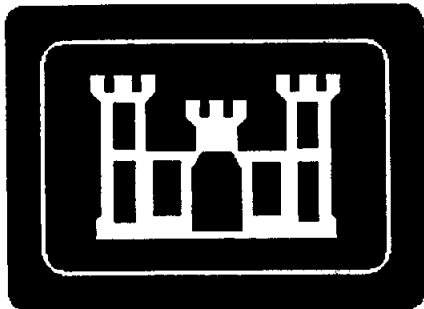


FINAL

**RCRA Closure
Field Investigation Report for the
Deactivation Furnace Area, Open Detonation
Area, Building 1601, and Pesticides Building
Ravenna Army Ammunition Plant, Ravenna,
Ohio**

PREPARED FOR



**U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT**

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JUNE 1998

SAIC Science Applications
International Corporation
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Ravenna Army Ammunition Plant,
Ravenna, Ohio**

JUNE 1998

Prepared by:

**SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
655 Metro Place South, Suite 745
Dublin, Ohio 43017**

TABLE OF CONTENTS

TABLE OF CONTENTS	i
LIST OF FIGURES	ii
LIST OF TABLES	ii
LIST OF APPENDICES	ii
ACRONYMS AND ABBREVIATIONS	iii
1. INTRODUCTION	1
2. OPEN DETONATION AREA	2
2.1 Geologic Description	4
2.2 Analytical Results	5
3. DEACTIVATION FURNACE AREA	5
3.1 Geologic Description	8
3.2 Analytical Results	10
4. BUILDING 1601 (CONTAINER STORAGE UNIT)	12
4.1 Geologic Description	12
4.2 Analytical Results	14
5. PESTICIDES BUILDING	14
5.1 Geologic Description	14
5.2 Analytical Results	16
REFERENCES	18

LIST OF FIGURES

Figure 1.	Sample Locations at the Open Detonation Area	3
Figure 2.	Detections of Explosive Constituents at the Open Detonation Area	6
Figure 3.	Soil Boring Locations at the Deactivation Furnace Area	9
Figure 4.	Soil Boring Location at the 1601 Container Storage Building	13
Figure 5.	Sample Locations at the Pesticides Building	15
Figure 6.	Detections of Pesticides and PCBs at the Pesticides Building	17

LIST OF TABLES

Table 1.	Depth to Refusal at the Open Detonation Area	4
Table 2.	Comparison of Field Calorimetry and Analytical Laboratory Results	7
Table 3.	Maximum Concentrations of Metals at the Open Detonation Area	7
Table 4.	Maximum Concentrations of Metals at the Deactivation Furnace Area	11
Table 5.	Maximum Concentrations of Metals in Slag at the Deactivation Furnace Area	12

LIST OF APPENDICES

Appendix A	Analytical Results
Appendix B	Metals Data Summary
Appendix C	Boring Logs
Appendix D	Results of Field Screening for Explosives
Appendix E	Quality Assurance Laboratory Results

ACRONYMS AND ABBREVIATIONS

AOC	area of concern
BGS	below ground surface
DFA	Deactivation Furnace Area
DNT	dinitrotoluene
GPS	global positioning system
ODA	Open Detonation Area
OEPA	Ohio Environmental Protection Agency
PCB	polychlorinated biphenyl
ppb	parts per billion
RCRA	Resource Conservation and Recovery Act
RDX	1,3,5-hexahydro-1,3,5-trinitrohydrazine
RVAAP	Ravenna Army Ammunition Plant
SB	soil boring
SS	surface soil sample
TAL	target analyte list
TNT	2,4,6-trinitrotoluene
USACE	U.S. Army Corps of Engineers
UXO	unexploded ordnance

1. INTRODUCTION

This report presents the results of the investigation conducted at five areas of concern (AOCs) at the Ravenna Army Ammunition Plant (RVAAP). Three of these AOCs are regulated under the Resource Conservation and Recovery Act (RCRA), and the results of these investigations will be used to support RCRA closure activities at these RCRA units. The three units are the Open Detonation Area (ODA) in Demolition Area #2, known as RVAAP-04, Building 1601 (Container Storage Unit), and the Deactivation Furnace Area (DFA), both in Winklepeck Burning Grounds (RVAAP-05). In addition, two AOCs that had not been previously investigated, Pesticides Building S44-56 (RVAAP-37) and the potential Mustard Agent Burial Site (RVAAP-28), were evaluated as part of this study. The investigation was conducted in November 1997, and consisted of surface and subsurface soil sampling chemical and geotechnical laboratory analyses, and geophysical surveys.

The objective of this report is to document the findings of the investigations with minimal interpretation. The interpretation of the data reported herein will be accomplished during the design phase of RCRA closure. The results of sampling in the Open Detonation Area, Building 1601, the Deactivation Furnace, and the Pesticides Building are discussed in this report. The results of geophysical survey performed at the Mustard Agent Burial Site are described in a brief letter report submitted under separate cover (SAIC 1998).

The objectives of this study were as follows:

1. support the closure design for the RCRA units by providing additional characterization information specified in the Closure Plans (USACE 1997a, 1997b, 1997c). Closure activities are scheduled to begin at these sites in the Spring of 1998; and
2. provide characterization information on the Pesticides Building and Mustard Agent Burial Site that will enable RVAAP to evaluate whether remedial action or corrective measures may be appropriate for these sites.

The sampling strategy for each site is explained in each section, followed by a brief explanation of the geology and an abbreviated description of any soil contamination identified as a result of sampling.

All investigation activities described in this report, including sample collection, sample analyses, data validation, and data reporting, adhere to the Facility-Wide Sampling and Analysis Plan for Ravenna Army Ammunition Plant (USACE 1996) and were conducted in accordance with the Health and Safety Plans included in the Closure Plans.

2. OPEN DETONATION AREA

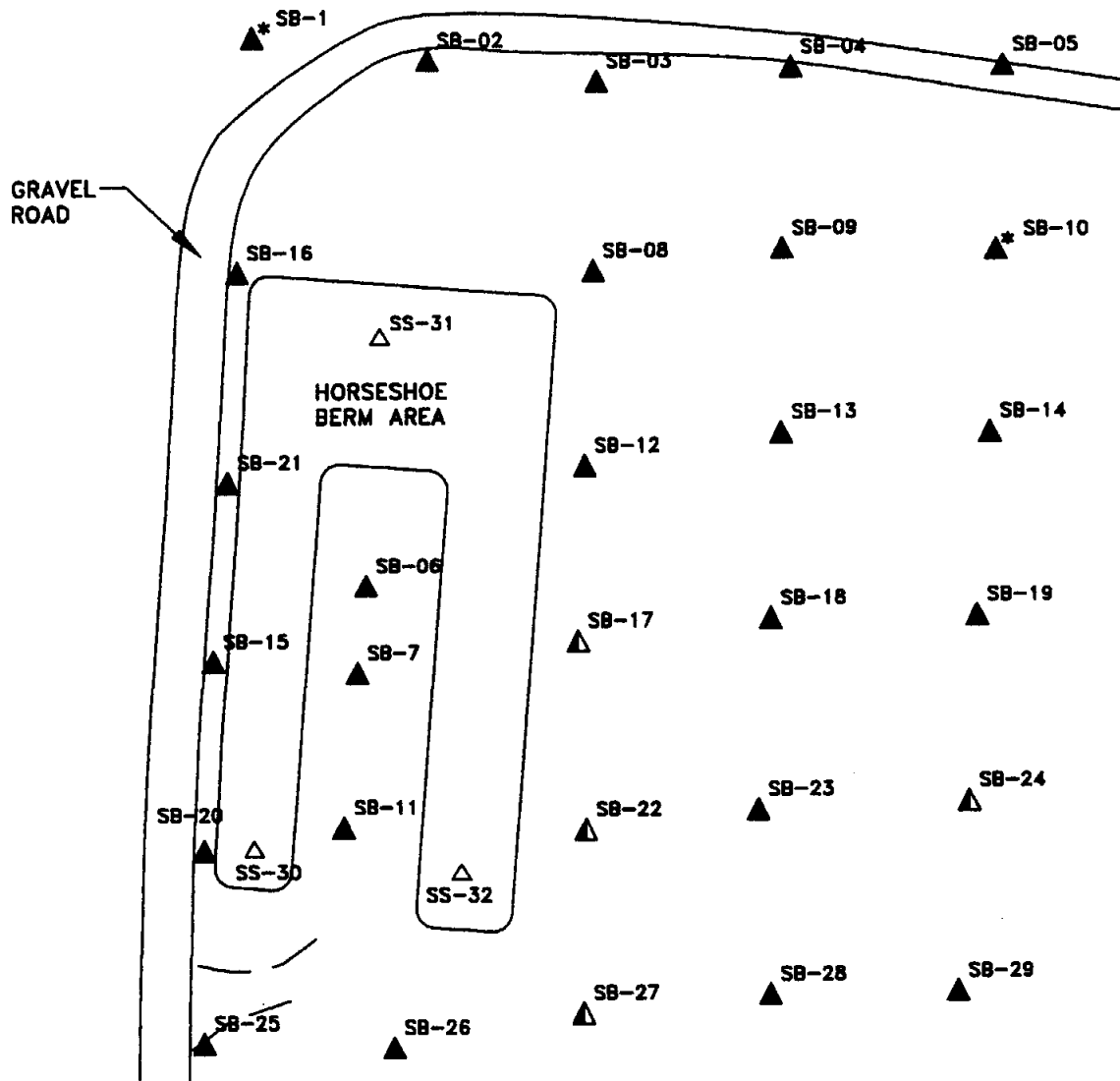
The purposes of the investigation at the ODA were to determine subsurface stratigraphy, groundwater conditions, and levels of contamination in soils within the RCRA unit boundary, in support of RCRA closure activities. Surface and subsurface soils were collected to define the vertical extent of soil contamination. Soil sampling was accomplished using direct-push sampling technology (Geoprobe®).

All soil samples collected from the surface and subsurface intervals were analyzed for Target Analyte List (TAL) metals by EPA methods SW846-6010, and for 2,4,6-trinitrotoluene (TNT) and 2,4-dinitrotoluene using field colorimetric methods (Jenkins et al. 1997). In addition, 15% of the samples were sent to the contract laboratory for analysis of explosives and propellants by EPA method SW846-8330. Geotechnical analysis of soil also was performed by an independent laboratory to determine soil classification, grain size, moisture content, Atterberg limits, specific gravity, and soil pH. In addition, geologic conditions were evaluated to support the closure design process. Complete analytical results and geotechnical analysis data are presented in Appendix A. A summary of the TAL metals data is presented in Appendix B.

The ODA was investigated with 29 borings advanced using a Geoprobe® as well as 32 composite surface soil samples taken to a depth of four inches. The sampling locations and general layout of the ODA are shown in Figure 1. Investigation activities at the ODA were performed in accordance with the Closure Plan's Sampling and Analysis Plan in order to characterize nature and vertical extent of soil contamination within the RCRA unit boundary resulting from the past demolition of munitions in trenches and pits at the site. The sampling points were located on a rectangular grid on a 50-ft spacing within the RCRA unit boundary. Part of the investigation at the ODA included revising existing plan drawings of the site to more accurately depict the shape and dimensions of the horseshoe-shaped earthen berm relative to the RCRA facility boundary. All soil borings in the ODA were located using a global positioning system (GPS), which has an accuracy to within one meter. The study also included collection of surface composite samples on the berm and a determination of the depth to bedrock and groundwater at selected borings.

Because of the nature of the past use of the Open Detonation Area, unexploded ordnance (UXO) clearance was required to move about the site and to perform sampling activities. No UXO was encountered during subsurface sampling, but one UXO item (a potentially live grenade) was encountered on the ground near soil boring SB-03. That grenade was left undisturbed at the location it was discovered.

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- ▲ 0-8' AND SURFACE COMPOSITE
- ▲* SB-1 AND SB-10 WERE SAMPLED BELOW 8', BUT REFUSAL DID NOT OCCUR
- ▲ REFUSAL/ROCK & SURFACE COMPOSITE
- △ SURFACE COMPOSITE



US Army Corps
of Engineers

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
LOUISVILLE, KENTUCKY

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO
FIGURE 1. SAMPLE LOCATIONS
AT THE OPEN DETONATION AREA

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2.1 Geologic Description

The 29 soil borings were continuously cored with the Geoprobe[®] unit. Samples were composited in 2-ft intervals for geochemical analysis. While 23 Geoprobe[®] borings were completed at a depth of 8 ft BGS, six were driven to depth in order to estimate the depth to bedrock. Refusal occurred at four of these locations. The location and depth to refusal are indicated in Table 1. At SB10, the boring was terminated at 20 ft without encountering bedrock. The boring at SB01 was terminated at 14 ft due to the presence of water in the 11-14 ft run. The soil boring logs are included in Appendix C.

Table 1. Depth to Refusal at the Open Detonation Area

Soil Sample Location	Depth to Refusal (feet BGS)
SB17	12.0
SB22	12.0
SB24	14.0
SB27	4.3

Weathered shale was recovered from the coring device in the bottom of SB24. No other information on bedrock lithology is available from this investigation.

Conditions at the site during the field investigation were wet, with large patches of saturated or nearly-saturated ground throughout the RCRA unit, as a result of recent precipitation as well as surface runoff from the hillside on which the ODA is situated. The soil borings were sounded with an electronic water level meter for an estimation of depth to groundwater. Although groundwater was encountered during Geoprobe[®] drilling in only one boring (SB01), water was present in the open holes after completion in three additional holes. Two of these locations (SB06 and SB11) are inside the bermed area, where surface drainage was generally poor, and may be indicative of perched water on shallow bedrock.

Water was present in SB01 initially at 10.5 ft BGS, then at 6 ft BGS after the hole collapsed from 14 to 10 ft BGS. In SB06, water was present 1.1 ft BGS upon completion of the boring, then at the ground surface after the hole collapsed from 8 ft to 4.75 ft BGS. At SB11, water was present at 7.4 ft BGS upon completion of the boring, then at 5.3 ft BGS after the hole collapsed from 7.8 to 7.2 ft BGS. Finally, in SB24, water occurred at 3.1 ft BGS at the time of completion of the 14-ft boring. The hole collapsed over the next two hours from 14 to 4.4 ft BGS, and the water level rose to 2.4 ft BGS. Water was not present in any of the other borings in the ODA.

Surface and subsurface unconsolidated materials in the ODA are generally silty clays, silty sands, and, less commonly, poorly sorted sands and gravels typical of the Lavery Till deposits found elsewhere in the eastern half of the RVAAP installation. Thin seams of sand were commonly observed in the subsurface, as were traces of gravel. Given the magnitude of soil disturbance and reworking as a consequence of past open detonation of munitions at the site, it is unlikely that the subsurface stratigraphy is contiguous among the 8-ft borings. The vast majority of soils to a depth of 8-ft within the RCRA area have been significantly reworked.

2.2 Analytical Results

Surface and subsurface soil samples were collected at 2-ft continuous intervals from 29 soil boring locations at ODA. Three additional surface soil samples were collected from the top of the horseshoe-shaped berm. Samples were analyzed to determine explosives and target analyte list (TAL) metals concentrations.

TAL metals were analyzed in every soil sample taken from the ODA. Maximum concentrations for metals are presented below in Table 2.

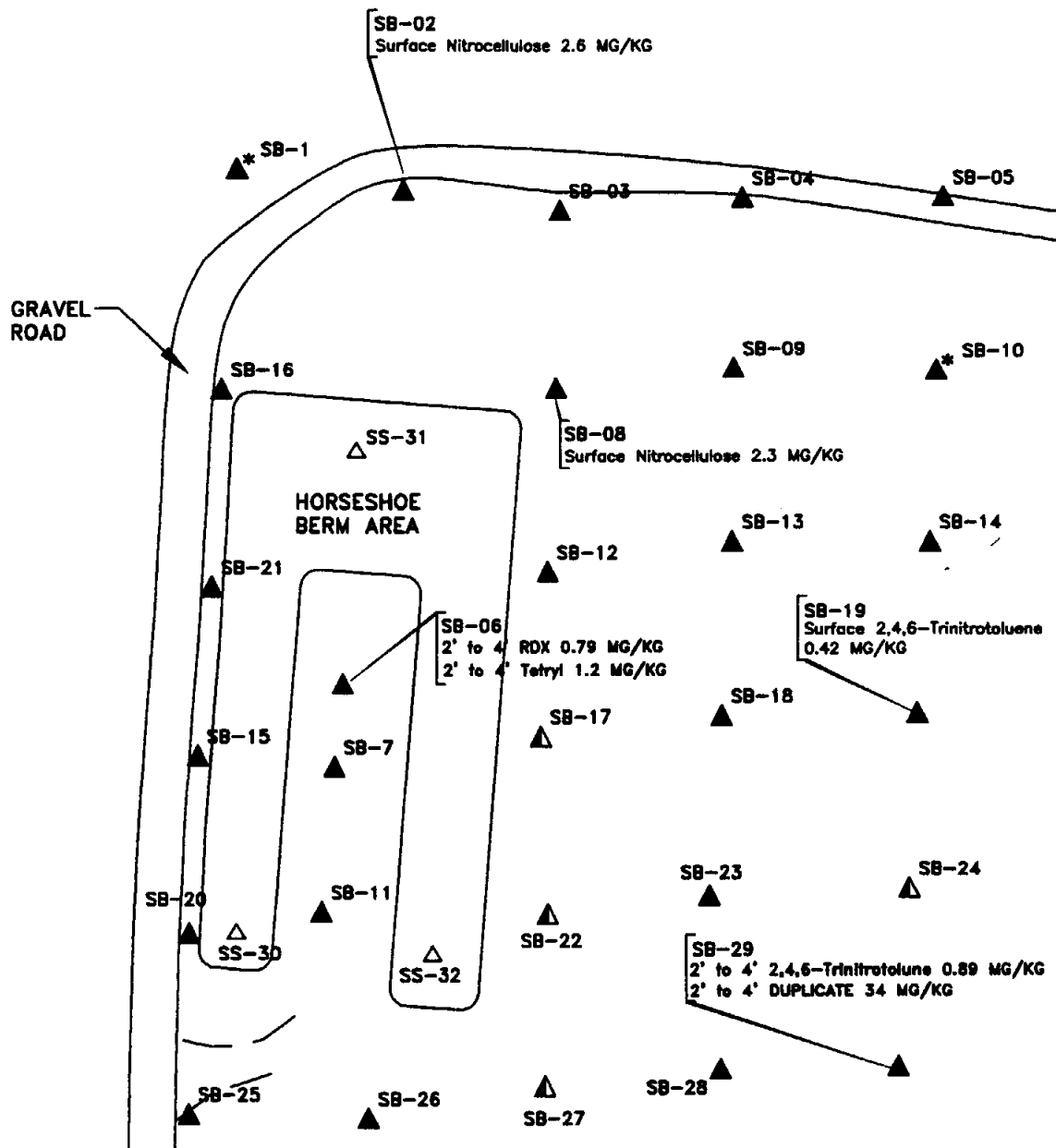
Explosives were present in five soil samples analyzed by the contract laboratory. As shown in Figure 2, TNT was present in one surface soil (SB19) and two 2-4 ft soil samples (SB29 and duplicate), ranging in concentration from <1 to 34 ppm. RDX and tetryl were detected once, in the 2-4 ft interval at SB06, inside the bermed area. No other explosives were detected. Table 3 shows the comparison of TNT and DNT results for field and contract laboratory analysis. As shown by this comparison, field analysis tended to overestimate the concentration of explosives in the soil, resulting in a poor correlation of results from these two methods. The field screening data logs are included in Appendix D.

The propellant nitrocellulose was detected in two surface soil samples (SS02 and SS08) at concentrations of 2.3 to 2.6 ppm. No other detections of propellants were noted at ODA.

3. DEACTIVATION FURNACE AREA

The purposes of the investigation at the DFA were to determine subsurface stratigraphy, groundwater conditions, and levels of contamination within the the RCRA boundary, which extends 21 ft outward from the remaining walls on the west and north, and 21 ft from the former eastern wall, and south from the furnace control room to Pallet Road D West (Figure 3). Soil samples collected were analyzed for explosives and TAL metals according to the Facility-Wide Sampling and Analysis Plan (USACE 1996) by EPA methods SW846-8330 and SW846-6010/7000, respectively, to further substantiate the chemical data evaluation presented in the Closure Plan (USACE, 1997c). In addition, geotechnical analyses (moisture content, soil classification, grain size analysis, specific gravity, and Atterberg limits) were performed to support the closure design for the DFA.

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- ▲ 0-8' AND SURFACE COMPOSITE
- ▲* SB-1 AND SB-10 WERE SAMPLED BELOW 8', BUT REFUSAL DID NOT OCCUR
- ▲ REFUSAL/ROCK & SURFACE COMPOSITE
- △ SURFACE COMPOSITE



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RAVENNA, OHIO

FIGURE 2. DETECTIONS OF EXPLOSIVE
CONSTITUENTS AT THE ODA

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Table 2. Maximum Concentrations of Metals at the Open Detonation Area

Analyte	Max. Conc. (mg/kg)	Depth Interval (ft BGS)	Location	Analyte	Max. Conc. (mg/kg)	Depth Interval (ft BGS)	Location
Aluminum	16,900	2.0-4.0	SB26	Magnesium	16,700	4.0-6.0	SB18
Antimony	355	0.0-2.0	SB26	Manganese	1360	0.0-2.0	SB20
Arsenic	110	0.0-2.0	SB26	Mercury	0.84	0.0-2.0	SB19
Barium	552	0.0-0.3	SS14	Nickel	84.7	6.0-8.0	SB22
Beryllium	2.9	0.0-0.3	SS25	Potassium	3280	4.0-6.0	SB03
Cadmium	11.2	2.0-4.0	SB07	Selenium	ND	-----	-----
Calcium	202,000	0.0-0.3	SS01	Silver	ND	-----	-----
Chromium	25.6	4.0-6.0	SB03	Sodium	ND	-----	-----
Cobalt	ND	-----	-----	Thallium	0.83	6.0-8.0	SB03
Copper	3200	0.0-2.0	SB12	Vanadium	30.7	2.0-4.0	SB26
Iron	41,500	2.0-4.0	SB17	Zinc	806	0.0-2.0	SB11
Lead	40,800	0.0-2.0	SB26				

ND = Not Detected

Table 3. Comparison of Field Colorimetry and Analytical Laboratory Results

Location	TNT - lab	lab qual.	TNT - field (mg/kg)	DNT - lab (mg/kg)	lab qual.	DNT - field (mg/kg)
DF1154-SB01-2.0-4.0	0.25	U	1.280	0.25	U	0.630
OD1001-SS01-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1002-SS02-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1003-SS03-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1004-SS04-0.0-0.3	0.25	U	315.000	0.25	U	224.000
OD1008-SS08-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1011-SS11-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1013-SS13-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1015-SS15-0.0-0.3	0.25	U	ND	0.25	U	ND

Location	TNT - lab	lab qual.	TNT - field (mg/kg)	DNT - lab (mg/kg)	lab qual.	DNT - field (mg/kg)
OD1017-SS17-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1019-SS19-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1024-SS24-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1026-SS26-0.0-0.3	0.25	U	1.570	0.25	U	0.970
OD1027-SS27-0.0-0.3	0.25	U	0.260	0.25	U	ND
OD1028-SS28-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1032-SS32-0.0-0.3	0.25	U	ND	0.25	U	ND
OD1044-SB03-6.0-8.0	0.25	U	0.990	0.25	U	0.510
OD1051-SB05-4.0-6.0	0.25	U	0.231	0.25	U	1.140
OD1054-SB06-2.0-4.0	0.25	U	ND	0.25	U	ND
OD1077-SB12-0.0-2.0	0.25	U	ND	0.25	U	ND
OD1093-SB16-0.0-2.0	0.25	U	ND	0.25	U	ND
OD1105-SB19-0.0-2.0	0.42		0.077	0.25	U	0.380
OD1123-SB23-4.0-6.0	0.25	U	ND	0.25	U	ND
OD1139-SB27-4.0-6.0	0.25	U	ND	0.25	U	ND
OD1146-SB29-2.0-4.0	0.89		1.970	0.25	U	0.940
OD1148-SB29-6.0-8.0	0.25	U	2.240	0.25	U	0.970
OD1222-SB05-4.0-6.0 ¹	0.25	U	1.140	0.25	U	0.670
OD1223-SB06-2.0-4.0 ²	0.25	U	ND	0.25	U	ND
OD1224-SB29-2.0-4.0 ³	34.00		1.970	2.50	U	0.940

¹duplicate of OD1051

²duplicate of OD1054

³duplicate of OD1146

U = non-detects

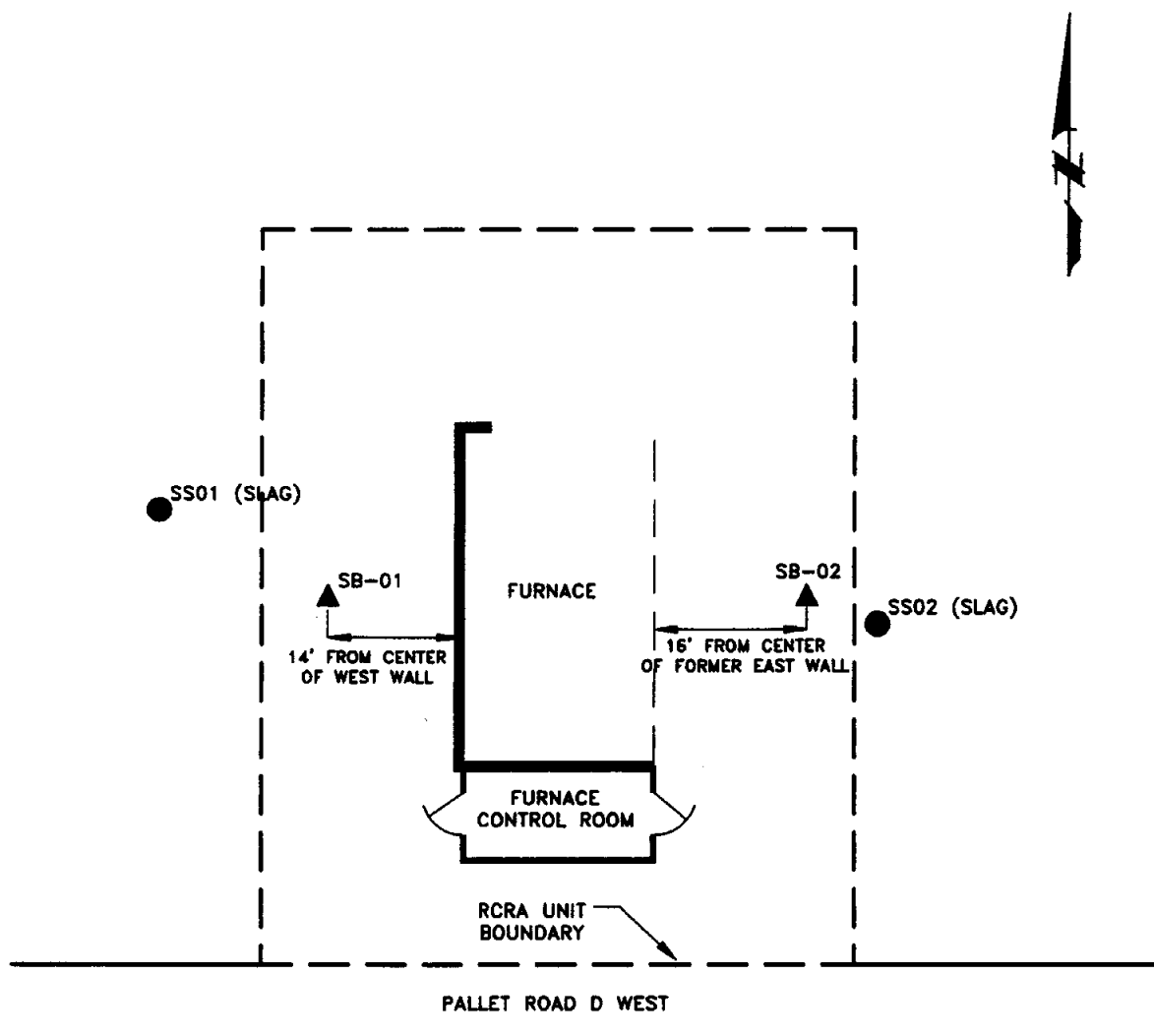
ND = not detected

The geology of the DFA was investigated with two Geoprobe® borings within the RCRA unit boundary of the site. The first boring, SB-1, was placed 14 ft west of the center of the western wall of the furnace barrier. The second, SB-2, was placed 16 ft east of the center of the now-demolished eastern wall of the barrier. These locations are shown in Figure 3. Slag samples also were collected from the surface in the locations shown in Figure 3, and analyzed to determine the slag's composition.

