toxaphene	55					mg/kg	55	0.067	0.182			
179	Trichloro-1,2,2-trifluoroethan [1,1,2-]	15					mg/kg	15	0.005	0.007			
180	Trichlorobenzene [1,2,4-]	43				160	mg/kg	43	0.14	0.35		43	
181	Trichloroethane [1,1,1-]	42				1,000	mg/kg	42	0.005	0.007		42	
182	Trichloroethane [1,1,2-]	42				6.3	mg/kg	42	0.005	0.007		42	
183	Trichloroethene	42				3.2	mg/kg	42	0.005	0.007		42	
184	Trichlorofluoromethane	42					mg/kg	42	0.005	0.013			
185	Trichlorophenol [2,4,5-]	43				8,000	mg/kg	43	0.63	1.2		43	
186	Trichlorophenol [2,4,6-]	43				64	mg/kg	43	0.14	0.35		43	
187	Trichloropropane [1,2,3-]	15					mg/kg	15	0.005	0.007			
188	Trimethylbenzene [1,2,4-]	15					mg/kg	15	0.005	0.007			
189	Trimethylbenzene [1,3,5-]	15					mg/kg	15	0.005	0.007			
190	Tritium	2				15,000,000	pCi/g	2	2	2		2	
191	Vanadium	6	5	1.2	1.8	560	mg/kg	1	0.5	0.5		6	
192	Vinyl acetate	27					mg/kg	27	0.01	0.012			
193	Vinyl chloride	42				0.012	mg/kg	42	0.01	0.014		40	2
194	Water (Unbound)	54	53	0.3	24.8		%	1	0.1	0.1			
195	Xylenes [o-, m-, p-]	42				160,000	mg/kg	42	0.005	0.007		42	
196	Zinc	19	19	34	140	24,000	mg/kg					19	
	Total Number of Value	**6,992**	**314**					**6,678**			**26**	**3,892**	**181**

2.5.5 ADS 1154—TA-57

On July 26, 1994, the Site-Specific Health and Safety Plan was signed and approved, all notifications and permits were complete, and the Readiness Review was held for RFI sampling.

The DOE Operations Office in Albuquerque reviewed the DOE Environmental Checklist for OUs 1154, 1085, 1100, and 1136, and on August 9, 1994, the activities were categorically excluded from the requirement to prepare National Environmental Policy Act documentation. A Decision Memo from the Jemez Ranger District of the Santa Fe National Forest gave approval for the proposed RFI sampling for ADS 1154. The New Mexico Endemic Salamander Team also reviewed the project and found that there would be no impact on the Jemez Mountain salamander (Plethodon neomexicanus).

Site characterization activities took place on August 15-17, 1994. Four surface soil samples and 8 borehole samples were taken, and analyses are being performed for extended analyte list metals and SVOCs. One sample was taken from each core for analytical analysis. The sample location was determined by using X-ray fluorescence, which measured levels of barium on each core at three-foot intervals or where there was visual evidence of sludge. Barium was used as an indicator because it was present in the drilling muds used at the site.

Efforts are under way to locate the leach field at TA-57 so sampling can begin. Very little information exists concerning its location; therefore, workers are trying to locate the line that leads to the leach field.

Two soil samples were taken from the area underneath a chemical waste drum. Analyses are being performed for extended analyte metals and semivolatile organics.

The preliminary Ecological Risk Assessment was approximately 95% complete by the end of this quarter.

2.5.6 ADS 1157—TAs-8, -9, -23, -69

On July 6, 1994, the second round of water sampling related to MDA M occurred. Water samples were taken at Homestead Springs, which is located in Pajarito Canyon north of MDA M; at Starmer's and Charlie's Springs, which are located in a tributary to Pajarito Canyon east of MDA M; and at a point on Pajarito Creek located upstream from TA-8 and MDA M. Analyses were performed for extended-analyte-list VOCs and SVOCs, inorganic compounds, organochlorine, pesticides, PCBs, major ions, nitrate, sulfate, silicate, total dissolved solids, high explosives, gross gamma activity, and tritium.

Of the 281 samples taken last quarter, results have been received for approximately 91% of the metals, 98% of the nitrates, 87% of the SVOCs, 75% of the VOCs, 89% of the herbicides, 84% of the PCBs, 26% of the high explosives, 75% of the strontium-90, and 30% of the tritium in water samples.

A walk-through survey of national pollutant discharge elimination system permitted outfalls at OU 1157 was completed in August. The information from the survey will be used in a Laboratory report on storm water migration.

On September 30, the metal vessel located at PRS 8-005 was taken to excess property. The vessel was certified to be free of hazardous substances after naphthalene, which was inside the vessel, and an asbestos gasket and strap were removed. The vessel was removed so that the area underneath could be inspected for evidence of a release and a determination could be made whether the site required a voluntary corrective action. There was no evidence of a release to the environment at this site; therefore, a voluntary corrective action will not be required.

The preliminary Ecological Risk Assessment was approximately 95% complete by the end of this quarter.

3.0 REFERENCES

LANL (Los Alamos National Laboratory), May 1992. "RFI Work Plan for Operable Unit 1078," Los Alamos National Laboratory Report LA-UR-92-838, Los Alamos, New Mexico. (LANL 1992, 0782)

LANL (Los Alamos National Laboratory), May 1992. "RFI Work Plan for Operable Unit 1079," Los Alamos National Laboratory Report LA-UR-92-850, Los Alamos, New Mexico. (LANL 1992, 0783)

LANL (Los Alamos National Laboratory), May 1992. "RFI Work Plan for Operable Unit 1147," Los Alamos National Laboratory Report LA-UR-92-969, Los Alamos, New Mexico. (LANL 1992, 0787)

LANL (Los Alamos National Laboratory), November 1993. "Installation Work Plan for Environmental Restoration," Revision 3, Los Alamos National Laboratory Report LA-UR-93-3987, Los Alamos, New Mexico. (LANL 1993, 1017)