3.1 Geologic Description

The ground surface of the site is covered by slag and is underlain by a variety of fill materials ranging in composition from silty to sandy clays. The fine-grained fill material extends to a

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▲ N SOIL BORING



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RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO
FIGURE 3. SOIL BORING LOCATIONS
AT THE DEACTIVATION FURNACE AREA

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depth of approximately 7 feet, and overlies a well- to poorly-sorted brown sand. Traces of clay and gravel were observed in the uppermost 1 ft of this material. Thereafter, the sand was fairly homogeneous. Based on the samples collected for lithologic logging, the sand appears to be at least 8 ft thick. Geochemical samples were collected to 10 ft BGS in both borings, and geotechnical samples were collected to 16 ft BGS in SB-01. Thereafter, the Geoprobe[®] was pushed to refusal. In SB-1, refusal was not reached when the operator had used all the available extension rods at a depth of 43 ft. In SB-02, refusal occurred at 43 ft BGS, and the probe was hammered from 37 to 43 ft. The nature of this resistant material was not determined during the investigation.

Saturated soils indicative of a water table aquifer were present in both borings. Soils were saturated at 12 ft BGS in SB-01, and 9.6 ft BGS in SB-02 in the well-sorted sand.

3.2 Analytical Results

Soil samples were collected for analysis during Geoprobe[®] operations in 2-ft intervals continuously from 0 to 10-ft BGS. In addition, a surface composite sample was collected at each of the soil boring locations. All samples were analyzed in the field using colorimetric methods for the explosive constituents TNT and DNT. All samples were analyzed by the contract laboratory for TAL metals. In addition, one surface composite soil samples was analyzed by the laboratory for explosives and propellants. Geotechnical samples also were collected in 2-ft intervals to 10 ft in the Geoprobe[®] borings. The analytical results are presented in Appendix A of this report.

No explosives or propellants were detected in either the soil boring samples or the surface composite samples. This finding corroborates the 1991-1993 sampling data that showed no detectable quantities of explosives remaining in DFA soils.

TAL metals were analyzed in every soil sample and in the two slag samples collected at the DFA. Maximum concentrations for metals detected in both soil and slag are presented in Table 4. Table 5 presents the maximum concentration for each metal in the slag alone.

Table 4. Maximum Concentrations of Metals at the Deactivation Furnace Area

Analyte	Max. Conc. (mg/kg)	Depth Interval (ft BGS)	Location	Analyte	Max. Conc. (mg/kg)	Depth Interval (ft BGS)	Location
Aluminum	31,100	0.0-0.5	slag	Magnesium	30,500	0.0-0.5	slag
Antimony	2.3	0.0-0.5	SS02	Manganese	3300	0.0-0.5	slag
Arsenic	171	0.0-0.5	SS02	Mercury	ND	-----	-----
Barium	487	0.0-0.5	slag	Nickel	28.6	4.0-6.0	SB01
Beryllium	5.3	0.0-0.5	slag	Potassium	4190	4.0-6.0	SB02
Cadmium	8.9	0.0-0.5	SS02	Selenium	ND	-----	-----
Calcium	258,000	0.0-0.5	slag	Silver	ND	-----	-----
Chromium	23.0	4.0-6.0	SB02	Sodium	2350	0.0-0.5	slag
Cobalt	ND	-----	-----	Thallium	1.5	0.0-0.5	slag
Copper	545	0.0-0.5	SS02	Vanadium	30.1	4.0-6.0	SB02
Iron	29,000	0.0-2.0	SB02	Zinc	667	0.0-0.5	SS02
Lead	144	0.0-0.5	SS02				

ND = Not Detected

**Table 5. Maximum Concentrations of Metals in Slag at the
Deactivation Furnace Area**

Analyte	Maximum Concentration (mg/kg)	Analyte	Maximum Concentration (mg/kg)
Aluminum	31,100	Magnesium	30,500
Antimony	ND	Manganese	3300
Arsenic	4.2	Mercury	ND
Barium	487	Nickel	9.7
Beryllium	5.3	Potassium	2560
Cadmium	6.7	Selenium	ND
Calcium	258,000	Silver	ND
Chromium	16.4	Sodium	2350
Cobalt	ND	Thallium	1.5
Copper	14.1	Vanadium	11.1
Iron	23,100	Zinc	38.4
Lead	7.3	--	--

ND = Not Detected

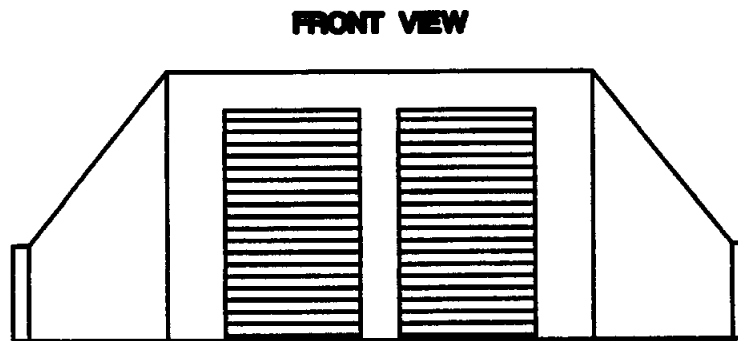
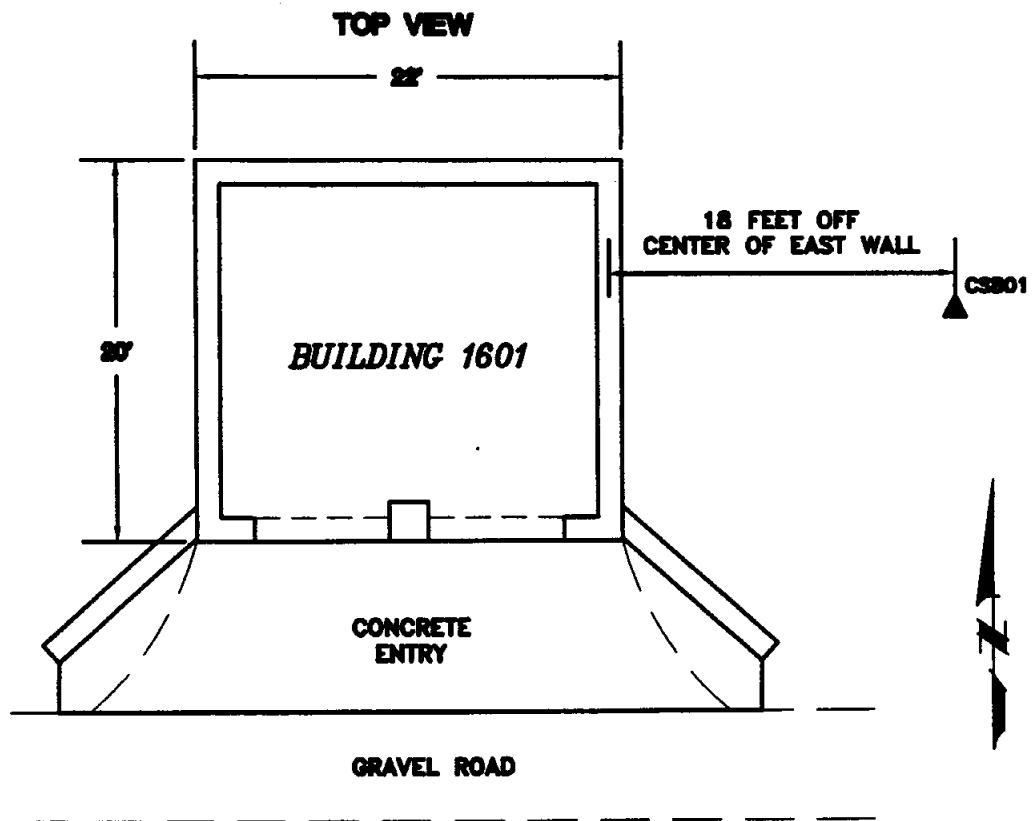
4. BUILDING 1601 (CONTAINER STORAGE UNIT)

Building 1601 is situated in Winklepeck Burning Grounds (RVAAP-05) along Pallet Road B West. Geotechnical properties of soil as well as subsurface lithologic conditions were assessed during the RCRA Field Investigation to support future closure activities at this RCRA unit.

4.1 Geologic Description

The geology of the site was investigated by advancing one Geoprobe® boring into the soils at a location approximately 18 ft from the center of the eastern wall of the building, as shown in Figure 4. The unconsolidated materials at the site consist of glacial clays with

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▲ N SOIL BORING



US Army Corps
of Engineers

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
LOUISVILLE, KENTUCKY

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO
FIGURE 4. SOIL BORING LOCATION AT THE
1601 CONTAINER STORAGE BUILDING

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varying proportions of silt and sand. The uppermost 4 ft BGS consisted of coarse to fine sands with some silt. The sand was saturated at 3.0 to 4.0 ft, and underlain by clays to approximately 8.0 ft BGS. Another saturated zone was encountered in a sandy silty clay at 8.0 to 9.0 ft BGS, which was also underlain by clay to 11.0 ft BGS. The boring was not logged below this depth, and no further geotechnical samples were collected. The boring was terminated at a depth of 28.5 ft BGS without refusing on bedrock. No geochemical analyses were performed on samples from the Geoprobe® boring at Building 1601.

A surface composite soil sample also was collected from three subsamples at the location of the Geoprobe® boring.

4.2 Analytical Results

No samples collected at the 1601 Building were submitted for geochemical analysis. Geotechnical results are provided in Appendix A.

5. PESTICIDES BUILDING

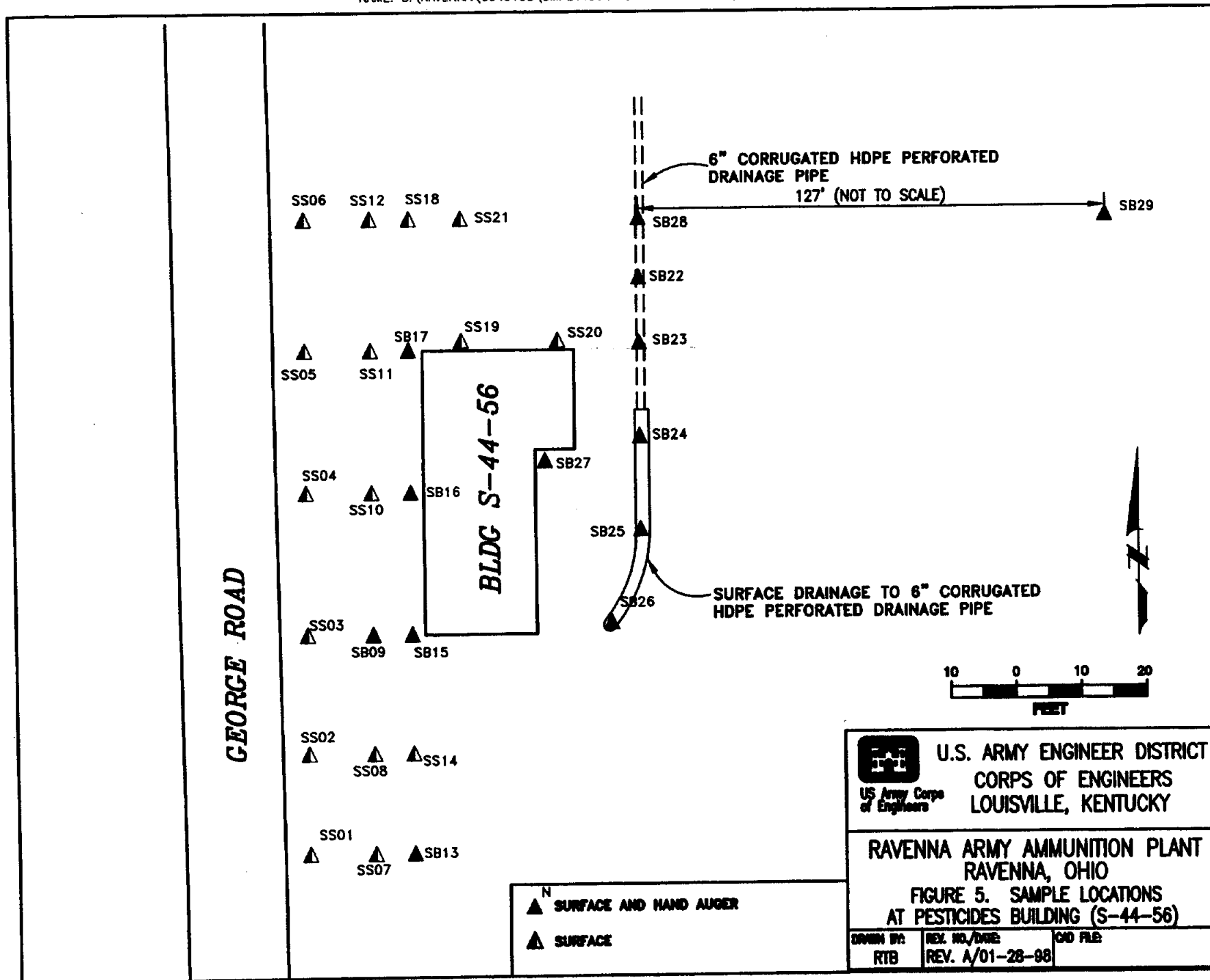
The Pesticides Building (S44-56) was investigated with soil samples collected from 29 locations (Figure 5). Samples were collected at 0.0-0.5 ft BGS and at 1.0 to 2.0 ft BGS at twelve locations. At the remaining 17 locations, only surface soil samples (0.0-0.5 ft) were collected. Sampling was conducted on a geometrical grid on the west side of the building, and at discrete locations underneath the building and along the ditch behind it. Surface soil samples were discrete rather than composite samples, and all soils collected at the site were analyzed for pesticides/PCBs and herbicides only, according to EPA methods specified in the Facility-Wide Sampling and Analysis Plan (USACE 1996). Herbicides analyzed include 2,4-D, 2,4,5-T, and 2,4,5-TP.

One Geoprobe® boring was placed at SB-09, west of the southwest corner of the building. Figure 5 shows the general site layout and the locations of the soil samples.

5.1 Geologic Description

The area west of the Pesticides Building is covered with 1 to 5.5 inches of 3/8' to 1/2' crushed stone over about 8-inches of a sandstone McAdam base course. At the sampling locations nearest George Road and in the driveway to the building, the crushed stone layer is underlain by 2.5 to 3-inches of asphalt pavement. At SB-09 and the other surface soil sampling locations, the surface material is underlain by silty clays or silty gravels. The impermeable nature of the substrate below the crushed stone/base course is evident from the ponding of precipitation on the surface. During the investigation, the crushed slag was water-saturated on the north side of the Pesticides Building.

15



Subsurface soil samples from the 1.0 to 2.0-ft interval consisted predominantly of silts, sandy silts, and clayey silts, with some organic matter present in the samples from the drainage ditch. SB-09 was found to contain predominantly silty clays with stringers of fine sand at 5.0 to 6.0 ft and 13.0 ft BGS. A saturated sand zone approximately 0.5 ft thick was encountered at 17.0 ft BGS, and was underlain again by silty clays. The boring log for SB-09 at the Pesticides Building is provided in Appendix C.

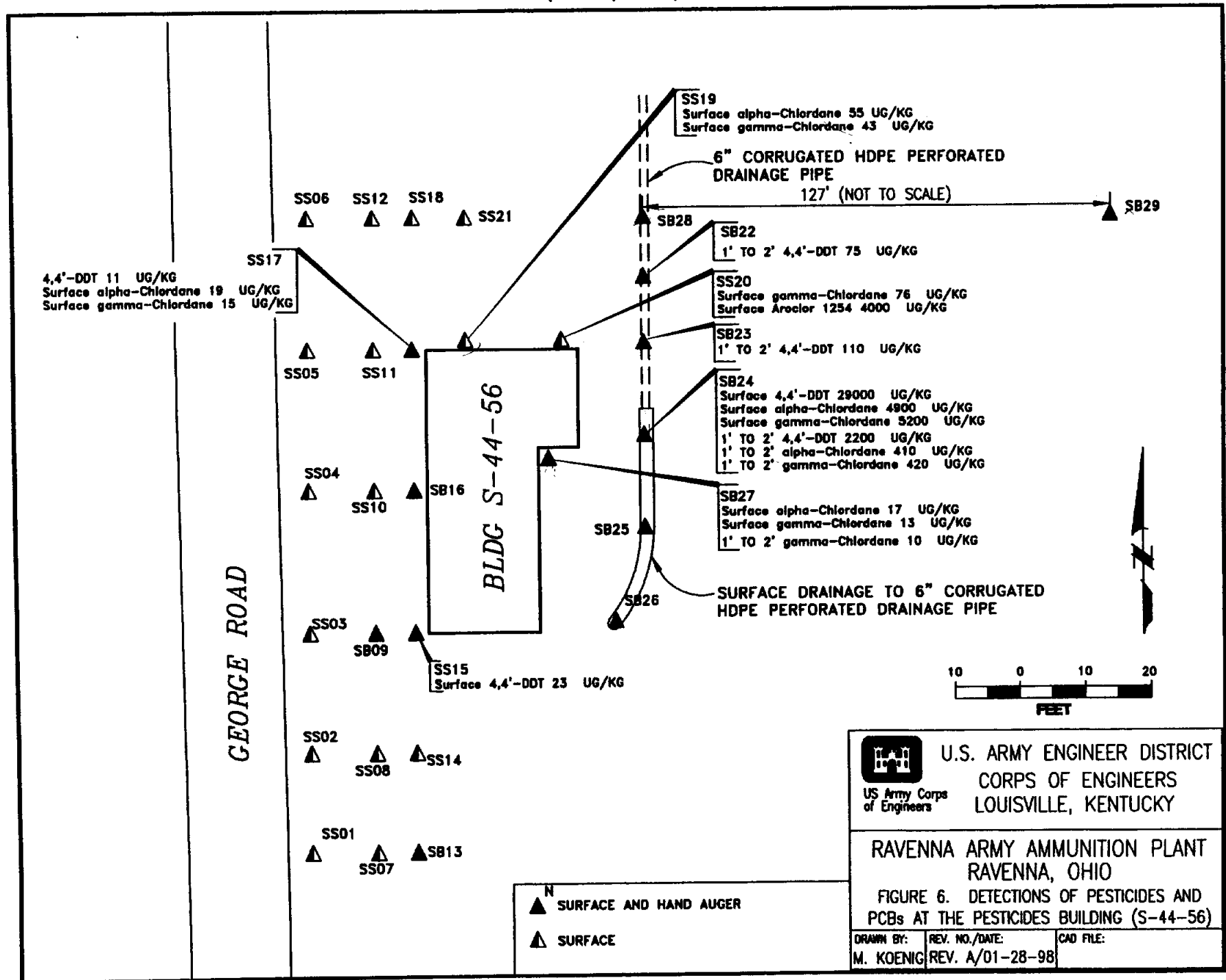
5.2 Analytical Results

Several pesticides were observed in the surface soils closest to the building. The compounds detected were alpha-chlordane, gamma-chlordane, 4,4-DDT, and the polychlorinated biphenyl (PCB) Aroclor-1254. Soil samples taken at locations SS15, SS17, SS19, SS20, SS24, and SS27 all contained one or more of these analytes in concentrations above detection limits. The maximum concentration of any of these compounds in surface soil samples was 29,000 parts per billion (ppb) of 4,4-DDT in SS24, in the ditch directly behind the Pesticides Building. Sample SS-20, located in a sump beneath the building, was the site of the only detection of Aroclor-1254, at 4000 ppb. This detection may result from PCB-laden oils leaking from the sump's electric motor onto the accumulated soil on the underlying concrete slab.

Detections of pesticides in the subsurface (1-2 ft) samples were limited to SS22, SS23, SS24, and SS27 (note that there was no corresponding surface soil sample in SS22). The greatest concentrations of these compounds in the subsurface soils were observed in SS24, with 420 ppb gamma-chlordane, 410 ppb alpha-chlordane, and 2200 ppb 4,4-DDT.

SB-09 was advanced to a depth of 34 ft using a Geoprobe®. Samples were collected for chemical analysis continuously at two-foot intervals to a depth of 8.0 ft and for geotechnical analysis to a depth of 20 ft. No pesticide/PCBs or herbicides were detected at depth at SB-09. No water was present in the borehole.

Figure 6 shows contaminant detections for soils at the Pesticides Building, and Appendix A presents the analytical results.



REFERENCES

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- Ohio Environmental Protection Agency, 1993. Closure Plan Review Guidance for RCRA Facilities. Interim Final, September 1, 1993.
- Science Applications International Corporation (SAIC), 1998. Draft Letter Report to United States Army Corps of Engineers (USACE), dated January 16, 1998.
- USACE, 1996. Facility-Wide Sampling and Analysis Plan for Ravenna Army Ammunition Plant. Prepared by SAIC.
- USACE, 1997a. Revised Closure Plan for the Open Detonation Area. Prepared by SAIC, October 1997.
- USACE, 1997b. Revised Closure Plan for the Container Storage Unit (Building 1601). Prepared by SAIC, October 1997.
- USACE, 1997c. Draft Revised Closure Plan for the Deactivation Furnace Area. Prepared by SAIC, September 1997.

APPENDIX A
ANALYTICAL RESULTS

**RCRA Field Investigations, 1997
Ravenna Army Ammunition Plant**

Location: Deactivation Furnace Area

Station: SB01

DFA-SB-001-1153-SO

0.0-2.0 FT

Field Sample Type: Composite - Subsurface Soil

Collected: 11/21/97

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	14800	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	12.7	MG/KG		
Barium	81.0	MG/KG		
Beryllium	0.79	MG/KG		
Cadmium	0.57	MG/KG	U	
Calcium	19000	MG/KG		
Chromium	20.4	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	33.4	MG/KG		
Iron	23700	MG/KG	MBB	
Lead	16.4	MG/KG		
Magnesium	6450	MG/KG		
Manganese	458	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	26.0	MG/KG		
Potassium	3230	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	570	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	25.3	MG/KG		
Zinc	93.0	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB01****DFA-SB-001-1154-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitroglycerin	2.5	MG/KG	U	
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10800	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	13.0	MG/KG		
Barium	56.7	MG/KG		
Beryllium	0.58	MG/KG		
Cadmium	0.58	MG/KG	U	
Calcium	25000	MG/KG		
Chromium	17.5	MG/KG		
Cobalt	17.3	MG/KG	U	
Copper	21.4	MG/KG		
Iron	23100	MG/KG	MBB	
Lead	10.7	MG/KG		
Magnesium	5840	MG/KG		
Manganese	350	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	26.0	MG/KG		
Potassium	2210	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	576	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	19.6	MG/KG		
Zinc	65.8	MG/KG	L	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB01****DFA-SB-001-1155-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11700	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	12.7	MG/KG		
Barium	64.6	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	26500	MG/KG		
Chromium	18.1	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	20.2	MG/KG		
Iron	24000	MG/KG	MBB	
Lead	11.4	MG/KG		
Magnesium	7150	MG/KG		
Manganese	405	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.6	MG/KG		
Potassium	2300	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	583	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	21.0	MG/KG		
Zinc	65.8	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB01****DFA-SB-001-1156-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7290	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	15.3	MG/KG		
Barium	39.6	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	19300	MG/KG		
Chromium	11.8	MG/KG		
Cobalt	17.7	MG/KG	U	
Copper	20.7	MG/KG		
Iron	19500	MG/KG	MBB	
Lead	9.9	MG/KG		
Magnesium	4530	MG/KG		
Manganese	314	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	17.5	MG/KG		
Potassium	1440	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	590	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	13.7	MG/KG		
Zinc	56.4	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB01****DFA-SB-001-1157-SO****8.0-10 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5650	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	11.6	MG/KG		
Barium	22.2	MG/KG	U	
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	1890	MG/KG		
Chromium	9.6	MG/KG		
Cobalt	16.7	MG/KG	U	
Copper	22.5	MG/KG		
Iron	17100	MG/KG	MBB	
Lead	9.5	MG/KG		
Magnesium	1990	MG/KG		
Manganese	458	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	17.4	MG/KG		
Potassium	998	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	556	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	10.8	MG/KG		
Zinc	58.6	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB02****DFA-SB-002-1158-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13900	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	20.6	MG/KG		
Barium	65.9	MG/KG		
Beryllium	1.0	MG/KG		
Cadmium	0.59	MG/KG	U	
Calcium	2190	MG/KG		
Chromium	22.2	MG/KG		
Cobalt	17.6	MG/KG	U	
Copper	25.0	MG/KG		
Iron	29000	MG/KG	MBB	
Lead	13.7	MG/KG		
Magnesium	4020	MG/KG		
Manganese	288	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	27.9	MG/KG		
Potassium	2640	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	588	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	24.8	MG/KG		
Zinc	96.6	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB02****DFA-SB-002-1159-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	14200	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	13.1	MG/KG		
Barium	72.4	MG/KG		
Beryllium	0.67	MG/KG		
Cadmium	0.57	MG/KG	U	
Calcium	18800	MG/KG		
Chromium	20.7	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	21.4	MG/KG		
Iron	25500	MG/KG	MBB	
Lead	11.2	MG/KG		
Magnesium	5900	MG/KG		
Manganese	395	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	27.7	MG/KG		
Potassium	3120	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	569	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	26.3	MG/KG		
Zinc	67.9	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB02****DFA-SB-002-1160-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/23/97**

<u>Metals</u>	<u>Result</u>	<u>Units</u>	<u>Qualifiers</u>	
			<u>Lab</u>	<u>Data</u>
Aluminum	16600	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	13.4	MG/KG		
Barium	80.9	MG/KG		
Beryllium	0.74	MG/KG		
Cadmium	0.57	MG/KG	U	
Calcium	25400	MG/KG		
Chromium	23.0	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	21.1	MG/KG		
Iron	25800	MG/KG	MBB	
Lead	12.9	MG/KG		
Magnesium	6240	MG/KG		
Manganese	388	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	28.5	MG/KG		
Potassium	4190	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	570	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	30.1	MG/KG		
Zinc	75.1	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB02****DFA-SB-002-1161-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4830	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	13.5	MG/KG		
Barium	27.8	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	3420	MG/KG		
Chromium	8.5	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	18.4	MG/KG		
Iron	16600	MG/KG	MBB	
Lead	10.1	MG/KG		
Magnesium	2220	MG/KG		
Manganese	306	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	15.1	MG/KG		
Potassium	760	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	563	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	8.9	MG/KG		
Zinc	57.4	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SB02****DFA-SB-002-1162-SO****8.0-10 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6150	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	14.9	MG/KG		
Barium	38.6	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	3580	MG/KG		
Chromium	10.3	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	22.5	MG/KG		
Iron	18300	MG/KG	MBB	
Lead	12.8	MG/KG		
Magnesium	2230	MG/KG		
Manganese	578	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	22.7	MG/KG		
Potassium	1250	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	550	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	11.8	MG/KG		
Zinc	71.4	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SS01****DFA-SS-001-1151-SO****0.0-0.5 FT****Field Sample Type: Split Sample****Collected: 11/24/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	14500	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	12.5	MG/KG		
Barium	108	MG/KG		
Beryllium	1.0	MG/KG		
Cadmium	1.7	MG/KG		J
Calcium	25800	MG/KG		
Chromium	18.4	MG/KG		
Cobalt	18.0	MG/KG	U	
Copper	46.3	MG/KG		
Iron	22800	MG/KG		
Lead	34.4	MG/KG		
Magnesium	7000	MG/KG		
Manganese	678	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	24.4	MG/KG		
Potassium	2800	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	599	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	22.5	MG/KG		
Zinc	178	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SS01****DFA-SS-001D-1225-SO****0.0-0.5 FT****Field Sample Type: Field Duplicate****Collected: 11/24/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13400	MG/KG		
Antimony	0.96	MG/KG		J
Arsenic	11.0	MG/KG		
Barium	128	MG/KG		
Beryllium	1.2	MG/KG		
Cadmium	2.8	MG/KG		J
Calcium	31700	MG/KG		
Chromium	15.2	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	83.4	MG/KG		
Iron	19500	MG/KG		
Lead	46.5	MG/KG		
Magnesium	7380	MG/KG		
Manganese	792	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	21.3	MG/KG		
Potassium	2060	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	580	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	17.3	MG/KG		
Zinc	219	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SS01****DFA-SS-001S-1149-SO****0.0-0.5 FT****Field Sample Type: Grab - Slag****Collected: 11/24/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	25800	MG/KG		
Antimony	0.54	MG/KG	U	UJ
Arsenic	2.4	MG/KG		
Barium	487	MG/KG		
Beryllium	5.3	MG/KG		
Cadmium	0.99	MG/KG		J
Calcium	174000	MG/KG		
Chromium	12.4	MG/KG		
Cobalt	16.1	MG/KG	U	
Copper	14.1	MG/KG		
Iron	23100	MG/KG		
Lead	5.4	MG/KG		
Magnesium	30500	MG/KG		
Manganese	3170	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	4.3	MG/KG	U	
Potassium	1920	MG/KG		
Selenium	0.54	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	1580	MG/KG		
Thallium	0.74	MG/KG		
Vanadium	11.1	MG/KG		
Zinc	28.0	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SS02****DFA-SS-002-1152-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/24/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	15400	MG/KG		
Antimony	2.3	MG/KG		J
Arsenic	171	MG/KG		
Barium	128	MG/KG		
Beryllium	1.1	MG/KG		
Cadmium	8.9	MG/KG		J
Calcium	33900	MG/KG		
Chromium	18.9	MG/KG		
Cobalt	18.3	MG/KG	U	
Copper	545	MG/KG		
Iron	19200	MG/KG		
Lead	144	MG/KG		
Magnesium	6260	MG/KG		
Manganese	924	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	21.7	MG/KG		
Potassium	2190	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	609	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	17.8	MG/KG		
Zinc	667	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SS02****DFA-SS-002D-1226-SO 0.0-0.5 FT Field Sample Type: Field Duplicate****Collected: 11/24/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10600	MG/KG		
Antimony	0.89	MG/KG		J
Arsenic	69.9	MG/KG		
Barium	77.2	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	2.9	MG/KG		J
Calcium	14500	MG/KG		
Chromium	16.5	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	158	MG/KG		
Iron	22000	MG/KG		
Lead	57.6	MG/KG		
Magnesium	4070	MG/KG		
Manganese	434	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	24.1	MG/KG		
Potassium	1850	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	606	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	18.1	MG/KG		
Zinc	272	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Deactivation Furnace Area**Station: SS02****DFA-SS-002S-1150-30****0.0-0.5 FT****Field Sample Type: Grab - Slag****Collected: 11/24/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	31100	MG/KG		
Antimony	1.0	MG/KG	U	UJ
Arsenic	4.2	MG/KG		
Barium	328	MG/KG		
Beryllium	4.4	MG/KG		
Cadmium	6.7	MG/KG		J
Calcium	258000	MG/KG		
Chromium	16.4	MG/KG		
Cobalt	15.1	MG/KG	U	
Copper	7.9	MG/KG		
Iron	701	MG/KG		
Lead	7.3	MG/KG		
Magnesium	30200	MG/KG		
Manganese	3300	MG/KG		
Mercury	0.10	MG/KG	U	
Nickel	9.7	MG/KG		
Potassium	2560	MG/KG		
Selenium	1.0	MG/KG	U	
Silver	1.0	MG/KG	U	
Sodium	2350	MG/KG		
Thallium	1.5	MG/KG		
Vanadium	5.0	MG/KG	U	
Zinc	38.4	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB01****ODA-SB-001-1033-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11100	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	16.2	MG/KG		
Barium	59.5	MG/KG		J
Beryllium	0.57	MG/KG		
Cadmium	0.57	MG/KG	U	
Calcium	11800	MG/KG		J
Chromium	17.4	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	19.7	MG/KG		J
Iron	27000	MG/KG		
Lead	11.7	MG/KG		
Magnesium	4610	MG/KG		
Manganese	311	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	25.5	MG/KG		
Potassium	1880	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	570	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	18.7	MG/KG		
Zinc	69.0	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB01****ODA-SB-001-1034-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8710	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.4	MG/KG		
Barium	46.2	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	7960	MG/KG		J
Chromium	14.2	MG/KG		J
Cobalt	17.1	MG/KG	U	
Copper	19.8	MG/KG		J
Iron	25900	MG/KG		
Lead	11.6	MG/KG		
Magnesium	3960	MG/KG		
Manganese	781	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	34.9	MG/KG		
Potassium	1670	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	569	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	16.0	MG/KG		
Zinc	63.0	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB01****ODA-SB-001-1035-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9640	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	17.8	MG/KG		
Barium	35.7	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	7420	MG/KG		
Chromium	15.8	MG/KG		
Cobalt	17.7	MG/KG	U	
Copper	19.8	MG/KG		
Iron	27800	MG/KG		
Lead	11.2	MG/KG		
Magnesium	4790	MG/KG		
Manganese	441	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.1	MG/KG		
Potassium	1680	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	590	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	16.7	MG/KG		
Zinc	66.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB01****ODA-SB-001-1036-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13600	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	20.4	MG/KG		
Barium	59.0	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	17000	MG/KG		
Chromium	20.1	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	22.0	MG/KG		
Iron	29000	MG/KG		
Lead	10.2	MG/KG		
Magnesium	6030	MG/KG		
Manganese	430	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	27.8	MG/KG		
Potassium	2870	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	598	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	24.9	MG/KG		
Zinc	64.5	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB01****ODA-SB-001-1233-SO****12-14 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6550	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	13.3	MG/KG		
Barium	36.5	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	UJ
Calcium	21300	MG/KG		
Chromium	11.6	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	16.9	MG/KG		
Iron	17700	MG/KG		
Lead	9.4	MG/KG		
Magnesium	2810	MG/KG		
Manganese	326	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	16.8	MG/KG		
Potassium	1460	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	594	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	12.8	MG/KG		
Zinc	51.8	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB02****ODA-SB-002-1037-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10800	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	15.2	MG/KG		
Barium	108	MG/KG		
Beryllium	0.64	MG/KG		
Cadmium	0.60	MG/KG	U	
Calcium	2050	MG/KG		
Chromium	17.8	MG/KG		
Cobalt	18.0	MG/KG	U	
Copper	20.8	MG/KG		
Iron	25200	MG/KG		
Lead	13.6	MG/KG		
Magnesium	3240	MG/KG		
Manganese	343	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	37.6	MG/KG		
Potassium	1710	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	600	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	20.0	MG/KG		
Zinc	74.9	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB02****ODA-SB-002-1038-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11500	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.8	MG/KG		
Barium	54.4	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	16400	MG/KG		
Chromium	18.4	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	17.3	MG/KG		
Iron	25300	MG/KG		
Lead	11.3	MG/KG		
Magnesium	4240	MG/KG		
Manganese	330	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	26.9	MG/KG		
Potassium	2290	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	573	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	20.3	MG/KG		
Zinc	62.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB02****ODA-SB-002-1039-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9570	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	19.5	MG/KG		
Barium	44.9	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	5250	MG/KG		
Chromium	16.5	MG/KG		
Cobalt	18.1	MG/KG	U	
Copper	19.4	MG/KG		
Iron	26700	MG/KG		
Lead	11.7	MG/KG		
Magnesium	3550	MG/KG		
Manganese	449	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	27.8	MG/KG		
Potassium	1500	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	602	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	17.7	MG/KG		
Zinc	68.2	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB02****ODA-SB-002-1040-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	14800	MG/KG		
Antimony	0.62	MG/KG	U	UJ
Arsenic	19.2	MG/KG		
Barium	61.2	MG/KG		
Beryllium	0.69	MG/KG		
Cadmium	0.62	MG/KG	U	
Calcium	2520	MG/KG		
Chromium	24.1	MG/KG		
Cobalt	18.7	MG/KG	U	
Copper	21.0	MG/KG		
Iron	34600	MG/KG		
Lead	13.5	MG/KG		
Magnesium	4840	MG/KG		
Manganese	430	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	34.6	MG/KG		
Potassium	2970	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	622	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	26.3	MG/KG		
Zinc	77.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

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Location: Open Detonation Area**Station: SB03****ODA-SB-003-1041-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	15200	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	12.8	MG/KG		
Barium	101	MG/KG		
Beryllium	0.64	MG/KG		
Cadmium	0.59	MG/KG	U	
Calcium	16300	MG/KG		
Chromium	24.0	MG/KG		
Cobalt	17.7	MG/KG	U	
Copper	21.9	MG/KG		
Iron	28800	MG/KG		
Lead	15.8	MG/KG		
Magnesium	5760	MG/KG		
Manganese	413	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	36.2	MG/KG		
Potassium	2540	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	590	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	28.1	MG/KG		
Zinc	74.7	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB03****ODA-SB-003-1042-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11500	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	12.3	MG/KG		
Barium	70.9	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	27800	MG/KG		
Chromium	19.2	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	20.6	MG/KG		
Iron	25400	MG/KG		
Lead	11.1	MG/KG		
Magnesium	7710	MG/KG		J
Manganese	366	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	29.5	MG/KG		
Potassium	2020	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	575	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	21.8	MG/KG		
Zinc	66.5	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB03****ODA-SB-003-1043-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	14000	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	15.8	MG/KG		
Barium	80.3	MG/KG		
Beryllium	0.69	MG/KG		
Cadmium	0.59	MG/KG	U	
Calcium	29000	MG/KG		
Chromium	25.6	MG/KG		
Cobalt	17.6	MG/KG	U	
Copper	22.0	MG/KG		
Iron	37200	MG/KG		
Lead	14.2	MG/KG		
Magnesium	7000	MG/KG		J
Manganese	546	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	34.1	MG/KG		
Potassium	3280	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	588	MG/KG	U	
Thallium	0.61	MG/KG		
Vanadium	30.5	MG/KG		
Zinc	72.1	MG/KG	L	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB03****ODA-SB-003-1044-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9500	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.8	MG/KG		
Barium	64.7	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	10600	MG/KG		
Chromium	15.7	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	18.6	MG/KG		
Iron	25300	MG/KG		
Lead	11.1	MG/KG		
Magnesium	4580	MG/KG		J
Manganese	1020	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	34.9	MG/KG		
Potassium	1900	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	573	MG/KG	U	
Thallium	0.83	MG/KG		
Vanadium	17.2	MG/KG		
Zinc	66.4	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB04****ODA-SB-004-1045-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

<u>Metals</u>	<u>Result</u>	<u>Units</u>	<u>Qualifiers</u>	
			<u>Lab</u>	<u>Data</u>
Aluminum	12500	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	10.1	MG/KG		
Barium	133	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	103000	MG/KG		
Chromium	16.1	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	30.7	MG/KG		
Iron	20100	MG/KG		
Lead	11.2	MG/KG		
Magnesium	3630	MG/KG		
Manganese	311	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	21.6	MG/KG		
Potassium	1700	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	580	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	20.3	MG/KG		
Zinc	58.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB04****ODA-SB-004-1046-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11500	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	18.6	MG/KG		
Barium	59.8	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	12100	MG/KG		
Chromium	17.1	MG/KG		
Cobalt	17.3	MG/KG	U	
Copper	20.4	MG/KG		
Iron	26800	MG/KG		
Lead	11.5	MG/KG		
Magnesium	4970	MG/KG		
Manganese	366	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	26.3	MG/KG		
Potassium	2350	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	577	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	19.2	MG/KG		
Zinc	62.9	MG/KG	L	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB04****ODA-SB-004-1047-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11300	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.7	MG/KG		
Barium	51.7	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	7150	MG/KG		
Chromium	17.1	MG/KG		
Cobalt	17.0	MG/KG	U	
Copper	19.8	MG/KG		
Iron	27000	MG/KG		
Lead	12.1	MG/KG		
Magnesium	4990	MG/KG		
Manganese	352	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	26.7	MG/KG		
Potassium	2260	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	567	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	18.7	MG/KG		
Zinc	64.4	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB04****ODA-SB-004-1048-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13100	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	17.4	MG/KG		
Barium	53.4	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	11700	MG/KG		
Chromium	20.2	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	19.9	MG/KG		
Iron	27300	MG/KG		
Lead	12.3	MG/KG		
Magnesium	5240	MG/KG		
Manganese	522	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	29.0	MG/KG		
Potassium	2920	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	579	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	22.4	MG/KG		
Zinc	65.2	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB05****ODA-SB-005-1049-SO****0.0-2.0 FT****Field Sample Type: Split Sample****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11500	MG/KG		
Antimony	0.59	MG/KG	U	
Arsenic	21.6	MG/KG		
Barium	70.0	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	25400	MG/KG		
Chromium	17.9	MG/KG		
Cobalt	17.7	MG/KG	U	
Copper	19.2	MG/KG		
Iron	30200	MG/KG		
Lead	11.1	MG/KG		
Magnesium	4140	MG/KG		
Manganese	350	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	34.1	MG/KG		
Potassium	1340	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	591	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	17.7	MG/KG		
Zinc	64.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB05****ODA-SB-005-1050-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11900	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	18.1	MG/KG		
Barium	60.2	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	28100	MG/KG		
Chromium	17.9	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	21.3	MG/KG		
Iron	27100	MG/KG		
Lead	11.8	MG/KG		
Magnesium	4500	MG/KG		
Manganese	334	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.0	MG/KG		
Potassium	1950	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	582	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	19.3	MG/KG		
Zinc	65.0	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB05****ODA-SB-005-1051-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.0	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8400	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	20.9	MG/KG		
Barium	34.8	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	18300	MG/KG		
Chromium	13.7	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	19.5	MG/KG		
Iron	26100	MG/KG		
Lead	11.3	MG/KG		
Magnesium	4450	MG/KG		
Manganese	397	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	26.5	MG/KG		
Potassium	1340	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	581	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	14.4	MG/KG		
Zinc	59.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB05****ODA-SB-005-1052-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10800	MG/KG		
Antimony	0.62	MG/KG	U	UJ
Arsenic	20.5	MG/KG		
Barium	37.3	MG/KG		
Beryllium	0.62	MG/KG	U	
Cadmium	0.62	MG/KG	U	
Calcium	7140	MG/KG		
Chromium	17.6	MG/KG		
Cobalt	18.6	MG/KG	U	
Copper	21.8	MG/KG		
Iron	31000	MG/KG		
Lead	12.6	MG/KG		
Magnesium	6290	MG/KG		
Manganese	442	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	31.8	MG/KG		
Potassium	1530	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	619	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	17.7	MG/KG		
Zinc	67.2	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB05****ODA-SB-005D-1222-SO****4.0-6.0 FT****Field Sample Type: Field Duplicate****Collected: 11/20/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB06****ODA-SB-006-1053-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9810	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	14.8	MG/KG		
Barium	72.5	MG/KG		J
Beryllium	0.58	MG/KG	U	
Cadmium	4.5	MG/KG		
Calcium	6400	MG/KG		J
Chromium	14.9	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	79.0	MG/KG		J
Iron	24800	MG/KG		
Lead	30.1	MG/KG		
Magnesium	3690	MG/KG		
Manganese	390	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	21.7	MG/KG		
Potassium	1950	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	581	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	17.3	MG/KG		
Zinc	134	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB06****ODA-SB-006-1054-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.4	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8450	MG/KG		
Antimony	0.53	MG/KG	U	UJ
Arsenic	15.8	MG/KG		
Barium	41.9	MG/KG		
Beryllium	0.53	MG/KG	U	
Cadmium	2.1	MG/KG		
Calcium	5720	MG/KG		J
Chromium	13.6	MG/KG		J
Cobalt	15.8	MG/KG	U	
Copper	39.5	MG/KG		J
Iron	20800	MG/KG		
Lead	37.1	MG/KG		
Magnesium	3560	MG/KG		
Manganese	349	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	31.9	MG/KG		
Potassium	1720	MG/KG		
Selenium	0.53	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	527	MG/KG	U	
Thallium	0.53	MG/KG	U	
Vanadium	14.7	MG/KG		
Zinc	81.3	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB06****ODA-SB-006-1055-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4700	MG/KG		
Antimony	0.60	MG/KG		
Arsenic	99.4	MG/KG		
Barium	39.3	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	7080	MG/KG		J
Chromium	9.2	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	16.0	MG/KG		
Iron	28400	MG/KG		
Lead	20.2	MG/KG		
Magnesium	2770	MG/KG		
Manganese	667	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	18.1	MG/KG		
Potassium	998	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	573	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	9.6	MG/KG		
Zinc	60.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB06****ODA-SB-006-1056-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5450	MG/KG		
Antimony	0.56	MG/KG	U	
Arsenic	22.0	MG/KG		
Barium	22.6	MG/KG	U	
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	4950	MG/KG		UJ
Chromium	10.2	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	13.8	MG/KG		
Iron	21400	MG/KG		
Lead	8.6	MG/KG		
Magnesium	2830	MG/KG		
Manganese	315	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	18.5	MG/KG		
Potassium	971	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	564	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	10.8	MG/KG		
Zinc	61.9	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB06****ODA-SB-006D-1223-SO****2.0-4.0 FT****Field Sample Type: Field Duplicate****Collected: 11/21/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	4.4	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.79	MG/KG		
Tetryl	1.2	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB07****ODA-SB-007-1057-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7310	MG/KG		
Antimony	0.72	MG/KG		J
Arsenic	16.7	MG/KG		
Barium	194	MG/KG		J
Beryllium	0.56	MG/KG	U	
Cadmium	2.3	MG/KG		
Calcium	4050	MG/KG		J
Chromium	13.2	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	108	MG/KG		J
Iron	25000	MG/KG		
Lead	192	MG/KG		
Magnesium	3040	MG/KG		
Manganese	334	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	20.9	MG/KG		
Potassium	1170	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	564	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	14.1	MG/KG		
Zinc	187	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB07****ODA-SB-007-1058-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8170	MG/KG		
Antimony	3.2	MG/KG		J
Arsenic	16.0	MG/KG		
Barium	296	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	11.2	MG/KG		
Calcium	4150	MG/KG		J
Chromium	14.7	MG/KG		J
Cobalt	17.5	MG/KG	U	
Copper	454	MG/KG		J
Iron	22300	MG/KG		
Lead	281	MG/KG		
Magnesium	3100	MG/KG		
Manganese	350	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	50.6	MG/KG		
Potassium	1450	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	583	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	15.7	MG/KG		
Zinc	373	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB07****ODA-SB-007-1059-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5780	MG/KG		
Antimony	1.6	MG/KG		J
Arsenic	10.8	MG/KG		
Barium	73.4	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	2.6	MG/KG		
Calcium	2040	MG/KG		
Chromium	10.2	MG/KG		
Cobalt	17.0	MG/KG	U	
Copper	53.4	MG/KG		
Iron	18200	MG/KG		
Lead	105	MG/KG		
Magnesium	2070	MG/KG		
Manganese	290	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	21.2	MG/KG		
Potassium	1110	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	567	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	12.6	MG/KG		
Zinc	87.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB07****ODA-SB-007-1060-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4910	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	9.3	MG/KG		
Barium	21.9	MG/KG	U	
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	14100	MG/KG		
Chromium	9.1	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	15.3	MG/KG		
Iron	24400	MG/KG		
Lead	9.9	MG/KG		
Magnesium	2250	MG/KG		
Manganese	467	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	16.1	MG/KG		
Potassium	966	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	548	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	11.5	MG/KG		
Zinc	54.7	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB08****ODA-SB-008-1061-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7700	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.1	MG/KG		
Barium	30.8	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	6990	MG/KG		
Chromium	14.1	MG/KG		
Cobalt	17.0	MG/KG	U	
Copper	16.2	MG/KG		
Iron	22900	MG/KG		
Lead	9.8	MG/KG		
Magnesium	3880	MG/KG		J
Manganese	274	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	21.9	MG/KG		
Potassium	1330	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	567	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	13.7	MG/KG		
Zinc	58.5	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB08****ODA-SB-008-1062-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7050	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	15.9	MG/KG		
Barium	30.7	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	9540	MG/KG		
Chromium	13.1	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	20.3	MG/KG		
Iron	23400	MG/KG		
Lead	12.2	MG/KG		
Magnesium	4290	MG/KG		J
Manganese	229	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	22.1	MG/KG		
Potassium	1250	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	595	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	13.7	MG/KG		
Zinc	67.2	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB08****ODA-SB-008-1063-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9800	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	23.3	MG/KG		
Barium	35.4	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	14000	MG/KG		
Chromium	16.2	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	25.6	MG/KG		
Iron	27300	MG/KG		
Lead	12.6	MG/KG		
Magnesium	7250	MG/KG		J
Manganese	333	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	24.7	MG/KG		
Potassium	1990	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	596	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	18.5	MG/KG		
Zinc	65.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB08****ODA-SB-008-1064-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11100	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	22.8	MG/KG		
Barium	41.0	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.61	MG/KG	U	
Calcium	5170	MG/KG		
Chromium	19.1	MG/KG		
Cobalt	18.4	MG/KG	U	
Copper	19.0	MG/KG		
Iron	29700	MG/KG		
Lead	11.9	MG/KG		
Magnesium	5230	MG/KG		J
Manganese	325	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.8	MG/KG		
Potassium	2340	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	614	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	20.5	MG/KG		
Zinc	67.3	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB09****ODA-SB-009-1065-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10800	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	18.0	MG/KG		
Barium	44.2	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	3570	MG/KG		
Chromium	16.9	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	20.6	MG/KG		
Iron	27700	MG/KG		
Lead	12.6	MG/KG		
Magnesium	4270	MG/KG		
Manganese	356	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	26.9	MG/KG		
Potassium	1840	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	593	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	17.8	MG/KG		
Zinc	66.2	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB09****ODA-SB-009-1066-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10100	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	17.1	MG/KG		
Barium	38.7	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	5650	MG/KG		
Chromium	15.3	MG/KG		
Cobalt	16.6	MG/KG	U	
Copper	19.3	MG/KG		
Iron	24900	MG/KG		
Lead	10.9	MG/KG		
Magnesium	4230	MG/KG		
Manganese	385	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	25.3	MG/KG		
Potassium	2110	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	553	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	17.1	MG/KG		
Zinc	60.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB09****ODA-SB-009-1067-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8030	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	15.8	MG/KG		
Barium	32.9	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	6390	MG/KG		
Chromium	13.1	MG/KG		
Cobalt	16.8	MG/KG	U	
Copper	18.2	MG/KG		
Iron	24300	MG/KG		
Lead	11.1	MG/KG		
Magnesium	4200	MG/KG		
Manganese	266	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	20.9	MG/KG		
Potassium	1510	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	559	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	14.0	MG/KG		
Zinc	58.0	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB09****ODA-SB-009-1068-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9610	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	22.6	MG/KG		
Barium	43.9	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	6630	MG/KG		
Chromium	15.6	MG/KG		
Cobalt	17.6	MG/KG	U	
Copper	19.3	MG/KG		
Iron	26500	MG/KG		
Lead	13.3	MG/KG		
Magnesium	4880	MG/KG		
Manganese	263	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	21.4	MG/KG		
Potassium	2060	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	585	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	17.1	MG/KG		
Zinc	59.4	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB10****ODA-SB-010-1069-SO****0.0-2.0 FT****Field Sample Type: Split Sample****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	12400	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	18.9	MG/KG		
Barium	65.1	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	4540	MG/KG		J
Chromium	19.5	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	51.2	MG/KG		J
Iron	28700	MG/KG		
Lead	16.0	MG/KG		
Magnesium	4500	MG/KG		
Manganese	379	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	29.6	MG/KG		
Potassium	2130	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	584	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	21.0	MG/KG		
Zinc	81.9	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB10****ODA-SB-010-1070-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9640	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.9	MG/KG		
Barium	38.7	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	6170	MG/KG		J
Chromium	15.8	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	20.0	MG/KG		J
Iron	25200	MG/KG		
Lead	11.4	MG/KG		
Magnesium	4320	MG/KG		
Manganese	255	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	23.8	MG/KG		
Potassium	1720	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	571	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	16.1	MG/KG		
Zinc	62.3	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB10****ODA-SB-010-1071-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11000	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	18.2	MG/KG		
Barium	37.5	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	8380	MG/KG		J
Chromium	17.1	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	20.5	MG/KG		J
Iron	27800	MG/KG		
Lead	11.6	MG/KG		
Magnesium	4830	MG/KG		
Manganese	298	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	25.7	MG/KG		
Potassium	1940	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	592	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	18.6	MG/KG		
Zinc	66.5	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB10****ODA-SB-010-1072-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8650	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.2	MG/KG		
Barium	33.5	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	6860	MG/KG		J
Chromium	13.8	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	18.4	MG/KG		J
Iron	23600	MG/KG		
Lead	10.6	MG/KG		
Magnesium	4040	MG/KG		
Manganese	333	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	22.3	MG/KG		
Potassium	1600	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	569	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	15.3	MG/KG		
Zinc	62.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB10****ODA-SB-010-1239-SO****12-14 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6490	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	19.4	MG/KG		
Barium	28.6	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	45700	MG/KG		J
Chromium	10.2	MG/KG		
Cobalt	16.7	MG/KG	U	
Copper	15.6	MG/KG		J
Iron	21900	MG/KG		
Lead	8.9	MG/KG		
Magnesium	3530	MG/KG		
Manganese	467	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	21.6	MG/KG		
Potassium	1340	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	557	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	11.8	MG/KG		
Zinc	49.8	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB10****ODA-SB-010-1241-SO****16-18 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7340	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	16.8	MG/KG		
Barium	28.4	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	8130	MG/KG		J
Chromium	12.4	MG/KG		
Cobalt	16.8	MG/KG	U	
Copper	17.2	MG/KG		J
Iron	22400	MG/KG		
Lead	8.6	MG/KG		
Magnesium	5030	MG/KG		
Manganese	333	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	21.7	MG/KG		
Potassium	1440	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	560	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	12.5	MG/KG		
Zinc	50.3	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB10****ODA-SB-010-1242-SO****19-20 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4690	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	13.3	MG/KG		
Barium	21.8	MG/KG	U	
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	4680	MG/KG		J
Chromium	9.9	MG/KG		
Cobalt	16.4	MG/KG	U	
Copper	13.5	MG/KG		J
Iron	17200	MG/KG		
Lead	10.9	MG/KG		
Magnesium	2980	MG/KG		
Manganese	270	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	18.0	MG/KG		
Potassium	948	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	546	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	9.1	MG/KG		
Zinc	62.8	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB11****ODA-SB-011-1073-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11400	MG/KG		
Antimony	17.8	MG/KG		J
Arsenic	30.7	MG/KG		
Barium	173	MG/KG		J
Beryllium	0.58	MG/KG		
Cadmium	1.9	MG/KG		
Calcium	4120	MG/KG		J
Chromium	18.6	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	172	MG/KG		J
Iron	37300	MG/KG		
Lead	4950	MG/KG		
Magnesium	3920	MG/KG		
Manganese	454	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	31.7	MG/KG		
Potassium	2190	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	574	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	24.3	MG/KG		
Zinc	806	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB11****ODA-SB-011-1074-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

<u>Metals</u>	<u>Result</u>	<u>Units</u>	<u>Qualifiers</u>	
			<u>Lab</u>	<u>Data</u>
Aluminum	8350	MG/KG		
Antimony	1.1	MG/KG		J
Arsenic	15.2	MG/KG		
Barium	81.1	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	1.2	MG/KG		
Calcium	3480	MG/KG		J
Chromium	13.8	MG/KG		J
Cobalt	17.0	MG/KG	U	
Copper	50.4	MG/KG		J
Iron	23100	MG/KG		
Lead	168	MG/KG		
Magnesium	2500	MG/KG		
Manganese	336	MG/KG		
Mercury	0.15	MG/KG		
Nickel	19.1	MG/KG		
Potassium	1370	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	567	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	15.7	MG/KG		
Zinc	114	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB11****ODA-SB-011-1075-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8590	MG/KG		
Antimony	2.8	MG/KG		J
Arsenic	14.6	MG/KG		
Barium	44.9	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	1800	MG/KG		
Chromium	14.9	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	98.7	MG/KG		
Iron	22800	MG/KG		
Lead	478	MG/KG		
Magnesium	2310	MG/KG		
Manganese	375	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	23.0	MG/KG		
Potassium	1520	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	564	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	16.7	MG/KG		
Zinc	295	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB12****ODA-SB-012-1077-SO****0.0-2.0 FT****Field Sample Type: Split Sample****Collected: 11/18/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9460	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	15.7	MG/KG		
Barium	83.2	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	1.4	MG/KG		
Calcium	10500	MG/KG		
Chromium	16.2	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	3200	MG/KG		
Iron	24300	MG/KG		
Lead	168	MG/KG		
Magnesium	3780	MG/KG		J
Manganese	403	MG/KG		
Mercury	0.14	MG/KG		
Nickel	23.8	MG/KG		
Potassium	1280	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	594	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	18.1	MG/KG		
Zinc	724	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB12****ODA-SB-012-1078-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8300	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	16.4	MG/KG		
Barium	42.8	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	12000	MG/KG		
Chromium	14.4	MG/KG		
Cobalt	17.3	MG/KG	U	
Copper	50.9	MG/KG		
Iron	23400	MG/KG		
Lead	14.0	MG/KG		
Magnesium	4070	MG/KG		J
Manganese	507	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	23.2	MG/KG		
Potassium	1820	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	577	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	16.2	MG/KG		
Zinc	202	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB12****ODA-SB-012-1079-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8800	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	17.2	MG/KG		
Barium	30.6	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	9030	MG/KG		
Chromium	14.9	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	23.4	MG/KG		
Iron	22100	MG/KG		
Lead	11.6	MG/KG		
Magnesium	5130	MG/KG		J
Manganese	288	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	22.9	MG/KG		
Potassium	2010	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	550	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	16.3	MG/KG		
Zinc	57.1	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB12****ODA-SB-012-1080-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8500	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	15.1	MG/KG		
Barium	31.4	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	8550	MG/KG		
Chromium	14.7	MG/KG		
Cobalt	16.8	MG/KG	U	
Copper	17.1	MG/KG		
Iron	23300	MG/KG		
Lead	10.9	MG/KG		
Magnesium	5120	MG/KG		J
Manganese	331	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	22.9	MG/KG		
Potassium	1940	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	561	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	15.7	MG/KG		
Zinc	63.6	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB13****ODA-SB-013-1081-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8300	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	16.3	MG/KG		
Barium	37.5	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	7230	MG/KG		
Chromium	12.7	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	91.5	MG/KG		
Iron	21500	MG/KG		
Lead	11.7	MG/KG		
Magnesium	4140	MG/KG		
Manganese	557	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	21.9	MG/KG		
Potassium	1360	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	564	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	13.1	MG/KG		
Zinc	69.2	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB13****ODA-SB-013-1082-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7130	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	13.5	MG/KG		
Barium	45.6	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	16500	MG/KG		
Chromium	11.7	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	33.5	MG/KG		
Iron	20800	MG/KG		
Lead	11.4	MG/KG		
Magnesium	4980	MG/KG		
Manganese	586	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	20.0	MG/KG		
Potassium	1270	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	562	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	11.8	MG/KG		
Zinc	61.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB13****ODA-SB-013-1083-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7740	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	13.5	MG/KG		
Barium	30.7	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	7980	MG/KG		
Chromium	12.8	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	17.4	MG/KG		
Iron	22300	MG/KG		
Lead	8.7	MG/KG		
Magnesium	5080	MG/KG		
Manganese	343	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	21.1	MG/KG		
Potassium	1600	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	549	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	14.0	MG/KG		
Zinc	53.8	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB13****ODA-SB-013-1084-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7990	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	15.4	MG/KG		
Barium	33.2	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	8800	MG/KG		
Chromium	15.2	MG/KG		
Cobalt	16.6	MG/KG	U	
Copper	23.7	MG/KG		
Iron	23600	MG/KG		
Lead	15.0	MG/KG		
Magnesium	5230	MG/KG		
Manganese	365	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	22.2	MG/KG		
Potassium	1640	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	552	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	13.9	MG/KG		
Zinc	58.6	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB14****ODA-SB-014-1085-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8900	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	13.8	MG/KG		
Barium	65.7	MG/KG		
Beryllium	0.90	MG/KG		
Cadmium	0.79	MG/KG		
Calcium	29200	MG/KG		J
Chromium	8.7	MG/KG		
Cobalt	16.6	MG/KG	U	
Copper	49.9	MG/KG		J
Iron	17300	MG/KG		
Lead	16.0	MG/KG		
Magnesium	7590	MG/KG		
Manganese	512	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	15.0	MG/KG		
Potassium	826	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	552	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	9.2	MG/KG		
Zinc	177	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB14****ODA-SB-014-1086-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5630	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	16.3	MG/KG		
Barium	28.1	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	8450	MG/KG		J
Chromium	10.0	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	22.1	MG/KG		J
Iron	20500	MG/KG		
Lead	11.7	MG/KG		
Magnesium	4040	MG/KG		
Manganese	335	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	18.1	MG/KG		
Potassium	978	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	598	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	10.7	MG/KG		
Zinc	57.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB14****ODA-SB-014-1087-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8000	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	16.3	MG/KG		
Barium	36.3	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	7860	MG/KG		
Chromium	13.7	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	21.4	MG/KG		
Iron	24100	MG/KG		
Lead	10.9	MG/KG		
Magnesium	4370	MG/KG		
Manganese	564	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	25.4	MG/KG		
Potassium	1360	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	575	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	14.0	MG/KG		
Zinc	62.0	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB14****ODA-SB-014-1088-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7030	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	17.8	MG/KG		
Barium	31.9	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	7770	MG/KG		
Chromium	11.8	MG/KG		
Cobalt	16.8	MG/KG	U	
Copper	17.4	MG/KG		
Iron	23800	MG/KG		
Lead	10.0	MG/KG		
Magnesium	3560	MG/KG		
Manganese	351	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	19.8	MG/KG		
Potassium	1330	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	560	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	13.0	MG/KG		
Zinc	64.7	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB15****ODA-SB-015-1089-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5590	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	10.2	MG/KG		
Barium	35.1	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	25700	MG/KG		
Chromium	9.0	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	12.6	MG/KG		J
Iron	13000	MG/KG		
Lead	17.4	MG/KG		
Magnesium	1500	MG/KG		
Manganese	303	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	10.8	MG/KG		
Potassium	826	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	583	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	10.6	MG/KG		
Zinc	51.3	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB15****ODA-SB-015-1090-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11800	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	14.2	MG/KG		
Barium	51.0	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.61	MG/KG	U	
Calcium	1320	MG/KG		
Chromium	16.7	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	19.1	MG/KG		J
Iron	22300	MG/KG		
Lead	22.0	MG/KG		
Magnesium	2400	MG/KG		
Manganese	533	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	23.1	MG/KG		
Potassium	1870	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	607	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	21.4	MG/KG		
Zinc	79.7	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB15****ODA-SB-015-1091-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8400	MG/KG		
Antimony	0.62	MG/KG	U	
Arsenic	13.9	MG/KG		
Barium	42.1	MG/KG		
Beryllium	0.62	MG/KG	U	
Cadmium	0.62	MG/KG	U	
Calcium	1290	MG/KG		
Chromium	13.1	MG/KG		
Cobalt	18.5	MG/KG	U	
Copper	17.6	MG/KG		J
Iron	21100	MG/KG		
Lead	25.9	MG/KG		
Magnesium	2160	MG/KG		
Manganese	387	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	21.0	MG/KG		
Potassium	976	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	UJ
Sodium	617	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	15.5	MG/KG		
Zinc	63.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB15****ODA-SB-015-1092-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10600	MG/KG		
Antimony	0.62	MG/KG	U	UJ
Arsenic	12.1	MG/KG		
Barium	57.5	MG/KG		
Beryllium	0.62	MG/KG	U	
Cadmium	0.62	MG/KG	U	
Calcium	1570	MG/KG		
Chromium	14.9	MG/KG		
Cobalt	18.6	MG/KG	U	
Copper	16.8	MG/KG		J
Iron	19100	MG/KG		
Lead	34.3	MG/KG		
Magnesium	2290	MG/KG		
Manganese	274	MG/KG		
Mercury	0.14	MG/KG		
Nickel	16.5	MG/KG		
Potassium	1410	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	619	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	20.1	MG/KG		
Zinc	91.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area
Station: SB16
ODA-SB-016-1093-SO
0.0-2.0 FT
Field Sample Type: Composite - Subsurface Soil
Collected: 11/21/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Amino-4,6-dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Amino-2,6-dinitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.0	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8780	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	15.9	MG/KG		
Barium	44.4	MG/KG		J
Beryllium	0.56	MG/KG		
Cadmium	0.56	MG/KG	U	
Calcium	28600	MG/KG		J
Chromium	17.6	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	18.7	MG/KG		J
Iron	24100	MG/KG		
Lead	11.0	MG/KG		
Magnesium	3100	MG/KG		
Manganese	379	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	23.4	MG/KG		
Potassium	1350	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	565	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	15.0	MG/KG		
Zinc	59.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SB16

ODA-SB-016-1094-SO

2.0-4.0 FT

Field Sample Type: Composite - Subsurface Soil

Collected: 11/21/97

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11000	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	19.3	MG/KG		
Barium	48.2	MG/KG		
Beryllium	0.66	MG/KG		
Cadmium	0.61	MG/KG	U	
Calcium	2080	MG/KG		J
Chromium	18.1	MG/KG		J
Cobalt	18.4	MG/KG	U	
Copper	20.9	MG/KG		J
Iron	30000	MG/KG		
Lead	12.1	MG/KG		
Magnesium	3700	MG/KG		
Manganese	308	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	29.5	MG/KG		
Potassium	1810	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	613	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	18.2	MG/KG		
Zinc	67.3	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB16****ODA-SB-016-1095-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7210	MG/KG		
Antimony	0.58	MG/KG	U	
Arsenic	20.0	MG/KG		
Barium	33.2	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	1680	MG/KG		UJ
Chromium	12.6	MG/KG		
Cobalt	17.3	MG/KG	U	
Copper	18.1	MG/KG		
Iron	23900	MG/KG		
Lead	10.5	MG/KG		
Magnesium	2620	MG/KG		
Manganese	336	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	20.2	MG/KG		
Potassium	1190	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	578	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	13.5	MG/KG		
Zinc	60.2	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB16****ODA-SB-016-1096-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9000	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	20.2	MG/KG		
Barium	38.3	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	2600	MG/KG		
Chromium	15.2	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	19.7	MG/KG		
Iron	28400	MG/KG		
Lead	10.5	MG/KG		
Magnesium	3560	MG/KG		
Manganese	438	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	25.6	MG/KG		
Potassium	1460	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	580	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	15.9	MG/KG		
Zinc	65.5	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB17****ODA-SB-017-1097-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11700	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.5	MG/KG		
Barium	66.7	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	1.6	MG/KG		
Calcium	2590	MG/KG		
Chromium	18.4	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	405	MG/KG		
Iron	25900	MG/KG		
Lead	40.5	MG/KG		
Magnesium	3380	MG/KG		J
Manganese	373	MG/KG		
Mercury	0.30	MG/KG		
Nickel	24.4	MG/KG		
Potassium	2170	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	574	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	22.4	MG/KG		
Zinc	178	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB17****ODA-SB-017-1098-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9000	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.0	MG/KG		
Barium	36.2	MG/KG		
Beryllium	0.77	MG/KG		
Cadmium	0.57	MG/KG	U	
Calcium	3280	MG/KG		
Chromium	15.0	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	28.9	MG/KG		
Iron	41500	MG/KG		
Lead	13.1	MG/KG		
Magnesium	2670	MG/KG		J
Manganese	531	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	19.9	MG/KG		
Potassium	1510	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	571	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	21.2	MG/KG		
Zinc	76.8	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB17****ODA-SB-017-1099-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7900	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	18.0	MG/KG		
Barium	36.2	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	4040	MG/KG		
Chromium	14.0	MG/KG		
Cobalt	16.7	MG/KG	U	
Copper	53.2	MG/KG		
Iron	23500	MG/KG		
Lead	13.9	MG/KG		
Magnesium	2910	MG/KG		J
Manganese	371	MG/KG		
Mercury	0.12	MG/KG		
Nickel	22.6	MG/KG		
Potassium	1220	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	556	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	15.6	MG/KG		
Zinc	89.9	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB17****ODA-SB-017-1100-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8080	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.9	MG/KG		
Barium	36.0	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	5990	MG/KG		
Chromium	15.5	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	24.4	MG/KG		
Iron	23100	MG/KG		
Lead	12.5	MG/KG		
Magnesium	3480	MG/KG		J
Manganese	385	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	39.2	MG/KG		
Potassium	1660	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	570	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	16.5	MG/KG		
Zinc	72.2	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB18****ODA-SB-018-1101-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7960	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	19.5	MG/KG		
Barium	32.2	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	8580	MG/KG		
Chromium	13.0	MG/KG		
Cobalt	17.0	MG/KG	U	
Copper	18.1	MG/KG		
Iron	25200	MG/KG		
Lead	10.2	MG/KG		
Magnesium	4070	MG/KG		
Manganese	508	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	21.5	MG/KG		
Potassium	1450	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	567	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	13.9	MG/KG		
Zinc	61.1	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB18****ODA-SB-018-1102-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8170	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	19.0	MG/KG		
Barium	45.7	MG/KG		
Beryllium	1.0	MG/KG		
Cadmium	0.57	MG/KG	U	
Calcium	15800	MG/KG		
Chromium	12.3	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	15.4	MG/KG		
Iron	20300	MG/KG		
Lead	9.8	MG/KG		
Magnesium	3100	MG/KG		
Manganese	455	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	18.2	MG/KG		
Potassium	2070	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	568	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	14.9	MG/KG		
Zinc	51.2	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB18****ODA-SB-018-1103-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4820	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	13.7	MG/KG		
Barium	22.2	MG/KG	U	
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	28700	MG/KG		
Chromium	7.5	MG/KG		
Cobalt	16.6	MG/KG	U	
Copper	16.6	MG/KG		
Iron	15700	MG/KG		
Lead	12.9	MG/KG		
Magnesium	16700	MG/KG		
Manganese	343	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	15.5	MG/KG		
Potassium	915	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	554	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	9.1	MG/KG		
Zinc	51.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB18****ODA-SB-018-1104-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6560	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	16.2	MG/KG		
Barium	24.5	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	8840	MG/KG		
Chromium	10.9	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	19.4	MG/KG		
Iron	24000	MG/KG		
Lead	10.9	MG/KG		
Magnesium	3440	MG/KG		
Manganese	439	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	22.8	MG/KG		
Potassium	1270	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	570	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	12.1	MG/KG		
Zinc	69.0	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area
Station: SB19
ODA-SB-019-1105-SO
0.0-2.0 FT
Field Sample Type: Split Sample
Collected: 11/20/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.42	MG/KG		
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.3	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8460	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	15.4	MG/KG		
Barium	165	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	2.3	MG/KG		
Calcium	5700	MG/KG		
Chromium	14.0	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	2860	MG/KG		
Iron	23100	MG/KG		
Lead	36.9	MG/KG		
Magnesium	3670	MG/KG		
Manganese	370	MG/KG		
Mercury	0.84	MG/KG		
Nickel	22.3	MG/KG		
Potassium	1310	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	564	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	14.5	MG/KG		
Zinc	580	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB19****ODA-SB-019-1106-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7670	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	14.4	MG/KG		
Barium	47.7	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	1.6	MG/KG		
Calcium	7390	MG/KG		
Chromium	13.5	MG/KG		
Cobalt	16.7	MG/KG	U	
Copper	73.3	MG/KG		
Iron	21700	MG/KG		
Lead	25.9	MG/KG		
Magnesium	4060	MG/KG		
Manganese	405	MG/KG		
Mercury	0.37	MG/KG		
Nickel	21.0	MG/KG		
Potassium	1330	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	555	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	13.4	MG/KG		
Zinc	184	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB19****ODA-SB-019-1107-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8960	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	14.5	MG/KG		
Barium	38.9	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.58	MG/KG		
Calcium	9850	MG/KG		
Chromium	15.4	MG/KG		
Cobalt	16.6	MG/KG	U	
Copper	42.5	MG/KG		
Iron	23100	MG/KG		
Lead	24.2	MG/KG		
Magnesium	4980	MG/KG		
Manganese	336	MG/KG		
Mercury	0.79	MG/KG		
Nickel	22.0	MG/KG		
Potassium	1810	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	552	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	15.6	MG/KG		
Zinc	94.0	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB19****ODA-SB-019-1108-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4430	MG/KG		
Antimony	0.56	MG/KG	U	UI
Arsenic	17.7	MG/KG		
Barium	22.7	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	5700	MG/KG		
Chromium	8.1	MG/KG		
Cobalt	16.7	MG/KG	U	
Copper	17.2	MG/KG		
Iron	16100	MG/KG		
Lead	8.7	MG/KG		
Magnesium	2970	MG/KG		
Manganese	307	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	14.4	MG/KG		
Potassium	852	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	557	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	9.3	MG/KG		
Zinc	57.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UI-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB20****ODA-SB-020-1109-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8530	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	14.0	MG/KG		
Barium	53.2	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	2430	MG/KG		
Chromium	13.6	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	35.4	MG/KG		J
Iron	21400	MG/KG		
Lead	16.3	MG/KG		
Magnesium	2190	MG/KG		
Manganese	1360	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	18.2	MG/KG		
Potassium	1110	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	582	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	15.4	MG/KG		
Zinc	79.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB20****ODA-SB-020-1110-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8410	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	15.5	MG/KG		
Barium	34.1	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	2670	MG/KG		
Chromium	13.6	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	24.7	MG/KG		J
Iron	21700	MG/KG		
Lead	12.7	MG/KG		
Magnesium	2980	MG/KG		
Manganese	406	MG/KG		
Mercury	0.13	MG/KG		
Nickel	23.7	MG/KG		
Potassium	1270	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	595	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	14.9	MG/KG		
Zinc	78.2	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB20****ODA-SB-020-1111-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9520	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	14.1	MG/KG		
Barium	37.7	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	1220	MG/KG		
Chromium	14.0	MG/KG		
Cobalt	16.8	MG/KG	U	
Copper	21.4	MG/KG		
Iron	20000	MG/KG		
Lead	12.1	MG/KG		
Magnesium	2250	MG/KG		
Manganese	309	MG/KG		J
Mercury	0.13	MG/KG		
Nickel	21.6	MG/KG		
Potassium	1560	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	561	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	17.2	MG/KG		
Zinc	66.0	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB21****ODA-SB-021-1113-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7980	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	14.7	MG/KG		
Barium	42.3	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	3110	MG/KG		
Chromium	13.2	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	56.1	MG/KG		J
Iron	22900	MG/KG		
Lead	14.1	MG/KG		
Magnesium	3370	MG/KG		
Manganese	471	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	22.0	MG/KG		
Potassium	1190	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	580	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	13.6	MG/KG		
Zinc	88.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB21****ODA-SB-021-1114-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7120	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.6	MG/KG		
Barium	30.0	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	12600	MG/KG		
Chromium	12.6	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	20.6	MG/KG		J
Iron	24600	MG/KG		
Lead	11.7	MG/KG		
Magnesium	7170	MG/KG		
Manganese	388	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	25.1	MG/KG		
Potassium	1290	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	571	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	13.1	MG/KG		
Zinc	60.0	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB21****ODA-SB-021-1115-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7280	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	13.2	MG/KG		
Barium	30.6	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	10800	MG/KG		
Chromium	14.1	MG/KG		
Cobalt	17.0	MG/KG	U	
Copper	19.8	MG/KG		J
Iron	23400	MG/KG		
Lead	10.1	MG/KG		
Magnesium	5900	MG/KG		
Manganese	365	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	82.5	MG/KG		
Potassium	1430	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	568	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	13.4	MG/KG		
Zinc	77.4	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB21****ODA-SB-021-1116-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10100	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.6	MG/KG		
Barium	39.5	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	7980	MG/KG		
Chromium	16.3	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	20.6	MG/KG		J
Iron	25400	MG/KG		
Lead	11.0	MG/KG		
Magnesium	4530	MG/KG		
Manganese	451	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	26.1	MG/KG		
Potassium	2310	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	571	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	18.4	MG/KG		
Zinc	69.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB22****ODA-SB-022-1117-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6780	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	11.9	MG/KG		
Barium	23.5	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	11600	MG/KG		
Chromium	11.9	MG/KG		
Cobalt	16.4	MG/KG	U	
Copper	15.5	MG/KG		
Iron	18500	MG/KG		
Lead	8.1	MG/KG		
Magnesium	3890	MG/KG		J
Manganese	389	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	18.1	MG/KG		
Potassium	1660	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	546	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	13.8	MG/KG		
Zinc	48.9	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB22****ODA-SB-022-1118-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7320	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	13.3	MG/KG		
Barium	30.9	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	10400	MG/KG		
Chromium	13.7	MG/KG		
Cobalt	16.4	MG/KG	U	
Copper	15.0	MG/KG		
Iron	19400	MG/KG		
Lead	8.4	MG/KG		
Magnesium	5230	MG/KG		J
Manganese	335	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	26.8	MG/KG		
Potassium	1760	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	546	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	14.9	MG/KG		
Zinc	49.1	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB22****ODA-SB-022-1119-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	3760	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	12.6	MG/KG		
Barium	25.6	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	20000	MG/KG		
Chromium	7.8	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	16.9	MG/KG		
Iron	18000	MG/KG		
Lead	9.2	MG/KG		
Magnesium	3610	MG/KG		J
Manganese	449	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	15.9	MG/KG		
Potassium	678	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	551	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	8.3	MG/KG		
Zinc	56.3	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB22****ODA-SB-022-1120-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/18/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4390	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	9.2	MG/KG		
Barium	28.9	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	14600	MG/KG		
Chromium	12.3	MG/KG		
Cobalt	16.7	MG/KG	U	
Copper	14.4	MG/KG		
Iron	15500	MG/KG		
Lead	9.0	MG/KG		
Magnesium	3990	MG/KG		J
Manganese	363	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	84.7	MG/KG		
Potassium	950	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	555	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	10.2	MG/KG		
Zinc	54.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB23****ODA-SB-023-1121-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7690	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	16.7	MG/KG		
Barium	26.7	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	6730	MG/KG		J
Chromium	12.8	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	18.2	MG/KG		J
Iron	21200	MG/KG		
Lead	15.3	MG/KG		
Magnesium	3830	MG/KG		
Manganese	325	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	19.0	MG/KG		
Potassium	1700	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	550	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	14.6	MG/KG		
Zinc	58.5	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB23****ODA-SB-023-1122-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5270	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	35.7	MG/KG		
Barium	25.8	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	10400	MG/KG	L	J
Chromium	9.9	MG/KG		
Cobalt	16.4	MG/KG	U	
Copper	15.2	MG/KG	L	J
Iron	22000	MG/KG		
Lead	13.7	MG/KG		
Magnesium	3330	MG/KG		
Manganese	320	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	23.0	MG/KG		
Potassium	1110	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	548	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	10.8	MG/KG		
Zinc	46.9	MG/KG	L	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB23****ODA-SB-023-1123-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.0	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6040	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	12.7	MG/KG		
Barium	24.6	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	6830	MG/KG		J
Chromium	12.3	MG/KG		
Cobalt	16.8	MG/KG	U	
Copper	15.4	MG/KG		J
Iron	17000	MG/KG		
Lead	9.6	MG/KG		
Magnesium	3090	MG/KG		
Manganese	313	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	16.5	MG/KG		
Potassium	1190	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	559	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	11.1	MG/KG		
Zinc	49.8	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB23****ODA-SB-023-1124-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7100	MG/KG		
Antimony	0.62	MG/KG	U	UJ
Arsenic	12.3	MG/KG		
Barium	25.0	MG/KG	U	
Beryllium	0.62	MG/KG	U	
Cadmium	0.62	MG/KG	U	
Calcium	10500	MG/KG		J
Chromium	11.7	MG/KG		
Cobalt	18.7	MG/KG	U	
Copper	16.3	MG/KG		J
Iron	21300	MG/KG		
Lead	9.8	MG/KG		
Magnesium	4340	MG/KG		
Manganese	324	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	19.0	MG/KG		
Potassium	1500	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	624	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	13.3	MG/KG		
Zinc	56.0	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB24****ODA-SB-024-1125-SO****0.0-2.0 FT****Field Sample Type: Split Sample****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11200	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	16.6	MG/KG		
Barium	125	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	2.4	MG/KG		
Calcium	4390	MG/KG		
Chromium	16.3	MG/KG		
Cobalt	17.3	MG/KG	U	
Copper	238	MG/KG		
Iron	25100	MG/KG		
Lead	35.2	MG/KG		
Magnesium	3740	MG/KG		
Manganese	326	MG/KG		
Mercury	0.17	MG/KG		
Nickel	24.0	MG/KG		
Potassium	1430	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	575	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	17.0	MG/KG		
Zinc	214	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB24****ODA-SB-024-1126-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9260	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.7	MG/KG		
Barium	79.8	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	1.4	MG/KG		
Calcium	3780	MG/KG		
Chromium	15.2	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	124	MG/KG		
Iron	23900	MG/KG		
Lead	34.6	MG/KG		
Magnesium	3440	MG/KG		
Manganese	316	MG/KG		
Mercury	0.17	MG/KG		
Nickel	23.0	MG/KG		
Potassium	1240	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	571	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	15.4	MG/KG		
Zinc	197	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB24****ODA-SB-024-1127-SO****4.0-6.0 FT****Field Sample Type: Split Sample****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4520	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	13.8	MG/KG		
Barium	22.9	MG/KG	U	
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	3280	MG/KG		
Chromium	8.9	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	39.4	MG/KG		
Iron	17600	MG/KG		
Lead	9.1	MG/KG		
Magnesium	2340	MG/KG		
Manganese	320	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	16.6	MG/KG		
Potassium	899	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	573	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	9.7	MG/KG		
Zinc	61.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB24****ODA-SB-024-1128-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6080	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	11.0	MG/KG		
Barium	21.9	MG/KG	U	
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	7230	MG/KG		
Chromium	10.6	MG/KG		
Cobalt	16.4	MG/KG	U	
Copper	14.2	MG/KG		
Iron	18100	MG/KG		
Lead	11.8	MG/KG		
Magnesium	3820	MG/KG		
Manganese	312	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	18.2	MG/KG		
Potassium	1290	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	548	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	12.2	MG/KG		
Zinc	48.1	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB24****ODA-SB-024-1257-SO****12-14 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7950	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	15.0	MG/KG		
Barium	35.8	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	11400	MG/KG		
Chromium	13.4	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	18.2	MG/KG		
Iron	22900	MG/KG		
Lead	9.6	MG/KG		
Magnesium	5780	MG/KG		
Manganese	390	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	22.9	MG/KG		
Potassium	1560	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	549	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	13.6	MG/KG		
Zinc	58.3	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB25****ODA-SB-025-1129-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9900	MG/KG		
Antimony	0.58	MG/KG		J
Arsenic	9.6	MG/KG		
Barium	114	MG/KG		
Beryllium	0.65	MG/KG		
Cadmium	0.87	MG/KG		
Calcium	35000	MG/KG		
Chromium	15.0	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	102	MG/KG		J
Iron	14200	MG/KG		
Lead	50.1	MG/KG		
Magnesium	3630	MG/KG		
Manganese	529	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	12.6	MG/KG		
Potassium	1300	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	573	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	12.3	MG/KG		
Zinc	200	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB25****ODA-SB-025-1130-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10500	MG/KG		
Antimony	0.60	MG/KG		J
Arsenic	15.1	MG/KG		
Barium	52.6	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	UJ
Calcium	5250	MG/KG		
Chromium	16.2	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	26.6	MG/KG		
Iron	23300	MG/KG		
Lead	15.5	MG/KG		
Magnesium	2900	MG/KG		
Manganese	551	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.7	MG/KG		
Potassium	1380	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	594	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	18.5	MG/KG		
Zinc	77.0	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB25****ODA-SB-025-1131-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11100	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	15.6	MG/KG		
Barium	50.1	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.61	MG/KG	U	UJ
Calcium	2200	MG/KG		
Chromium	16.7	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	20.3	MG/KG		
Iron	24200	MG/KG		
Lead	14.1	MG/KG		
Magnesium	2690	MG/KG		
Manganese	363	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.7	MG/KG		
Potassium	1560	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	605	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	21.1	MG/KG		
Zinc	64.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB26****ODA-SB-026-1133-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9850	MG/KG		
Antimony	355	MG/KG		J
Arsenic	110	MG/KG		
Barium	115	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	1.8	MG/KG		J
Calcium	3300	MG/KG		
Chromium	15.9	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	199	MG/KG		
Iron	21100	MG/KG		
Lead	40800	MG/KG		
Magnesium	2830	MG/KG		
Manganese	425	MG/KG		
Mercury	0.15	MG/KG		
Nickel	19.7	MG/KG		
Potassium	1440	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	605	MG/KG	U	
Thallium	0.69	MG/KG		
Vanadium	16.8	MG/KG		
Zinc	281	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB26****ODA-SB-026-1134-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	16900	MG/KG		
Antimony	3.3	MG/KG		J
Arsenic	15.9	MG/KG		
Barium	110	MG/KG		
Beryllium	0.64	MG/KG		
Cadmium	0.63	MG/KG	U	UJ
Calcium	1830	MG/KG		
Chromium	23.6	MG/KG		
Cobalt	18.8	MG/KG	U	
Copper	41.8	MG/KG		
Iron	28000	MG/KG		
Lead	186	MG/KG		
Magnesium	3400	MG/KG		
Manganese	790	MG/KG		
Mercury	0.13	MG/KG	U	
Nickel	24.5	MG/KG		
Potassium	2160	MG/KG		
Selenium	0.63	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	626	MG/KG	U	
Thallium	0.63	MG/KG	U	
Vanadium	30.7	MG/KG		
Zinc	94.2	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB26****ODA-SB-026-1135-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13300	MG/KG		
Antimony	1.7	MG/KG		J
Arsenic	14.6	MG/KG		
Barium	90.1	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.61	MG/KG	U	UJ
Calcium	1740	MG/KG		
Chromium	18.8	MG/KG		
Cobalt	18.3	MG/KG	U	
Copper	39.3	MG/KG		
Iron	26900	MG/KG		
Lead	175	MG/KG		
Magnesium	2780	MG/KG		
Manganese	1000	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	19.8	MG/KG		
Potassium	1350	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	611	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	26.4	MG/KG		
Zinc	72.9	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB26****ODA-SB-026-1136-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/21/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10300	MG/KG		
Antimony	1.8	MG/KG		J
Arsenic	15.1	MG/KG		
Barium	121	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	4.1	MG/KG		J
Calcium	2680	MG/KG		
Chromium	15.8	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	120	MG/KG		
Iron	22800	MG/KG		
Lead	285	MG/KG		
Magnesium	3230	MG/KG		
Manganese	292	MG/KG		
Mercury	0.15	MG/KG		
Nickel	21.3	MG/KG		
Potassium	2010	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	605	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	19.0	MG/KG		
Zinc	128	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB27****ODA-SB-027-1137-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

<u>Metals</u>	<u>Result</u>	<u>Units</u>	<u>Qualifiers</u>	
			<u>Lab</u>	<u>Data</u>
Aluminum	8330	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	15.6	MG/KG		
Barium	69.8	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	1410	MG/KG		J
Chromium	13.2	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	43.5	MG/KG		J
Iron	23800	MG/KG		
Lead	16.7	MG/KG		
Magnesium	2650	MG/KG		
Manganese	372	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	21.7	MG/KG		
Potassium	1190	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	583	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	14.5	MG/KG		
Zinc	88.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB27****ODA-SB-027-1138-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11200	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	13.9	MG/KG		
Barium	38.6	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	2080	MG/KG		J
Chromium	18.4	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	18.9	MG/KG		J
Iron	27500	MG/KG		
Lead	10.0	MG/KG		
Magnesium	4500	MG/KG		
Manganese	391	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	31.1	MG/KG		
Potassium	1720	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	584	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	18.0	MG/KG		
Zinc	68.5	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB27****ODA-SB-027-1139-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8960	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	13.1	MG/KG		
Barium	38.5	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.61	MG/KG	U	
Calcium	2010	MG/KG		J
Chromium	15.7	MG/KG		
Cobalt	18.4	MG/KG	U	
Copper	19.5	MG/KG		J
Iron	23300	MG/KG		
Lead	10.5	MG/KG		
Magnesium	3160	MG/KG		
Manganese	406	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	24.4	MG/KG		
Potassium	1700	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	615	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	16.4	MG/KG		
Zinc	64.2	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB28****ODA-SB-028-1141-SO****0.0-2.0 FT****Field Sample Type: Split Sample****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10500	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.3	MG/KG		
Barium	42.1	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	3620	MG/KG		J
Chromium	15.4	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	23.2	MG/KG		J
Iron	22500	MG/KG		
Lead	12.2	MG/KG		
Magnesium	2840	MG/KG		
Manganese	375	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	20.9	MG/KG		
Potassium	2000	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	575	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	18.5	MG/KG		
Zinc	69.7	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB28****ODA-SB-028-1142-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7200	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	18.3	MG/KG		
Barium	22.9	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.56	MG/KG	U	
Calcium	7510	MG/KG		J
Chromium	12.0	MG/KG		
Cobalt	16.9	MG/KG	U	
Copper	37.6	MG/KG		J
Iron	22600	MG/KG		
Lead	10.8	MG/KG		
Magnesium	4410	MG/KG		
Manganese	388	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	22.0	MG/KG		
Potassium	1310	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	563	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	13.0	MG/KG		
Zinc	64.1	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB28****ODA-SB-028-1143-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7670	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	16.4	MG/KG		
Barium	34.2	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	9190	MG/KG		J
Chromium	13.0	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	26.7	MG/KG		J
Iron	25100	MG/KG		
Lead	11.7	MG/KG		
Magnesium	4690	MG/KG		
Manganese	415	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	21.2	MG/KG		
Potassium	1390	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	573	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	13.7	MG/KG		
Zinc	85.9	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB28****ODA-SB-028-1144-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10200	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	17.5	MG/KG		
Barium	53.0	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	12500	MG/KG		J
Chromium	16.6	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	19.8	MG/KG		J
Iron	26900	MG/KG		
Lead	11.6	MG/KG		
Magnesium	5880	MG/KG		
Manganese	390	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	26.1	MG/KG		
Potassium	2000	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	570	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	17.9	MG/KG		
Zinc	61.0	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB29****ODA-SB-029-1145-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8940	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	14.8	MG/KG		
Barium	112	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	1.3	MG/KG		
Calcium	3640	MG/KG		
Chromium	13.7	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	65.5	MG/KG		
Iron	22600	MG/KG		
Lead	20.1	MG/KG		
Magnesium	3270	MG/KG		
Manganese	380	MG/KG		
Mercury	0.18	MG/KG		
Nickel	20.9	MG/KG		
Potassium	1160	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	573	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	15.5	MG/KG		
Zinc	122	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB29****ODA-SB-029-1146-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/20/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.89	MG/KG		
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9890	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	16.7	MG/KG		
Barium	74.3	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	1.3	MG/KG		
Calcium	2610	MG/KG		
Chromium	15.5	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	70.0	MG/KG		
Iron	26100	MG/KG		
Lead	22.3	MG/KG		
Magnesium	3150	MG/KG		
Manganese	336	MG/KG		
Mercury	0.18	MG/KG		
Nickel	22.6	MG/KG		
Potassium	1220	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	593	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	17.8	MG/KG		
Zinc	121	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB29****ODA-SB-029-1147-SO****4.0-6.0 FT****Field Sample Type: Split Sample****Collected: 11/20/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	4240	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	10.3	MG/KG		
Barium	24.4	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	7.4	MG/KG		
Calcium	3370	MG/KG		
Chromium	9.7	MG/KG		
Cobalt	17.0	MG/KG	U	
Copper	28.4	MG/KG		
Iron	20400	MG/KG		
Lead	17.8	MG/KG		
Magnesium	1980	MG/KG		
Manganese	269	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	20.5	MG/KG		
Potassium	747	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	567	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	8.9	MG/KG		
Zinc	141	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SB29

ODA-SB-029-1148-SO

6.0-8.0 FT

Field Sample Type: Composite - Subsurface Soil

Collected: 11/20/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Amino-4,6-dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Amino-2,6-dinitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.9	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7100	MG/KG		
Antimony	0.55	MG/KG	U	UJ
Arsenic	11.7	MG/KG		
Barium	24.7	MG/KG		
Beryllium	0.55	MG/KG	U	
Cadmium	0.55	MG/KG	U	
Calcium	10900	MG/KG		
Chromium	11.4	MG/KG		
Cobalt	16.5	MG/KG	U	
Copper	15.4	MG/KG		
Iron	22400	MG/KG		
Lead	8.3	MG/KG		
Magnesium	4770	MG/KG		
Manganese	557	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	19.1	MG/KG		
Potassium	1460	MG/KG		
Selenium	0.55	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	550	MG/KG	U	
Thallium	0.55	MG/KG	U	
Vanadium	13.0	MG/KG		
Zinc	48.9	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SB29****ODA-SB-029D-1224-SO****2.0-4.0 FT****Field Sample Type: Field Duplicate****Collected: 11/20/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	2.5	MG/KG	U	
1,3-Dinitrobenzene	2.5	MG/KG	U	
2,4,6-Trinitrotoluene	34	MG/KG		
2,4-Dinitrotoluene	2.5	MG/KG	U	
2,6-Dinitrotoluene	2.5	MG/KG	U	
2-Nitrotoluene	2.5	MG/KG	U	
3-Nitrotoluene	2.5	MG/KG	U	
4-Nitrotoluene	2.5	MG/KG	U	
HMX	5.0	MG/KG	U	
Nitrobenzene	2.5	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG	U	UJ
Nitroglycerin	25	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	5.0	MG/KG	U	
Tetryl	6.5	MG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS01

ODA-SS-001-1001-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/19/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7290	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	9.1	MG/KG		
Barium	117	MG/KG		
Beryllium	0.57	MG/KG	U	
Cadmium	0.57	MG/KG	U	
Calcium	161000	MG/KG		
Chromium	10.4	MG/KG		
Cobalt	17.1	MG/KG	U	
Copper	47.7	MG/KG		
Iron	15400	MG/KG		
Lead	16.8	MG/KG		
Magnesium	3140	MG/KG		
Manganese	469	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	17.6	MG/KG		
Potassium	1320	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	570	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	12.6	MG/KG		
Zinc	82.1	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS01

ODA-SS-001D-1208-SO

0.0-0.3 FT

Field Sample Type: Field Duplicate

Collected: 11/19/97

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6070	MG/KG		
Antimony	0.53	MG/KG	U	UJ
Arsenic	7.5	MG/KG		
Barium	113	MG/KG		
Beryllium	0.53	MG/KG	U	
Cadmium	0.58	MG/KG		
Calcium	202000	MG/KG		
Chromium	8.7	MG/KG		
Cobalt	15.9	MG/KG	U	
Copper	36.1	MG/KG		
Iron	11700	MG/KG		
Lead	11.3	MG/KG		
Magnesium	3340	MG/KG		
Manganese	514	MG/KG		
Mercury	0.11	MG/KG	U	UJ
Nickel	15.3	MG/KG		
Potassium	1100	MG/KG		
Selenium	0.53	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	529	MG/KG	U	
Thallium	0.53	MG/KG	U	
Vanadium	10.8	MG/KG		
Zinc	57.6	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS02****ODA-SS-002-1002-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/19/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.6	MG/KG		J
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7630	MG/KG		
Antimony	0.64	MG/KG	U	UJ
Arsenic	13.3	MG/KG		
Barium	96.8	MG/KG		
Beryllium	0.64	MG/KG	U	
Cadmium	1.0	MG/KG		
Calcium	6930	MG/KG		
Chromium	13.8	MG/KG		
Cobalt	19.1	MG/KG	U	
Copper	89.3	MG/KG		
Iron	20700	MG/KG		
Lead	61.7	MG/KG		
Magnesium	2990	MG/KG		J
Manganese	329	MG/KG		
Mercury	0.13	MG/KG	U	
Nickel	21.1	MG/KG		
Potassium	1270	MG/KG		
Selenium	0.64	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	637	MG/KG	U	
Thallium	0.64	MG/KG	U	
Vanadium	14.9	MG/KG		
Zinc	202	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS02

ODA-SS-002D-1209-SO

0.0-0.3 FT

Field Sample Type: Field Duplicate

Collected: 11/19/97

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8910	MG/KG		
Antimony	0.75	MG/KG		J
Arsenic	14.6	MG/KG		
Barium	92.2	MG/KG		
Beryllium	0.65	MG/KG	U	
Cadmium	1.4	MG/KG		
Calcium	7340	MG/KG		J
Chromium	15.2	MG/KG		
Cobalt	19.4	MG/KG	U	
Copper	93.9	MG/KG		J
Iron	22500	MG/KG		
Lead	78.5	MG/KG		J
Magnesium	3320	MG/KG		
Manganese	325	MG/KG		
Mercury	0.80	MG/KG		
Nickel	22.0	MG/KG		
Potassium	1450	MG/KG		
Selenium	0.65	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	647	MG/KG	U	
Thallium	0.65	MG/KG	U	
Vanadium	16.7	MG/KG		
Zinc	214	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS03

ODA-SS-003-1003-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/19/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.2	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	14100	MG/KG		
Antimony	0.61	MG/KG	U	
Arsenic	15.0	MG/KG		
Barium	62.3	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.61	MG/KG	U	
Calcium	12500	MG/KG		J
Chromium	21.4	MG/KG		
Cobalt	18.4	MG/KG	U	
Copper	71.7	MG/KG		J
Iron	26300	MG/KG		
Lead	20.2	MG/KG		J
Magnesium	3320	MG/KG		
Manganese	329	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	23.5	MG/KG		
Potassium	2170	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	612	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	25.3	MG/KG		
Zinc	132	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS03****ODA-SS-003D-1210-SO****0.0-0.3 FT****Field Sample Type: Field Duplicate****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13800	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	14.8	MG/KG		
Barium	73.4	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.61	MG/KG	U	
Calcium	8010	MG/KG		J
Chromium	22.8	MG/KG		
Cobalt	18.4	MG/KG	U	
Copper	51.8	MG/KG		J
Iron	27200	MG/KG		
Lead	19.5	MG/KG		J
Magnesium	3640	MG/KG		
Manganese	398	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	26.1	MG/KG		
Potassium	2030	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	612	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	25.6	MG/KG		
Zinc	103	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS04

ODA-SS-004-1004-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/19/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Amino-4,6-dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Amino-2,6-dinitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.6	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8920	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	11.8	MG/KG		
Barium	98.4	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.86	MG/KG		
Calcium	75400	MG/KG		J
Chromium	14.1	MG/KG		
Cobalt	17.3	MG/KG	U	
Copper	89.1	MG/KG		J
Iron	18600	MG/KG		
Lead	17.3	MG/KG		J
Magnesium	3240	MG/KG		
Manganese	430	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	20.8	MG/KG		
Potassium	1710	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	577	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	16.3	MG/KG		
Zinc	85.2	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS04****ODA-SS-004D-1211-SO 0.0-0.3 FT Field Sample Type: Field Duplicate****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5500	MG/KG		
Antimony	0.56	MG/KG	U	UJ
Arsenic	7.3	MG/KG		
Barium	92.0	MG/KG		
Beryllium	0.56	MG/KG	U	
Cadmium	0.64	MG/KG		
Calcium	167000	MG/KG		J
Chromium	8.8	MG/KG		
Cobalt	16.7	MG/KG	U	
Copper	47.5	MG/KG		J
Iron	12300	MG/KG		
Lead	12.6	MG/KG		J
Magnesium	2930	MG/KG		
Manganese	476	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	15.6	MG/KG		
Potassium	979	MG/KG		
Selenium	0.56	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	557	MG/KG	U	
Thallium	0.56	MG/KG	U	
Vanadium	9.7	MG/KG		
Zinc	60.7	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS05****ODA-SS-005-1005-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8860	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	12.8	MG/KG		
Barium	69.4	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.61	MG/KG		
Calcium	48700	MG/KG		J
Chromium	14.4	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	56.0	MG/KG		J
Iron	20500	MG/KG		
Lead	17.6	MG/KG		J
Magnesium	2930	MG/KG		
Manganese	397	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	20.4	MG/KG		
Potassium	1120	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	595	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	17.0	MG/KG		
Zinc	90.5	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS05****ODA-SS-005D-1212-SO****0.0-0.3 FT****Field Sample Type: Field Duplicate****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	5490	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	19.6	MG/KG		
Barium	64.4	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.80	MG/KG		
Calcium	137000	MG/KG		J
Chromium	10.7	MG/KG		
Cobalt	17.5	MG/KG	U	
Copper	64.2	MG/KG		J
Iron	16900	MG/KG		
Lead	16.8	MG/KG		J
Magnesium	2790	MG/KG		
Manganese	441	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	17.3	MG/KG		
Potassium	862	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	582	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	10.4	MG/KG		
Zinc	73.8	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS06****ODA-SS-006-1006-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9170	MG/KG		
Antimony	0.63	MG/KG	U	UJ
Arsenic	16.5	MG/KG		
Barium	81.5	MG/KG		
Beryllium	0.63	MG/KG	U	
Cadmium	1.2	MG/KG		
Calcium	5990	MG/KG		
Chromium	15.5	MG/KG		
Cobalt	18.8	MG/KG	U	
Copper	101	MG/KG		
Iron	22700	MG/KG	MBB	
Lead	22.0	MG/KG		
Magnesium	3670	MG/KG		
Manganese	402	MG/KG		
Mercury	0.13	MG/KG	U	
Nickel	22.0	MG/KG		
Potassium	1690	MG/KG		
Selenium	0.63	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	628	MG/KG	U	
Thallium	0.63	MG/KG	U	
Vanadium	16.8	MG/KG		
Zinc	145	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS06****ODA-SS-006D-1213-SO****0.0-0.3 FT****Field Sample Type: Field Duplicate****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8280	MG/KG		
Antimony	0.68	MG/KG		J
Arsenic	14.0	MG/KG		
Barium	63.2	MG/KG		
Beryllium	0.66	MG/KG	U	
Cadmium	1.8	MG/KG		J
Calcium	11000	MG/KG		
Chromium	14.0	MG/KG		
Cobalt	19.8	MG/KG	U	
Copper	102	MG/KG		
Iron	21100	MG/KG		
Lead	36.6	MG/KG		
Magnesium	3850	MG/KG		
Manganese	333	MG/KG		
Mercury	0.13	MG/KG		
Nickel	21.5	MG/KG		
Potassium	1390	MG/KG		
Selenium	0.66	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	660	MG/KG	U	
Thallium	0.66	MG/KG	U	
Vanadium	14.9	MG/KG		
Zinc	162	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS07****ODA-SS-007-1007-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8600	MG/KG		
Antimony	0.62	MG/KG	U	UJ
Arsenic	15.5	MG/KG		
Barium	61.3	MG/KG		
Beryllium	0.62	MG/KG	U	
Cadmium	0.95	MG/KG		
Calcium	8890	MG/KG		
Chromium	14.1	MG/KG		
Cobalt	18.6	MG/KG	U	
Copper	95.8	MG/KG		
Iron	20800	MG/KG	MBB	
Lead	24.3	MG/KG		
Magnesium	3760	MG/KG		
Manganese	365	MG/KG		
Mercury	0.23	MG/KG		
Nickel	20.9	MG/KG		
Potassium	1640	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	621	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	15.9	MG/KG		
Zinc	125	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS07****ODA-SS-007D-1214-SO 0.0-0.3 FT Field Sample Type: Field Duplicate****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8740	MG/KG		
Antimony	0.62	MG/KG	U	UJ
Arsenic	13.8	MG/KG		
Barium	71.6	MG/KG		
Beryllium	0.62	MG/KG	U	
Cadmium	1.1	MG/KG		J
Calcium	6160	MG/KG		
Chromium	14.5	MG/KG		
Cobalt	18.7	MG/KG	U	
Copper	94.8	MG/KG		
Iron	21000	MG/KG		
Lead	24.3	MG/KG		
Magnesium	3710	MG/KG		
Manganese	342	MG/KG		
Mercury	0.15	MG/KG		
Nickel	21.2	MG/KG		
Potassium	1400	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	624	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	15.8	MG/KG		
Zinc	158	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS08

ODA-SS-008-1008-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/19/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.3	MG/KG		J
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8270	MG/KG		
Antimony	0.65	MG/KG		UJ
Arsenic	14.7	MG/KG		
Barium	67.3	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.69	MG/KG		
Calcium	8060	MG/KG		J
Chromium	17.1	MG/KG		
Cobalt	18.4	MG/KG	U	
Copper	76.7	MG/KG		J
Iron	30800	MG/KG		
Lead	20.9	MG/KG		J
Magnesium	3590	MG/KG		
Manganese	494	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	23.3	MG/KG		
Potassium	1110	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	612	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	17.1	MG/KG		
Zinc	158	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS08****ODA-SS-008D-1215-SO****0.0-0.3 FT****Field Sample Type: Field Duplicate****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10700	MG/KG		
Antimony	0.59	MG/KG	U	
Arsenic	14.9	MG/KG		
Barium	85.7	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.78	MG/KG		
Calcium	4110	MG/KG		
Chromium	17.4	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	93.3	MG/KG		
Iron	25000	MG/KG		
Lead	25.0	MG/KG		J
Magnesium	3430	MG/KG		
Manganese	648	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	23.0	MG/KG		
Potassium	1400	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	594	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	20.9	MG/KG		
Zinc	158	MG/KG	MBB	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS09****ODA-SS-009-1009-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11200	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	18.1	MG/KG		
Barium	50.9	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	1950	MG/KG		J
Chromium	18.5	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	19.7	MG/KG		J
Iron	28200	MG/KG		
Lead	11.6	MG/KG		J
Magnesium	3660	MG/KG		
Manganese	351	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.2	MG/KG		
Potassium	2020	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	595	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	20.0	MG/KG		
Zinc	68.3	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS09****ODA-SS-009D-1216-SO****0.0-0.3 FT****Field Sample Type: Field Duplicate****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11500	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	16.8	MG/KG		
Barium	61.7	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	2600	MG/KG		J
Chromium	18.5	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	28.0	MG/KG		J
Iron	26000	MG/KG		
Lead	15.2	MG/KG		J
Magnesium	3450	MG/KG		
Manganese	447	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	28.3	MG/KG		
Potassium	2290	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	592	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	22.3	MG/KG		
Zinc	77.9	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS10****ODA-SS-010-1010-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11800	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	17.3	MG/KG		
Barium	84.3	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.60	MG/KG	U	
Calcium	3530	MG/KG		J
Chromium	19.6	MG/KG		
Cobalt	18.0	MG/KG	U	
Copper	29.1	MG/KG		J
Iron	29000	MG/KG		
Lead	13.9	MG/KG		J
Magnesium	4040	MG/KG		
Manganese	333	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	31.5	MG/KG		
Potassium	1540	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	600	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	21.5	MG/KG		
Zinc	85.0	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS10

ODA-SS-010D-1217-SO

0.0-0.3 FT

Field Sample Type: Field Duplicate

Collected: 11/19/97

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13700	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	13.0	MG/KG		
Barium	123	MG/KG		
Beryllium	0.86	MG/KG		
Cadmium	0.61	MG/KG	U	
Calcium	3640	MG/KG		J
Chromium	22.0	MG/KG		
Cobalt	18.3	MG/KG	U	
Copper	25.4	MG/KG		J
Iron	26500	MG/KG		
Lead	14.1	MG/KG		J
Magnesium	4060	MG/KG		
Manganese	537	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	35.1	MG/KG		
Potassium	2130	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	612	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	25.1	MG/KG		
Zinc	70.8	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS11****ODA-SS-011-1011-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	7.1	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals				
	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9790	MG/KG		
Antimony	0.66	MG/KG	U	UJ
Arsenic	15.8	MG/KG		
Barium	109	MG/KG		
Beryllium	0.66	MG/KG	U	
Cadmium	2.5	MG/KG		
Calcium	4730	MG/KG		
Chromium	18.9	MG/KG		
Cobalt	19.7	MG/KG	U	
Copper	156	MG/KG		
Iron	25300	MG/KG	MBB	
Lead	34.0	MG/KG		
Magnesium	3950	MG/KG		
Manganese	373	MG/KG		
Mercury	0.15	MG/KG		
Nickel	25.3	MG/KG		
Potassium	1980	MG/KG		
Selenium	0.66	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	657	MG/KG	U	
Thallium	0.66	MG/KG	U	
Vanadium	17.5	MG/KG		
Zinc	184	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS11****ODA-SS-011D-1218-SO 0.0-0.3 FT Field Sample Type: Field Duplicate****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7650	MG/KG		
Antimony	0.62	MG/KG	U	UJ
Arsenic	13.1	MG/KG		
Barium	68.8	MG/KG		
Beryllium	0.62	MG/KG	U	
Cadmium	1.3	MG/KG		J
Calcium	5520	MG/KG		
Chromium	13.1	MG/KG		
Cobalt	18.7	MG/KG	U	
Copper	128	MG/KG		
Iron	20100	MG/KG		
Lead	24.0	MG/KG		
Magnesium	3540	MG/KG		
Manganese	378	MG/KG		
Mercury	0.17	MG/KG		
Nickel	20.7	MG/KG		
Potassium	1240	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	622	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	13.8	MG/KG		
Zinc	264	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS12****ODA-SS-012-1012-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8930	MG/KG		
Antimony	0.60	MG/KG		J
Arsenic	14.5	MG/KG		
Barium	75.6	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	1.2	MG/KG		
Calcium	5780	MG/KG		J
Chromium	15.0	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	103	MG/KG		J
Iron	21100	MG/KG		
Lead	92.8	MG/KG		J
Magnesium	3560	MG/KG		
Manganese	358	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	20.7	MG/KG		
Potassium	1650	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	598	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	16.8	MG/KG		
Zinc	192	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS12

ODA-SS-012D-1219-SO

0.0-0.3 FT

Field Sample Type: Field Duplicate

Collected: 11/19/97

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10100	MG/KG		
Antimony	0.64	MG/KG		J
Arsenic	15.2	MG/KG		
Barium	77.4	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	1.3	MG/KG		
Calcium	5500	MG/KG		J
Chromium	16.1	MG/KG		
Cobalt	17.6	MG/KG	U	
Copper	119	MG/KG		J
Iron	23400	MG/KG		
Lead	28.8	MG/KG		J
Magnesium	3480	MG/KG		
Manganese	374	MG/KG		
Mercury	0.13	MG/KG		
Nickel	22.5	MG/KG		
Potassium	1760	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	587	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	18.7	MG/KG		
Zinc	181	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS13

ODA-SS-013-1013-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/19/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	7.4	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11700	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	16.6	MG/KG		
Barium	59.1	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.71	MG/KG		
Calcium	5330	MG/KG		
Chromium	17.9	MG/KG		
Cobalt	18.0	MG/KG	U	
Copper	96.9	MG/KG		
Iron	27300	MG/KG		
Lead	18.3	MG/KG		
Magnesium	4580	MG/KG		
Manganese	374	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	26.4	MG/KG		
Potassium	1760	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	599	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	20.0	MG/KG		
Zinc	102	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS13****ODA-SS-013D-1220-SO****0.0-0.3 FT****Field Sample Type: Field Duplicate****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	13000	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	11.7	MG/KG		
Barium	48.6	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	0.59	MG/KG	U	
Calcium	2010	MG/KG		
Chromium	17.3	MG/KG		
Cobalt	17.8	MG/KG	U	
Copper	30.4	MG/KG		
Iron	22200	MG/KG		
Lead	13.6	MG/KG		
Magnesium	2870	MG/KG		
Manganese	185	MG/KG		
Mercury	0.12	MG/KG	U	UJ
Nickel	15.5	MG/KG		
Potassium	1200	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	592	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	25.8	MG/KG		
Zinc	62.5	MG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS14****ODA-SS-014-1014-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/19/97**

<u>Metals</u>	<u>Result</u>	<u>Units</u>	<u>Qualifiers</u>	
			<u>Lab</u>	<u>Data</u>
Aluminum	10600	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	16.0	MG/KG		
Barium	72.5	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	1.4	MG/KG		
Calcium	4640	MG/KG		J
Chromium	17.3	MG/KG		
Cobalt	18.1	MG/KG	U	
Copper	127	MG/KG		J
Iron	24800	MG/KG		
Lead	29.4	MG/KG		J
Magnesium	3740	MG/KG		
Manganese	383	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	24.6	MG/KG		
Potassium	1980	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	604	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	19.8	MG/KG		
Zinc	190	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS14****ODA-SS-014D-1221-SO****0.0-0.3 FT****Field Sample Type: Field Duplicate****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	12000	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	15.7	MG/KG		
Barium	552	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.79	MG/KG		
Calcium	3860	MG/KG		J
Chromium	19.0	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	96.3	MG/KG		J
Iron	25200	MG/KG		
Lead	21.5	MG/KG		J
Magnesium	3770	MG/KG		
Manganese	353	MG/KG		
Mercury	0.14	MG/KG		
Nickel	26.0	MG/KG		
Potassium	2020	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	598	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	21.7	MG/KG		
Zinc	126	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS15****ODA-SS-015-1015-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.4	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals				
	Result	Units	Qualifiers	
			Lab	Data
Aluminum	6660	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	12.9	MG/KG		
Barium	73.3	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	0.82	MG/KG		
Calcium	10100	MG/KG		
Chromium	13.1	MG/KG		
Cobalt	18.1	MG/KG	U	
Copper	78.5	MG/KG		
Iron	21500	MG/KG	MBB	
Lead	24.9	MG/KG		
Magnesium	2510	MG/KG		
Manganese	379	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	20.4	MG/KG		
Potassium	1170	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	602	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	12.7	MG/KG		
Zinc	164	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS16****ODA-SS-016-1016-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	12600	MG/KG		
Antimony	0.57	MG/KG	U	UJ
Arsenic	15.6	MG/KG		
Barium	62.9	MG/KG		
Beryllium	0.61	MG/KG		
Cadmium	0.57	MG/KG	U	
Calcium	79900	MG/KG		
Chromium	17.0	MG/KG		
Cobalt	17.2	MG/KG	U	
Copper	391	MG/KG		
Iron	16500	MG/KG	MBB	
Lead	39.1	MG/KG		
Magnesium	3740	MG/KG		
Manganese	460	MG/KG		
Mercury	0.11	MG/KG	U	
Nickel	17.4	MG/KG		
Potassium	1560	MG/KG		
Selenium	0.57	MG/KG	U	
Silver	1.1	MG/KG	U	
Sodium	574	MG/KG	U	
Thallium	0.57	MG/KG	U	
Vanadium	14.2	MG/KG		
Zinc	77.9	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS17

ODA-SS-017-1017-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/19/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.8	MG/KG		J
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7900	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	14.3	MG/KG		
Barium	72.8	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	1.5	MG/KG		
Calcium	5160	MG/KG		J
Chromium	13.8	MG/KG		
Cobalt	17.7	MG/KG	U	
Copper	136	MG/KG		J
Iron	21300	MG/KG		
Lead	27.7	MG/KG		J
Magnesium	3280	MG/KG		
Manganese	344	MG/KG		
Mercury	0.33	MG/KG		
Nickel	21.5	MG/KG		
Potassium	1310	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	591	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	14.7	MG/KG		
Zinc	219	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS18****ODA-SS-018-1018-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11800	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	14.3	MG/KG		
Barium	74.5	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	0.76	MG/KG		
Calcium	3810	MG/KG		
Chromium	17.9	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	76.1	MG/KG		
Iron	23100	MG/KG		
Lead	20.9	MG/KG		
Magnesium	3760	MG/KG		
Manganese	339	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	24.5	MG/KG		
Potassium	2400	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	605	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	21.0	MG/KG		
Zinc	137	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS19

ODA-SS-019-1019-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/19/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.1	MG/KG	U	UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	UJ
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10100	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	16.5	MG/KG		
Barium	80.9	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	1.3	MG/KG		
Calcium	4870	MG/KG		J
Chromium	17.2	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	167	MG/KG		J
Iron	23600	MG/KG		
Lead	24.0	MG/KG		J
Magnesium	3690	MG/KG		
Manganese	342	MG/KG		
Mercury	0.17	MG/KG		
Nickel	24.0	MG/KG		
Potassium	1660	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	579	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	18.0	MG/KG		
Zinc	162	MG/KG	MBB	J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS20****ODA-SS-020-1020-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7580	MG/KG		
Antimony	0.59	MG/KG	U	UJ
Arsenic	11.0	MG/KG		
Barium	66.4	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	1.0	MG/KG		
Calcium	22800	MG/KG		
Chromium	11.7	MG/KG		
Cobalt	17.7	MG/KG	U	
Copper	129	MG/KG		J
Iron	16900	MG/KG		
Lead	22.5	MG/KG		
Magnesium	2920	MG/KG		
Manganese	371	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	17.0	MG/KG		
Potassium	1400	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	591	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	12.8	MG/KG		
Zinc	181	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS21****ODA-SS-021-1021-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8510	MG/KG		
Antimony	0.69	MG/KG	U	UJ
Arsenic	13.0	MG/KG		
Barium	127	MG/KG		
Beryllium	0.69	MG/KG	U	
Cadmium	1.8	MG/KG		
Calcium	8000	MG/KG		
Chromium	19.3	MG/KG		
Cobalt	20.8	MG/KG	U	
Copper	126	MG/KG		J
Iron	24300	MG/KG		
Lead	29.5	MG/KG		
Magnesium	3490	MG/KG		
Manganese	455	MG/KG		
Mercury	0.16	MG/KG		
Nickel	18.7	MG/KG		
Potassium	1680	MG/KG		
Selenium	0.69	MG/KG	U	
Silver	1.4	MG/KG	U	
Sodium	693	MG/KG	U	
Thallium	0.69	MG/KG	U	
Vanadium	14.2	MG/KG		
Zinc	215	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS22****ODA-SS-022-1022-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/19/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9880	MG/KG		
Antimony	0.59	MG/KG	U	
Arsenic	15.7	MG/KG		
Barium	202	MG/KG		
Beryllium	0.59	MG/KG	U	
Cadmium	1.7	MG/KG		
Calcium	6000	MG/KG		
Chromium	17.9	MG/KG		
Cobalt	17.6	MG/KG	U	
Copper	167	MG/KG		
Iron	22600	MG/KG		
Lead	35.0	MG/KG		
Magnesium	3470	MG/KG		
Manganese	365	MG/KG		
Mercury	0.15	MG/KG		
Nickel	22.6	MG/KG		
Potassium	1880	MG/KG		
Selenium	0.59	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	587	MG/KG	U	
Thallium	0.59	MG/KG	U	
Vanadium	17.9	MG/KG		
Zinc	260	MG/KG	MBB	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS23****ODA-SS-023-1023-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9920	MG/KG		
Antimony	0.58	MG/KG	U	UJ
Arsenic	16.4	MG/KG		
Barium	43.6	MG/KG		
Beryllium	0.58	MG/KG	U	
Cadmium	0.58	MG/KG	U	
Calcium	1750	MG/KG		
Chromium	15.8	MG/KG		
Cobalt	17.4	MG/KG	U	
Copper	22.4	MG/KG		J
Iron	23800	MG/KG		
Lead	12.5	MG/KG		
Magnesium	2780	MG/KG		
Manganese	363	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	22.4	MG/KG		
Potassium	2290	MG/KG		
Selenium	0.58	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	581	MG/KG	U	
Thallium	0.58	MG/KG	U	
Vanadium	18.4	MG/KG		
Zinc	72.6	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS24****ODA-SS-024-1024-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	2.3	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10200	MG/KG		
Antimony	0.62	MG/KG		J
Arsenic	15.3	MG/KG		
Barium	117	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	1.4	MG/KG		
Calcium	6590	MG/KG		
Chromium	15.9	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	102	MG/KG		
Iron	28000	MG/KG	MBB	
Lead	28.9	MG/KG		
Magnesium	3630	MG/KG		
Manganese	417	MG/KG		
Mercury	0.17	MG/KG		
Nickel	22.4	MG/KG		
Potassium	1980	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	608	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	17.9	MG/KG		
Zinc	190	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS25****ODA-SS-025-1025-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	12100	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	9.5	MG/KG		
Barium	106	MG/KG		
Beryllium	2.9	MG/KG		
Cadmium	0.87	MG/KG		
Calcium	57500	MG/KG		
Chromium	11.5	MG/KG		
Cobalt	18.0	MG/KG	U	
Copper	62.8	MG/KG		J
Iron	15100	MG/KG		
Lead	17.8	MG/KG		
Magnesium	11200	MG/KG		
Manganese	788	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	14.6	MG/KG		
Potassium	1850	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	600	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	13.8	MG/KG		
Zinc	100	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS26

ODA-SS-026-1026-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/23/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	19.9	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	7310	MG/KG		
Antimony	0.88	MG/KG		J
Arsenic	15.0	MG/KG		
Barium	142	MG/KG		
Beryllium	0.78	MG/KG	U	
Cadmium	1.2	MG/KG		
Calcium	8070	MG/KG		
Chromium	20.9	MG/KG		
Cobalt	23.4	MG/KG	U	
Copper	118	MG/KG		
Iron	29000	MG/KG	MBB	
Lead	35.4	MG/KG		
Magnesium	3440	MG/KG		
Manganese	504	MG/KG		
Mercury	0.16	MG/KG	U	
Nickel	26.1	MG/KG		
Potassium	1340	MG/KG		
Selenium	0.78	MG/KG	U	
Silver	1.6	MG/KG	U	
Sodium	781	MG/KG	U	
Thallium	0.78	MG/KG	U	
Vanadium	14.1	MG/KG		
Zinc	246	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS27

ODA-SS-027-1027-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/23/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	4.6	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8650	MG/KG		
Antimony	0.67	MG/KG	U	UJ
Arsenic	12.9	MG/KG		
Barium	99.5	MG/KG		
Beryllium	0.67	MG/KG	U	
Cadmium	1.4	MG/KG		
Calcium	3840	MG/KG		
Chromium	14.0	MG/KG		
Cobalt	20.0	MG/KG	U	
Copper	85.5	MG/KG		
Iron	20000	MG/KG	MBB	
Lead	33.9	MG/KG		
Magnesium	3340	MG/KG		
Manganese	319	MG/KG		
Mercury	0.13	MG/KG	U	
Nickel	20.2	MG/KG		
Potassium	1770	MG/KG		
Selenium	0.67	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	668	MG/KG	U	
Thallium	0.67	MG/KG	U	
Vanadium	15.7	MG/KG		
Zinc	157	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS28

ODA-SS-028-1028-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/23/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	21.8	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8900	MG/KG		
Antimony	0.60	MG/KG	U	UJ
Arsenic	13.4	MG/KG		
Barium	82.9	MG/KG		
Beryllium	0.60	MG/KG	U	
Cadmium	1.4	MG/KG		
Calcium	5620	MG/KG		
Chromium	14.1	MG/KG		
Cobalt	17.9	MG/KG	U	
Copper	112	MG/KG		
Iron	19000	MG/KG	MBB	
Lead	30.3	MG/KG		
Magnesium	3120	MG/KG		
Manganese	368	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	18.0	MG/KG		
Potassium	1570	MG/KG		
Selenium	0.60	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	598	MG/KG	U	
Thallium	0.60	MG/KG	U	
Vanadium	14.3	MG/KG		
Zinc	161	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS29

ODA-SS-029-1029-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/23/97

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	8770	MG/KG		
Antimony	0.61	MG/KG	U	UJ
Arsenic	14.1	MG/KG		
Barium	77.6	MG/KG		
Beryllium	0.61	MG/KG	U	
Cadmium	1.2	MG/KG		
Calcium	3730	MG/KG		
Chromium	14.8	MG/KG		
Cobalt	18.2	MG/KG	U	
Copper	102	MG/KG		J
Iron	21000	MG/KG		
Lead	22.3	MG/KG		
Magnesium	3210	MG/KG		
Manganese	342	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	21.2	MG/KG		
Potassium	1520	MG/KG		
Selenium	0.61	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	606	MG/KG	U	
Thallium	0.61	MG/KG	U	
Vanadium	15.7	MG/KG		
Zinc	149	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS30****ODA-SS-030-1030-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	10600	MG/KG		
Antimony	0.65	MG/KG	U	UJ
Arsenic	14.4	MG/KG		
Barium	87.9	MG/KG		
Beryllium	0.65	MG/KG	U	
Cadmium	1.5	MG/KG		
Calcium	3610	MG/KG		
Chromium	17.3	MG/KG		
Cobalt	19.5	MG/KG	U	
Copper	98.7	MG/KG		J
Iron	23300	MG/KG		
Lead	37.8	MG/KG		
Magnesium	3390	MG/KG		
Manganese	380	MG/KG		
Mercury	0.18	MG/KG		
Nickel	22.7	MG/KG		
Potassium	2450	MG/KG		
Selenium	0.65	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	651	MG/KG	U	
Thallium	0.65	MG/KG	U	
Vanadium	18.5	MG/KG		
Zinc	171	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area**Station: SS31****ODA-SS-031-1031-SO****0.0-0.3 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/23/97**

Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	11300	MG/KG		
Antimony	0.67	MG/KG		J
Arsenic	14.7	MG/KG		
Barium	106	MG/KG		
Beryllium	1.0	MG/KG		
Cadmium	1.5	MG/KG		
Calcium	15000	MG/KG		
Chromium	14.7	MG/KG		
Cobalt	18.5	MG/KG	U	
Copper	107	MG/KG		J
Iron	22000	MG/KG		
Lead	90.2	MG/KG		
Magnesium	5300	MG/KG		
Manganese	422	MG/KG		
Mercury	0.12	MG/KG	U	
Nickel	20.4	MG/KG		
Potassium	1930	MG/KG		
Selenium	0.62	MG/KG	U	
Silver	1.2	MG/KG	U	
Sodium	615	MG/KG	U	
Thallium	0.62	MG/KG	U	
Vanadium	16.2	MG/KG		
Zinc	269	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Open Detonation Area

Station: SS32

ODA-SS-032-1032-SO

0.0-0.3 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/23/97

Explosives	Result	Units	Qualifiers	
			Lab	Data
1,3,5-Trinitrobenzene	0.25	MG/KG	U	
1,3-Dinitrobenzene	0.25	MG/KG	U	
2,4,6-Trinitrotoluene	0.25	MG/KG	U	
2,4-Dinitrotoluene	0.25	MG/KG	U	
2,6-Dinitrotoluene	0.25	MG/KG	U	
2-Nitrotoluene	0.25	MG/KG	U	
3-Nitrotoluene	0.25	MG/KG	U	
4-Nitrotoluene	0.25	MG/KG	U	
HMX	0.50	MG/KG	U	
Nitrobenzene	0.25	MG/KG	U	
Nitrocellulose (as N)	6.8	MG/KG		UJ
Nitroglycerin	2.5	MG/KG	U	
Nitroguanidine	0.25	MG/KG	U	J
RDX	0.50	MG/KG	U	
Tetryl	0.65	MG/KG	U	
Metals	Result	Units	Qualifiers	
			Lab	Data
Aluminum	9470	MG/KG		
Antimony	0.79	MG/KG		J
Arsenic	19.1	MG/KG		
Barium	94.6	MG/KG		
Beryllium	0.66	MG/KG	U	
Cadmium	1.9	MG/KG		
Calcium	4470	MG/KG		
Chromium	25.5	MG/KG		
Cobalt	19.9	MG/KG	U	
Copper	203	MG/KG		
Iron	36300	MG/KG	MBB	
Lead	35.1	MG/KG		
Magnesium	2880	MG/KG		
Manganese	432	MG/KG		
Mercury	0.13	MG/KG	U	
Nickel	33.1	MG/KG		
Potassium	2280	MG/KG		
Selenium	0.66	MG/KG	U	
Silver	1.3	MG/KG	U	
Sodium	663	MG/KG	U	
Thallium	0.66	MG/KG	U	
Vanadium	17.2	MG/KG		
Zinc	197	MG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
 J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB09****PB-SB-009-1164-SO****2.0-4.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	95	UG/KG	U	
4,4'-DDD	3.9	UG/KG	U	
4,4'-DDE	3.9	UG/KG	U	
4,4'-DDT	3.9	UG/KG	U	
Aldrin	2.0	UG/KG	U	
Aroclor 1016	20	UG/KG	U	
Aroclor 1221	20	UG/KG	U	
Aroclor 1232	20	UG/KG	U	
Aroclor 1242	20	UG/KG	U	
Aroclor 1248	20	UG/KG	U	
Aroclor 1254	39	UG/KG	U	
Aroclor 1260	39	UG/KG	U	
Dieldrin	3.9	UG/KG	U	
Endosulfan I	2.0	UG/KG	U	
Endosulfan II	3.9	UG/KG	U	
Endosulfan sulfate	3.9	UG/KG	U	
Endrin	3.9	UG/KG	U	
Endrin aldehyde	3.9	UG/KG	U	
Endrin ketone	3.9	UG/KG	U	
Heptachlor	2.0	UG/KG	U	
Heptachlor epoxide	2.0	UG/KG	U	
Methoxychlor	20	UG/KG	U	
Toxaphene	99	UG/KG	U	
alpha-BHC	2.0	UG/KG	U	
alpha-Chlordane	2.0	UG/KG	U	
beta-BHC	2.0	UG/KG	U	
delta-BHC	2.0	UG/KG	U	
gamma-BHC (Lindane)	2.0	UG/KG	U	
gamma-Chlordane	2.0	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB09****PB-SB-009-1165-SO****4.0-6.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	25	UG/KG	U	
2,4,5-TP (Silvex)	25	UG/KG	U	
2,4-D	100	UG/KG	U	
4,4'-DDD	4.2	UG/KG	U	
4,4'-DDE	4.2	UG/KG	U	
4,4'-DDT	4.2	UG/KG	U	
Aldrin	2.2	UG/KG	U	
Aroclor 1016	22	UG/KG	U	
Aroclor 1221	22	UG/KG	U	
Aroclor 1232	22	UG/KG	U	
Aroclor 1242	22	UG/KG	U	
Aroclor 1248	22	UG/KG	U	
Aroclor 1254	42	UG/KG	U	
Aroclor 1260	42	UG/KG	U	
Dieldrin	4.2	UG/KG	U	
Endosulfan I	2.2	UG/KG	U	
Endosulfan II	4.2	UG/KG	U	
Endosulfan sulfate	4.2	UG/KG	U	
Endrin	4.2	UG/KG	U	
Endrin aldehyde	4.2	UG/KG	U	
Endrin ketone	4.2	UG/KG	U	
Heptachlor	2.2	UG/KG	U	
Heptachlor epoxide	2.2	UG/KG	U	
Methoxychlor	22	UG/KG	U	
Toxaphene	110	UG/KG	U	
alpha-BHC	2.2	UG/KG	U	
alpha-Chlordane	2.2	UG/KG	U	
beta-BHC	2.2	UG/KG	U	
delta-BHC	2.2	UG/KG	U	
gamma-BHC (Lindane)	2.2	UG/KG	U	
gamma-Chlordane	2.2	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB09****PB-SB-009-1166-SO****6.0-8.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	96	UG/KG	U	
4,4'-DDD	4.0	UG/KG	U	
4,4'-DDE	4.0	UG/KG	U	
4,4'-DDT	4.0	UG/KG	U	
Aldrin	2.0	UG/KG	U	
Aroclor 1016	20	UG/KG	U	
Aroclor 1221	20	UG/KG	U	
Aroclor 1232	20	UG/KG	U	
Aroclor 1242	20	UG/KG	U	
Aroclor 1248	20	UG/KG	U	
Aroclor 1254	40	UG/KG	U	
Aroclor 1260	40	UG/KG	U	
Dieldrin	4.0	UG/KG	U	
Endosulfan I	2.0	UG/KG	U	
Endosulfan II	4.0	UG/KG	U	
Endosulfan sulfate	4.0	UG/KG	U	
Endrin	4.0	UG/KG	U	
Endrin aldehyde	4.0	UG/KG	U	
Endrin ketone	4.0	UG/KG	U	
Heptachlor	2.0	UG/KG	U	
Heptachlor epoxide	2.0	UG/KG	U	
Methoxychlor	20	UG/KG	U	
Toxaphene	100	UG/KG	U	
alpha-BHC	2.0	UG/KG	U	
alpha-Chlordane	2.0	UG/KG	U	
beta-BHC	2.0	UG/KG	U	
delta-BHC	2.0	UG/KG	U	
gamma-BHC (Lindane)	2.0	UG/KG	U	
gamma-Chlordane	2.0	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB09****PB-SS-001-1163-SO****0.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	93	UG/KG	U	
4,4'-DDD	3.8	UG/KG	U	
4,4'-DDE	3.8	UG/KG	U	
4,4'-DDT	3.8	UG/KG	U	
Aldrin	2.0	UG/KG	U	
Aroclor 1016	20	UG/KG	U	
Aroclor 1221	20	UG/KG	U	
Aroclor 1232	20	UG/KG	U	
Aroclor 1242	20	UG/KG	U	
Aroclor 1248	20	UG/KG	U	
Aroclor 1254	38	UG/KG	U	
Aroclor 1260	38	UG/KG	U	
Dieldrin	3.8	UG/KG	U	
Endosulfan I	2.0	UG/KG	U	
Endosulfan II	3.8	UG/KG	U	
Endosulfan sulfate	3.8	UG/KG	U	
Endrin	3.8	UG/KG	U	
Endrin aldehyde	3.8	UG/KG	U	
Endrin ketone	3.8	UG/KG	U	
Heptachlor	2.0	UG/KG	U	
Heptachlor epoxide	2.0	UG/KG	U	
Methoxychlor	20	UG/KG	U	
Toxaphene	96	UG/KG	U	
alpha-BHC	2.0	UG/KG	U	
alpha-Chlordane	2.0	UG/KG	U	
beta-BHC	2.0	UG/KG	U	
delta-BHC	2.0	UG/KG	U	
gamma-BHC (Lindane)	2.0	UG/KG	U	
gamma-Chlordane	2.0	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building

Station: SB13

PB-SB-013-1169-SO

1.0-2.0 FT

Field Sample Type: Split Sample

Collected: 11/22/97

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	88	UG/KG	U	
4,4'-DDD	36	UG/KG	U	
4,4'-DDE	36	UG/KG	U	
4,4'-DDT	36	UG/KG	U	
Aldrin	19	UG/KG	U	
Aroclor 1016	190	UG/KG	U	
Aroclor 1221	190	UG/KG	U	
Aroclor 1232	190	UG/KG	U	
Aroclor 1242	190	UG/KG	U	
Aroclor 1248	190	UG/KG	U	
Aroclor 1254	360	UG/KG	U	
Aroclor 1260	360	UG/KG	U	
Dieldrin	36	UG/KG	U	
Endosulfan I	19	UG/KG	U	
Endosulfan II	36	UG/KG	U	
Endosulfan sulfate	36	UG/KG	U	
Endrin	36	UG/KG	U	
Endrin aldehyde	36	UG/KG	U	
Endrin ketone	36	UG/KG	U	
Heptachlor	19	UG/KG	U	
Heptachlor epoxide	19	UG/KG	U	
Methoxychlor	190	UG/KG	U	
Toxaphene	910	UG/KG	U	
alpha-BHC	19	UG/KG	U	
alpha-Chlordane	19	UG/KG	U	
beta-BHC	19	UG/KG	U	
delta-BHC	19	UG/KG	U	
gamma-BHC (Lindane)	19	UG/KG	U	
gamma-Chlordane	19	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB15****PB-SB-015-1173-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	94	UG/KG	U	
4,4'-DDD	39	UG/KG	U	
4,4'-DDE	39	UG/KG	U	
4,4'-DDT	39	UG/KG	U	
Aldrin	20	UG/KG	U	
Aroclor 1016	200	UG/KG	U	
Aroclor 1221	200	UG/KG	U	
Aroclor 1232	200	UG/KG	U	
Aroclor 1242	200	UG/KG	U	
Aroclor 1248	200	UG/KG	U	
Aroclor 1254	390	UG/KG	U	
Aroclor 1260	390	UG/KG	U	
Dieldrin	39	UG/KG	U	
Endosulfan I	20	UG/KG	U	
Endosulfan II	39	UG/KG	U	
Endosulfan sulfate	39	UG/KG	U	
Endrin	39	UG/KG	U	
Endrin aldehyde	39	UG/KG	U	
Endrin ketone	39	UG/KG	U	
Heptachlor	20	UG/KG	U	
Heptachlor epoxide	20	UG/KG	U	
Methoxychlor	200	UG/KG	U	
Toxaphene	980	UG/KG	U	
alpha-BHC	20	UG/KG	U	
alpha-Chlordane	20	UG/KG	U	
beta-BHC	20	UG/KG	U	
delta-BHC	20	UG/KG	U	
gamma-BHC (Lindane)	20	UG/KG	U	
gamma-Chlordane	20	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB16****PB-SB-016-1175-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	95	UG/KG	U	
4,4'-DDD	3.9	UG/KG	U	
4,4'-DDE	3.9	UG/KG	U	
4,4'-DDT	3.9	UG/KG	U	
Aldrin	2.0	UG/KG	U	
Aroclor 1016	20	UG/KG	U	
Aroclor 1221	20	UG/KG	U	
Aroclor 1232	20	UG/KG	U	
Aroclor 1242	20	UG/KG	U	
Aroclor 1248	20	UG/KG	U	
Aroclor 1254	39	UG/KG	U	
Aroclor 1260	39	UG/KG	U	
Dieldrin	3.9	UG/KG	U	
Endosulfan I	2.0	UG/KG	U	
Endosulfan II	3.9	UG/KG	U	
Endosulfan sulfate	3.9	UG/KG	U	
Endrin	3.9	UG/KG	U	
Endrin aldehyde	3.9	UG/KG	U	
Endrin ketone	3.9	UG/KG	U	
Heptachlor	2.0	UG/KG	U	
Heptachlor epoxide	2.0	UG/KG	U	
Methoxychlor	20	UG/KG	U	
Toxaphene	99	UG/KG	U	
alpha-BHC	2.0	UG/KG	U	
alpha-Chlordane	2.0	UG/KG	U	
beta-BHC	2.0	UG/KG	U	
delta-BHC	2.0	UG/KG	U	
gamma-BHC (Lindane)	2.0	UG/KG	U	
gamma-Chlordane	2.0	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB17****PB-SB-017-1177-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	96	UG/KG	U	
4,4'-DDD	20	UG/KG	U	
4,4'-DDE	20	UG/KG	U	
4,4'-DDT	20	UG/KG	U	
Aldrin	10	UG/KG	U	
Aroclor 1016	100	UG/KG	U	
Aroclor 1221	100	UG/KG	U	
Aroclor 1232	100	UG/KG	U	
Aroclor 1242	100	UG/KG	U	
Aroclor 1248	100	UG/KG	U	
Aroclor 1254	200	UG/KG	U	
Aroclor 1260	200	UG/KG	U	
Dieldrin	20	UG/KG	U	
Endosulfan I	10	UG/KG	U	
Endosulfan II	20	UG/KG	U	
Endosulfan sulfate	20	UG/KG	U	
Endrin	20	UG/KG	U	
Endrin aldehyde	20	UG/KG	U	
Endrin ketone	20	UG/KG	U	
Heptachlor	10	UG/KG	U	
Heptachlor epoxide	10	UG/KG	U	
Methoxychlor	100	UG/KG	U	
Toxaphene	500	UG/KG	U	
alpha-BHC	10	UG/KG	U	
alpha-Chlordane	10	UG/KG	U	
beta-BHC	10	UG/KG	U	
delta-BHC	10	UG/KG	U	
gamma-BHC (Lindane)	10	UG/KG	U	
gamma-Chlordane	10	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB22****PB-SB-003-1171-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	89	UG/KG	U	
4,4'-DDD	18	UG/KG	U	
4,4'-DDE	18	UG/KG	U	
4,4'-DDT	75	UG/KG		J
Aldrin	9.4	UG/KG	U	
Aroclor 1016	94	UG/KG	U	
Aroclor 1221	94	UG/KG	U	
Aroclor 1232	94	UG/KG	U	
Aroclor 1242	94	UG/KG	U	
Aroclor 1248	94	UG/KG	U	
Aroclor 1254	180	UG/KG	U	
Aroclor 1260	180	UG/KG	U	
Dieldrin	18	UG/KG	U	
Endosulfan I	9.4	UG/KG	U	
Endosulfan II	18	UG/KG	U	
Endosulfan sulfate	18	UG/KG	U	
Endrin	18	UG/KG	U	
Endrin aldehyde	18	UG/KG	U	
Endrin ketone	18	UG/KG	U	
Heptachlor	9.4	UG/KG	U	
Heptachlor epoxide	9.4	UG/KG	U	
Methoxychlor	94	UG/KG	U	
Toxaphene	460	UG/KG	U	
alpha-BHC	9.4	UG/KG	U	
alpha-Chlordane	9.4	UG/KG	U	
beta-BHC	9.4	UG/KG	U	
delta-BHC	9.4	UG/KG	U	
gamma-BHC (Lindane)	9.4	UG/KG	U	
gamma-Chlordane	9.4	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB23****PB-SB-007-1179-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	95	UG/KG	U	
4,4'-DDD	78	UG/KG	U	
4,4'-DDE	78	UG/KG	U	
4,4'-DDT	110	UG/KG		J
Aldrin	40	UG/KG	U	
Aroclor 1016	400	UG/KG	U	
Aroclor 1221	400	UG/KG	U	
Aroclor 1232	400	UG/KG	U	
Aroclor 1242	400	UG/KG	U	
Aroclor 1248	400	UG/KG	U	
Aroclor 1254	780	UG/KG	U	
Aroclor 1260	780	UG/KG	U	
Dieldrin	78	UG/KG	U	
Endosulfan I	40	UG/KG	U	
Endosulfan II	78	UG/KG	U	
Endosulfan sulfate	78	UG/KG	U	
Endrin	78	UG/KG	U	
Endrin aldehyde	78	UG/KG	U	
Endrin ketone	78	UG/KG	U	
Heptachlor	40	UG/KG	U	
Heptachlor epoxide	40	UG/KG	U	
Methoxychlor	400	UG/KG	U	
Toxaphene	2000	UG/KG	U	
alpha-BHC	40	UG/KG	U	
alpha-Chlordane	40	UG/KG	U	
beta-BHC	40	UG/KG	U	
delta-BHC	40	UG/KG	U	
gamma-BHC (Lindane)	40	UG/KG	U	
gamma-Chlordane	40	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB24****PB-SB-008-1181-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	95	UG/KG	U	
4,4'-DDD	390	UG/KG	U	
4,4'-DDE	390	UG/KG	U	
4,4'-DDT	2200	UG/KG		
Aldrin	200	UG/KG	U	
Aroclor 1016	2000	UG/KG	U	
Aroclor 1221	2000	UG/KG	U	
Aroclor 1232	2000	UG/KG	U	
Aroclor 1242	2000	UG/KG	U	
Aroclor 1248	2000	UG/KG	U	
Aroclor 1254	3900	UG/KG	U	
Aroclor 1260	3900	UG/KG	U	
Dieldrin	390	UG/KG	U	
Endosulfan I	200	UG/KG	U	
Endosulfan II	390	UG/KG	U	
Endosulfan sulfate	390	UG/KG	U	
Endrin	390	UG/KG	U	
Endrin aldehyde	390	UG/KG	U	
Endrin ketone	390	UG/KG	U	
Heptachlor	200	UG/KG	U	
Heptachlor epoxide	200	UG/KG	U	
Methoxychlor	2000	UG/KG	U	
Toxaphene	9800	UG/KG	U	
alpha-BHC	200	UG/KG	U	
alpha-Chlordane	410	UG/KG		
beta-BHC	200	UG/KG	U	
delta-BHC	200	UG/KG	U	
gamma-BHC (Lindane)	200	UG/KG	U	
gamma-Chlordane	420	UG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB25****PB-SB-009-1183-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	25	UG/KG	U	
2,4,5-TP (Silvex)	25	UG/KG	U	
2,4-D	100	UG/KG	U	
4,4'-DDD	4.2	UG/KG	U	
4,4'-DDE	4.2	UG/KG	U	
4,4'-DDT	4.2	UG/KG	U	
Aldrin	2.2	UG/KG	U	
Aroclor 1016	22	UG/KG	U	
Aroclor 1221	22	UG/KG	U	
Aroclor 1232	22	UG/KG	U	
Aroclor 1242	22	UG/KG	U	
Aroclor 1248	22	UG/KG	U	
Aroclor 1254	42	UG/KG	U	
Aroclor 1260	42	UG/KG	U	
Dieldrin	4.2	UG/KG	U	
Endosulfan I	2.2	UG/KG	U	
Endosulfan II	4.2	UG/KG	U	
Endosulfan sulfate	4.2	UG/KG	U	
Endrin	4.2	UG/KG	U	
Endrin aldehyde	4.2	UG/KG	U	
Endrin ketone	4.2	UG/KG	U	
Heptachlor	2.2	UG/KG	U	
Heptachlor epoxide	2.2	UG/KG	U	
Methoxychlor	22	UG/KG	U	
Toxaphene	110	UG/KG	U	
alpha-BHC	2.2	UG/KG	U	
alpha-Chlordane	2.2	UG/KG	U	
beta-BHC	2.2	UG/KG	U	
delta-BHC	2.2	UG/KG	U	
gamma-BHC (Lindane)	2.2	UG/KG	U	
gamma-Chlordane	2.2	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB26****PB-SB-010-1185-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	96	UG/KG	U	
4,4'-DDD	4.0	UG/KG	U	
4,4'-DDE	4.0	UG/KG	U	
4,4'-DDT	4.0	UG/KG	U	
Aldrin	2.0	UG/KG	U	
Aroclor 1016	20	UG/KG	U	
Aroclor 1221	20	UG/KG	U	
Aroclor 1232	20	UG/KG	U	
Aroclor 1242	20	UG/KG	U	
Aroclor 1248	20	UG/KG	U	
Aroclor 1254	40	UG/KG	U	
Aroclor 1260	40	UG/KG	U	
Dieldrin	4.0	UG/KG	U	
Endosulfan I	2.0	UG/KG	U	
Endosulfan II	4.0	UG/KG	U	
Endosulfan sulfate	4.0	UG/KG	U	
Endrin	4.0	UG/KG	U	
Endrin aldehyde	4.0	UG/KG	U	
Endrin ketone	4.0	UG/KG	U	
Heptachlor	2.0	UG/KG	U	
Heptachlor epoxide	2.0	UG/KG	U	
Methoxychlor	20	UG/KG	U	
Toxaphene	100	UG/KG	U	
alpha-BHC	2.0	UG/KG	U	
alpha-Chlordane	2.0	UG/KG	U	
beta-BHC	2.0	UG/KG	U	
delta-BHC	2.0	UG/KG	U	
gamma-BHC (Lindane)	2.0	UG/KG	U	
gamma-Chlordane	2.0	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB27****PB-SB-011-1187-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	95	UG/KG	U	
4,4'-DDD	20	UG/KG	U	
4,4'-DDE	20	UG/KG	U	
4,4'-DDT	20	UG/KG	U	
Aldrin	10	UG/KG	U	
Aroclor 1016	100	UG/KG	U	
Aroclor 1221	100	UG/KG	U	
Aroclor 1232	100	UG/KG	U	
Aroclor 1242	100	UG/KG	U	
Aroclor 1248	100	UG/KG	U	
Aroclor 1254	200	UG/KG	U	
Aroclor 1260	200	UG/KG	U	
Dieldrin	20	UG/KG	U	
Endosulfan I	10	UG/KG	U	
Endosulfan II	20	UG/KG	U	
Endosulfan sulfate	20	UG/KG	U	
Endrin	20	UG/KG	U	
Endrin aldehyde	20	UG/KG	U	
Endrin ketone	20	UG/KG	U	
Heptachlor	10	UG/KG	U	
Heptachlor epoxide	10	UG/KG	U	
Methoxychlor	100	UG/KG	U	
Toxaphene	490	UG/KG	U	
alpha-BHC	10	UG/KG	U	
alpha-Chlordane	10	UG/KG	U	
beta-BHC	10	UG/KG	U	
delta-BHC	10	UG/KG	U	
gamma-BHC (Lindane)	10	UG/KG	U	
gamma-Chlordane	10	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB28****PB-SB-012-1189-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	95	UG/KG	U	
4,4'-DDD	78	UG/KG	U	
4,4'-DDE	78	UG/KG	U	
4,4'-DDT	78	UG/KG	U	
Aldrin	40	UG/KG	U	
Aroclor 1016	400	UG/KG	U	
Aroclor 1221	400	UG/KG	U	
Aroclor 1232	400	UG/KG	U	
Aroclor 1242	400	UG/KG	U	
Aroclor 1248	400	UG/KG	U	
Aroclor 1254	780	UG/KG	U	
Aroclor 1260	780	UG/KG	U	
Dieldrin	78	UG/KG	U	
Endosulfan I	40	UG/KG	U	
Endosulfan II	78	UG/KG	U	
Endosulfan sulfate	78	UG/KG	U	
Endrin	78	UG/KG	U	
Endrin aldehyde	78	UG/KG	U	
Endrin ketone	78	UG/KG	U	
Heptachlor	40	UG/KG	U	
Heptachlor epoxide	40	UG/KG	U	
Methoxychlor	400	UG/KG	U	
Toxaphene	2000	UG/KG	U	
alpha-BHC	40	UG/KG	U	
alpha-Chlordane	40	UG/KG	U	
beta-BHC	40	UG/KG	U	
delta-BHC	40	UG/KG	U	
gamma-BHC (Lindane)	40	UG/KG	U	
gamma-Chlordane	40	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SB29****PB-SB-013-1191-SO****1.0-2.0 FT****Field Sample Type: Composite - Subsurface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	26	UG/KG	U	
2,4,5-TP (Silvex)	26	UG/KG	U	
2,4-D	100	UG/KG	U	
4,4'-DDD	4.3	UG/KG	U	
4,4'-DDE	4.3	UG/KG	U	
4,4'-DDT	4.3	UG/KG	U	
Aldrin	2.2	UG/KG	U	
Aroclor 1016	22	UG/KG	U	
Aroclor 1221	22	UG/KG	U	
Aroclor 1232	22	UG/KG	U	
Aroclor 1242	22	UG/KG	U	
Aroclor 1248	22	UG/KG	U	
Aroclor 1254	43	UG/KG	U	
Aroclor 1260	43	UG/KG	U	
Dieldrin	4.3	UG/KG	U	
Endosulfan I	2.2	UG/KG	U	
Endosulfan II	4.3	UG/KG	U	
Endosulfan sulfate	4.3	UG/KG	U	
Endrin	4.3	UG/KG	U	
Endrin aldehyde	4.3	UG/KG	U	
Endrin ketone	4.3	UG/KG	U	
Heptachlor	2.2	UG/KG	U	
Heptachlor epoxide	2.2	UG/KG	U	
Methoxychlor	22	UG/KG	U	
Toxaphene	110	UG/KG	U	
alpha-BHC	2.2	UG/KG	U	
alpha-Chlordane	2.2	UG/KG	U	
beta-BHC	2.2	UG/KG	U	
delta-BHC	2.2	UG/KG	U	
gamma-BHC (Lindane)	2.2	UG/KG	U	
gamma-Chlordane	2.2	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS01****PB-SS-001-1206-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	90	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.6	UG/KG	U	
Aroclor 1016	96	UG/KG	U	
Aroclor 1221	96	UG/KG	U	
Aroclor 1232	96	UG/KG	U	
Aroclor 1242	96	UG/KG	U	
Aroclor 1248	96	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.6	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.6	UG/KG	U	
Heptachlor epoxide	9.6	UG/KG	U	
Methoxychlor	96	UG/KG	U	
Toxaphene	470	UG/KG	U	
alpha-BHC	9.6	UG/KG	U	
alpha-Chlordane	9.6	UG/KG	U	
beta-BHC	9.6	UG/KG	U	
delta-BHC	9.6	UG/KG	U	
gamma-BHC (Lindane)	9.6	UG/KG	U	
gamma-Chlordane	9.6	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building

Station: SS02

PB-SS-002-1203-SO

0.0-0.5 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/22/97

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	90	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.6	UG/KG	U	
Aroclor 1016	96	UG/KG	U	
Aroclor 1221	96	UG/KG	U	
Aroclor 1232	96	UG/KG	U	
Aroclor 1242	96	UG/KG	U	
Aroclor 1248	96	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.6	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.6	UG/KG	U	
Heptachlor epoxide	9.6	UG/KG	U	
Methoxychlor	96	UG/KG	U	
Toxaphene	470	UG/KG	U	
alpha-BHC	9.6	UG/KG	U	
alpha-Chlordane	9.6	UG/KG	U	
beta-BHC	9.6	UG/KG	U	
delta-BHC	9.6	UG/KG	U	
gamma-BHC (Lindane)	9.6	UG/KG	U	
gamma-Chlordane	9.6	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS03****PB-SS-003-1192-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	93	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.9	UG/KG	U	
Aroclor 1016	99	UG/KG	U	
Aroclor 1221	99	UG/KG	U	
Aroclor 1232	99	UG/KG	U	
Aroclor 1242	99	UG/KG	U	
Aroclor 1248	99	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.9	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.9	UG/KG	U	
Heptachlor epoxide	9.9	UG/KG	U	
Methoxychlor	99	UG/KG	U	
Toxaphene	480	UG/KG	U	
alpha-BHC	9.9	UG/KG	U	
alpha-Chlordane	9.9	UG/KG	U	
beta-BHC	9.9	UG/KG	U	
delta-BHC	9.9	UG/KG	U	
gamma-BHC (Lindane)	9.9	UG/KG	U	
gamma-Chlordane	9.9	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building

Station: SS04

PB-SS-004-1194-SO

0.0-0.5 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/22/97

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	98	UG/KG	U	
4,4'-DDD	20	UG/KG	U	
4,4'-DDE	20	UG/KG	U	
4,4'-DDT	20	UG/KG	U	
Aldrin	10	UG/KG	U	
Aroclor 1016	100	UG/KG	U	
Aroclor 1221	100	UG/KG	U	
Aroclor 1232	100	UG/KG	U	
Aroclor 1242	100	UG/KG	U	
Aroclor 1248	100	UG/KG	U	
Aroclor 1254	200	UG/KG	U	
Aroclor 1260	200	UG/KG	U	
Dieldrin	20	UG/KG	U	
Endosulfan I	10	UG/KG	U	
Endosulfan II	20	UG/KG	U	
Endosulfan sulfate	20	UG/KG	U	
Endrin	20	UG/KG	U	
Endrin aldehyde	20	UG/KG	U	
Endrin ketone	20	UG/KG	U	
Heptachlor	10	UG/KG	U	
Heptachlor epoxide	10	UG/KG	U	
Methoxychlor	100	UG/KG	U	
Toxaphene	510	UG/KG	U	
alpha-BHC	10	UG/KG	U	
alpha-Chlordane	10	UG/KG	U	
beta-BHC	10	UG/KG	U	
delta-BHC	10	UG/KG	U	
gamma-BHC (Lindane)	10	UG/KG	U	
gamma-Chlordane	10	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS05****PB-SS-005-1196-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	28	UG/KG	U	
2,4,5-TP (Silvex)	28	UG/KG	U	
2,4-D	110	UG/KG	U	
4,4'-DDD	4.6	UG/KG	U	
4,4'-DDE	4.6	UG/KG	U	
4,4'-DDT	4.6	UG/KG	U	
Aldrin	2.4	UG/KG	U	
Aroclor 1016	24	UG/KG	U	
Aroclor 1221	24	UG/KG	U	
Aroclor 1232	24	UG/KG	U	
Aroclor 1242	24	UG/KG	U	
Aroclor 1248	24	UG/KG	U	
Aroclor 1254	46	UG/KG	U	
Aroclor 1260	46	UG/KG	U	
Dieldrin	4.6	UG/KG	U	
Endosulfan I	2.4	UG/KG	U	
Endosulfan II	4.6	UG/KG	U	
Endosulfan sulfate	4.6	UG/KG	U	
Endrin	4.6	UG/KG	U	
Endrin aldehyde	4.6	UG/KG	U	
Endrin ketone	4.6	UG/KG	U	
Heptachlor	2.4	UG/KG	U	
Heptachlor epoxide	2.4	UG/KG	U	
Methoxychlor	24	UG/KG	U	
Toxaphene	120	UG/KG	U	
alpha-BHC	2.4	UG/KG	U	
alpha-Chlordane	2.4	UG/KG	U	
beta-BHC	2.4	UG/KG	U	
delta-BHC	2.4	UG/KG	U	
gamma-BHC (Lindane)	2.4	UG/KG	U	
gamma-Chlordane	2.4	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building

Station: SS06

PB-SS-006-1198-SO

0.0-0.5 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/22/97

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	90	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.6	UG/KG	U	
Aroclor 1016	96	UG/KG	U	
Aroclor 1221	96	UG/KG	U	
Aroclor 1232	96	UG/KG	U	
Aroclor 1242	96	UG/KG	U	
Aroclor 1248	96	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.6	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.6	UG/KG	U	
Heptachlor epoxide	9.6	UG/KG	U	
Methoxychlor	96	UG/KG	U	
Toxaphene	470	UG/KG	U	
alpha-BHC	9.6	UG/KG	U	
alpha-Chlordane	9.6	UG/KG	U	
beta-BHC	9.6	UG/KG	U	
delta-BHC	9.6	UG/KG	U	
gamma-BHC (Lindane)	9.6	UG/KG	U	
gamma-Chlordane	9.6	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building

Station: SS06

PB-SS-006D-1227-SO

0.0-0.5 FT

Field Sample Type: Field Duplicate

Collected: 11/22/97

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	92	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.8	UG/KG	U	
Aroclor 1016	98	UG/KG	U	
Aroclor 1221	98	UG/KG	U	
Aroclor 1232	98	UG/KG	U	
Aroclor 1242	98	UG/KG	U	
Aroclor 1248	98	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.8	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.8	UG/KG	U	
Heptachlor epoxide	9.8	UG/KG	U	
Methoxychlor	98	UG/KG	U	
Toxaphene	480	UG/KG	U	
alpha-BHC	9.8	UG/KG	U	
alpha-Chlordane	9.8	UG/KG	U	
beta-BHC	9.8	UG/KG	U	
delta-BHC	9.8	UG/KG	U	
gamma-BHC (Lindane)	9.8	UG/KG	U	
gamma-Chlordane	9.8	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS07****PB-SS-007-1204-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	87	UG/KG	U	
4,4'-DDD	3.6	UG/KG	U	
4,4'-DDE	3.6	UG/KG	U	
4,4'-DDT	3.6	UG/KG	U	
Aldrin	1.8	UG/KG	U	
Aroclor 1016	18	UG/KG	U	
Aroclor 1221	18	UG/KG	U	
Aroclor 1232	18	UG/KG	U	
Aroclor 1242	18	UG/KG	U	
Aroclor 1248	18	UG/KG	U	
Aroclor 1254	36	UG/KG	U	
Aroclor 1260	36	UG/KG	U	
Dieldrin	3.6	UG/KG	U	
Endosulfan I	1.8	UG/KG	U	
Endosulfan II	3.6	UG/KG	U	
Endosulfan sulfate	3.6	UG/KG	U	
Endrin	3.6	UG/KG	U	
Endrin aldehyde	3.6	UG/KG	U	
Endrin ketone	3.6	UG/KG	U	
Heptachlor	1.8	UG/KG	U	
Heptachlor epoxide	1.8	UG/KG	U	
Methoxychlor	18	UG/KG	U	
Toxaphene	90	UG/KG	U	
alpha-BHC	1.8	UG/KG	U	
alpha-Chlordane	1.8	UG/KG	U	
beta-BHC	1.8	UG/KG	U	
delta-BHC	1.8	UG/KG	U	
gamma-BHC (Lindane)	1.8	UG/KG	U	
gamma-Chlordane	1.8	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS08****PB-SS-008-1205-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	89	UG/KG	U	
4,4'-DDD	18	UG/KG	U	
4,4'-DDE	18	UG/KG	U	
4,4'-DDT	18	UG/KG	U	
Aldrin	9.4	UG/KG	U	
Aroclor 1016	94	UG/KG	U	
Aroclor 1221	94	UG/KG	U	
Aroclor 1232	94	UG/KG	U	
Aroclor 1242	94	UG/KG	U	
Aroclor 1248	94	UG/KG	U	
Aroclor 1254	180	UG/KG	U	
Aroclor 1260	180	UG/KG	U	
Dieldrin	18	UG/KG	U	
Endosulfan I	9.4	UG/KG	U	
Endosulfan II	18	UG/KG	U	
Endosulfan sulfate	18	UG/KG	U	
Endrin	18	UG/KG	U	
Endrin aldehyde	18	UG/KG	U	
Endrin ketone	18	UG/KG	U	
Heptachlor	9.4	UG/KG	U	
Heptachlor epoxide	9.4	UG/KG	U	
Methoxychlor	94	UG/KG	U	
Toxaphene	460	UG/KG	U	
alpha-BHC	9.4	UG/KG	U	
alpha-Chlordane	9.4	UG/KG	U	
beta-BHC	9.4	UG/KG	U	
delta-BHC	9.4	UG/KG	U	
gamma-BHC (Lindane)	9.4	UG/KG	U	
gamma-Chlordane	9.4	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS09****PB-SS-009-1167-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	91	UG/KG	U	
4,4'-DDD	37	UG/KG	U	
4,4'-DDE	37	UG/KG	U	
4,4'-DDT	37	UG/KG	U	
Aldrin	19	UG/KG	U	
Aroclor 1016	190	UG/KG	U	
Aroclor 1221	190	UG/KG	U	
Aroclor 1232	190	UG/KG	U	
Aroclor 1242	190	UG/KG	U	
Aroclor 1248	190	UG/KG	U	
Aroclor 1254	370	UG/KG	U	
Aroclor 1260	370	UG/KG	U	
Dieldrin	37	UG/KG	U	
Endosulfan I	19	UG/KG	U	
Endosulfan II	37	UG/KG	U	
Endosulfan sulfate	37	UG/KG	U	
Endrin	37	UG/KG	U	
Endrin aldehyde	37	UG/KG	U	
Endrin ketone	37	UG/KG	U	
Heptachlor	19	UG/KG	U	
Heptachlor epoxide	19	UG/KG	U	
Methoxychlor	190	UG/KG	U	
Toxaphene	940	UG/KG	U	
alpha-BHC	19	UG/KG	U	
alpha-Chlordane	19	UG/KG	U	
beta-BHC	19	UG/KG	U	
delta-BHC	19	UG/KG	U	
gamma-BHC (Lindane)	19	UG/KG	U	
gamma-Chlordane	19	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS10****PB-SS-010-1207-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	89	UG/KG	U	
4,4'-DDD	18	UG/KG	U	
4,4'-DDE	18	UG/KG	U	
4,4'-DDT	18	UG/KG	U	
Aldrin	9.5	UG/KG	U	
Aroclor 1016	95	UG/KG	U	
Aroclor 1221	95	UG/KG	U	
Aroclor 1232	95	UG/KG	U	
Aroclor 1242	95	UG/KG	U	
Aroclor 1248	95	UG/KG	U	
Aroclor 1254	180	UG/KG	U	
Aroclor 1260	180	UG/KG	U	
Dieldrin	18	UG/KG	U	
Endosulfan I	9.5	UG/KG	U	
Endosulfan II	18	UG/KG	U	
Endosulfan sulfate	18	UG/KG	U	
Endrin	18	UG/KG	U	
Endrin aldehyde	18	UG/KG	U	
Endrin ketone	18	UG/KG	U	
Heptachlor	9.5	UG/KG	U	
Heptachlor epoxide	9.5	UG/KG	U	
Methoxychlor	95	UG/KG	U	
Toxaphene	460	UG/KG	U	
alpha-BHC	9.5	UG/KG	U	
alpha-Chlordane	9.5	UG/KG	U	
beta-BHC	9.5	UG/KG	U	
delta-BHC	9.5	UG/KG	U	
gamma-BHC (Lindane)	9.5	UG/KG	U	
gamma-Chlordane	9.5	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS11****PB-SS-011-1193-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	91	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.7	UG/KG	U	
Aroclor 1016	97	UG/KG	U	
Aroclor 1221	97	UG/KG	U	
Aroclor 1232	97	UG/KG	U	
Aroclor 1242	97	UG/KG	U	
Aroclor 1248	97	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.7	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.7	UG/KG	U	
Heptachlor epoxide	9.7	UG/KG	U	
Methoxychlor	97	UG/KG	U	
Toxaphene	470	UG/KG	U	
alpha-BHC	9.7	UG/KG	U	
alpha-Chlordane	9.7	UG/KG	U	
beta-BHC	9.7	UG/KG	U	
delta-BHC	9.7	UG/KG	U	
gamma-BHC (Lindane)	9.7	UG/KG	U	
gamma-Chlordane	9.7	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS12****PB-SS-012-1195-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	91	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.7	UG/KG	U	
Aroclor 1016	97	UG/KG	U	
Aroclor 1221	97	UG/KG	U	
Aroclor 1232	97	UG/KG	U	
Aroclor 1242	97	UG/KG	U	
Aroclor 1248	97	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.7	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.7	UG/KG	U	
Heptachlor epoxide	9.7	UG/KG	U	
Methoxychlor	97	UG/KG	U	
Toxaphene	470	UG/KG	U	
alpha-BHC	9.7	UG/KG	U	
alpha-Chlordane	9.7	UG/KG	U	
beta-BHC	9.7	UG/KG	U	
delta-BHC	9.7	UG/KG	U	
gamma-BHC (Lindane)	9.7	UG/KG	U	
gamma-Chlordane	9.7	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS13****PB-SS-013-1168-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	87	UG/KG	U	
4,4'-DDD	36	UG/KG	U	
4,4'-DDE	36	UG/KG	U	
4,4'-DDT	36	UG/KG	U	
Aldrin	18	UG/KG	U	
Aroclor 1016	180	UG/KG	U	
Aroclor 1221	180	UG/KG	U	
Aroclor 1232	180	UG/KG	U	
Aroclor 1242	180	UG/KG	U	
Aroclor 1248	180	UG/KG	U	
Aroclor 1254	360	UG/KG	U	
Aroclor 1260	360	UG/KG	U	
Dieldrin	36	UG/KG	U	
Endosulfan I	18	UG/KG	U	
Endosulfan II	36	UG/KG	U	
Endosulfan sulfate	36	UG/KG	U	
Endrin	36	UG/KG	U	
Endrin aldehyde	36	UG/KG	U	
Endrin ketone	36	UG/KG	U	
Heptachlor	18	UG/KG	U	
Heptachlor epoxide	18	UG/KG	U	
Methoxychlor	180	UG/KG	U	
Toxaphene	900	UG/KG	U	
alpha-BHC	18	UG/KG	U	
alpha-Chlordane	18	UG/KG	U	
beta-BHC	18	UG/KG	U	
delta-BHC	18	UG/KG	U	
gamma-BHC (Lindane)	18	UG/KG	U	
gamma-Chlordane	18	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS14****PB-SS-014-1170-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	92	UG/KG	U	
4,4'-DDD	38	UG/KG	U	
4,4'-DDE	38	UG/KG	U	
4,4'-DDT	38	UG/KG	U	
Aldrin	20	UG/KG	U	
Aroclor 1016	200	UG/KG	U	
Aroclor 1221	200	UG/KG	U	
Aroclor 1232	200	UG/KG	U	
Aroclor 1242	200	UG/KG	U	
Aroclor 1248	200	UG/KG	U	
Aroclor 1254	380	UG/KG	U	
Aroclor 1260	380	UG/KG	U	
Dieldrin	38	UG/KG	U	
Endosulfan I	20	UG/KG	U	
Endosulfan II	38	UG/KG	U	
Endosulfan sulfate	38	UG/KG	U	
Endrin	38	UG/KG	U	
Endrin aldehyde	38	UG/KG	U	
Endrin ketone	38	UG/KG	U	
Heptachlor	20	UG/KG	U	
Heptachlor epoxide	20	UG/KG	U	
Methoxychlor	200	UG/KG	U	
Toxaphene	960	UG/KG	U	
alpha-BHC	20	UG/KG	U	
alpha-Chlordane	20	UG/KG	U	
beta-BHC	20	UG/KG	U	
delta-BHC	20	UG/KG	U	
gamma-BHC (Lindane)	20	UG/KG	U	
gamma-Chlordane	20	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS15****PB-SS-015-1172-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	90	UG/KG	U	
4,4'-DDD	18	UG/KG	U	
4,4'-DDE	18	UG/KG	U	
4,4'-DDT	23	UG/KG	PF	
Aldrin	9.5	UG/KG	U	
Aroclor 1016	95	UG/KG	U	
Aroclor 1221	95	UG/KG	U	
Aroclor 1232	95	UG/KG	U	
Aroclor 1242	95	UG/KG	U	
Aroclor 1248	95	UG/KG	U	
Aroclor 1254	180	UG/KG	U	
Aroclor 1260	180	UG/KG	U	
Dieldrin	18	UG/KG	U	
Endosulfan I	9.5	UG/KG	U	
Endosulfan II	18	UG/KG	U	
Endosulfan sulfate	18	UG/KG	U	
Endrin	18	UG/KG	U	
Endrin aldehyde	18	UG/KG	U	
Endrin ketone	18	UG/KG	U	
Heptachlor	9.5	UG/KG	U	
Heptachlor epoxide	9.5	UG/KG	U	
Methoxychlor	95	UG/KG	U	
Toxaphene	470	UG/KG	U	
alpha-BHC	9.5	UG/KG	U	
alpha-Chlordane	9.5	UG/KG	U	
beta-BHC	9.5	UG/KG	U	
delta-BHC	9.5	UG/KG	U	
gamma-BHC (Lindane)	9.5	UG/KG	U	
gamma-Chlordane	9.5	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS16****PB-SS-016-1174-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	97	UG/KG	U	
4,4'-DDD	20	UG/KG	U	
4,4'-DDE	20	UG/KG	U	
4,4'-DDT	20	UG/KG	U	
Aldrin	10	UG/KG	U	
Aroclor 1016	100	UG/KG	U	
Aroclor 1221	100	UG/KG	U	
Aroclor 1232	100	UG/KG	U	
Aroclor 1242	100	UG/KG	U	
Aroclor 1248	100	UG/KG	U	
Aroclor 1254	200	UG/KG	U	
Aroclor 1260	200	UG/KG	U	
Dieldrin	20	UG/KG	U	
Endosulfan I	10	UG/KG	U	
Endosulfan II	20	UG/KG	U	
Endosulfan sulfate	20	UG/KG	U	
Endrin	20	UG/KG	U	
Endrin aldehyde	20	UG/KG	U	
Endrin ketone	20	UG/KG	U	
Heptachlor	10	UG/KG	U	
Heptachlor epoxide	10	UG/KG	U	
Methoxychlor	100	UG/KG	U	
Toxaphene	500	UG/KG	U	
alpha-BHC	10	UG/KG	U	
alpha-Chlordane	10	UG/KG	U	
beta-BHC	10	UG/KG	U	
delta-BHC	10	UG/KG	U	
gamma-BHC (Lindane)	10	UG/KG	U	
gamma-Chlordane	10	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS17****PB-SS-017-1176-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	89	UG/KG	U	
4,4'-DDD	3.7	UG/KG	U	
4,4'-DDE	3.7	UG/KG	U	
4,4'-DDT	11	UG/KG		J
Aldrin	1.9	UG/KG	U	
Aroclor 1016	19	UG/KG	U	
Aroclor 1221	19	UG/KG	U	
Aroclor 1232	19	UG/KG	U	
Aroclor 1242	19	UG/KG	U	
Aroclor 1248	19	UG/KG	U	
Aroclor 1254	37	UG/KG	U	
Aroclor 1260	37	UG/KG	U	
Dieldrin	3.7	UG/KG	U	
Endosulfan I	1.9	UG/KG	U	
Endosulfan II	3.7	UG/KG	U	
Endosulfan sulfate	3.7	UG/KG	U	
Endrin	3.7	UG/KG	U	
Endrin aldehyde	3.7	UG/KG	U	
Endrin ketone	3.7	UG/KG	U	
Heptachlor	1.9	UG/KG	U	
Heptachlor epoxide	1.9	UG/KG	U	
Methoxychlor	19	UG/KG	U	
Toxaphene	92	UG/KG	U	
alpha-BHC	1.9	UG/KG	U	
alpha-Chlordane	19	UG/KG	PF	
beta-BHC	1.9	UG/KG	U	
delta-BHC	1.9	UG/KG	U	
gamma-BHC (Lindane)	1.9	UG/KG	U	
gamma-Chlordane	15	UG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS18****PB-SS-018-1199-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	87	UG/KG	U	
4,4'-DDD	36	UG/KG	U	
4,4'-DDE	36	UG/KG	U	
4,4'-DDT	36	UG/KG	U	
Aldrin	19	UG/KG	U	
Aroclor 1016	190	UG/KG	U	
Aroclor 1221	190	UG/KG	U	
Aroclor 1232	190	UG/KG	U	
Aroclor 1242	190	UG/KG	U	
Aroclor 1248	190	UG/KG	U	
Aroclor 1254	360	UG/KG	U	
Aroclor 1260	360	UG/KG	U	
Dieldrin	36	UG/KG	U	
Endosulfan I	19	UG/KG	U	
Endosulfan II	36	UG/KG	U	
Endosulfan sulfate	36	UG/KG	U	
Endrin	36	UG/KG	U	
Endrin aldehyde	36	UG/KG	U	
Endrin ketone	36	UG/KG	U	
Heptachlor	19	UG/KG	U	
Heptachlor epoxide	19	UG/KG	U	
Methoxychlor	190	UG/KG	U	
Toxaphene	900	UG/KG	U	
alpha-BHC	19	UG/KG	U	
alpha-Chlordane	19	UG/KG	U	
beta-BHC	19	UG/KG	U	
delta-BHC	19	UG/KG	U	
gamma-BHC (Lindane)	19	UG/KG	U	
gamma-Chlordane	19	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

I-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS18****PB-SS-018D-1228-SO****0.0-0.5 FT****Field Sample Type: Field Duplicate****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	92	UG/KG	U	
4,4'-DDD	38	UG/KG	U	
4,4'-DDE	38	UG/KG	U	
4,4'-DDT	38	UG/KG	U	
Aldrin	20	UG/KG	U	
Aroclor 1016	200	UG/KG	U	
Aroclor 1221	200	UG/KG	U	
Aroclor 1232	200	UG/KG	U	
Aroclor 1242	200	UG/KG	U	
Aroclor 1248	200	UG/KG	U	
Aroclor 1254	380	UG/KG	U	
Aroclor 1260	380	UG/KG	U	
Dieldrin	38	UG/KG	U	
Endosulfan I	20	UG/KG	U	
Endosulfan II	38	UG/KG	U	
Endosulfan sulfate	38	UG/KG	U	
Endrin	38	UG/KG	U	
Endrin aldehyde	38	UG/KG	U	
Endrin ketone	38	UG/KG	U	
Heptachlor	20	UG/KG	U	
Heptachlor epoxide	20	UG/KG	U	
Methoxychlor	200	UG/KG	U	
Toxaphene	950	UG/KG	U	
alpha-BHC	20	UG/KG	U	
alpha-Chlordane	20	UG/KG	U	
beta-BHC	20	UG/KG	U	
delta-BHC	20	UG/KG	U	
gamma-BHC (Lindane)	20	UG/KG	U	
gamma-Chlordane	20	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS19****PB-SS-019-1200-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	91	UG/KG	U	
4,4'-DDD	38	UG/KG	U	
4,4'-DDE	38	UG/KG	U	
4,4'-DDT	38	UG/KG	U	
Aldrin	19	UG/KG	U	
Aroclor 1016	190	UG/KG	U	
Aroclor 1221	190	UG/KG	U	
Aroclor 1232	190	UG/KG	U	
Aroclor 1242	190	UG/KG	U	
Aroclor 1248	190	UG/KG	U	
Aroclor 1254	380	UG/KG	U	
Aroclor 1260	380	UG/KG	U	
Dieldrin	38	UG/KG	U	
Endosulfan I	19	UG/KG	U	
Endosulfan II	38	UG/KG	U	
Endosulfan sulfate	38	UG/KG	U	
Endrin	38	UG/KG	U	
Endrin aldehyde	38	UG/KG	U	
Endrin ketone	38	UG/KG	U	
Heptachlor	19	UG/KG	U	
Heptachlor epoxide	19	UG/KG	U	
Methoxychlor	190	UG/KG	U	
Toxaphene	950	UG/KG	U	
alpha-BHC	19	UG/KG	U	
alpha-Chlordane	19	UG/KG	U	
beta-BHC	19	UG/KG	U	
delta-BHC	19	UG/KG	U	
gamma-BHC (Lindane)	19	UG/KG	U	
gamma-Chlordane	19	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS19****PB-SS-019D-1229-SO****0.0-0.5 FT****Field Sample Type: Field Duplicate****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	93	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.9	UG/KG	U	
Aroclor 1016	99	UG/KG	U	
Aroclor 1221	99	UG/KG	U	
Aroclor 1232	99	UG/KG	U	
Aroclor 1242	99	UG/KG	U	
Aroclor 1248	99	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.9	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.9	UG/KG	U	
Heptachlor epoxide	9.9	UG/KG	U	
Methoxychlor	99	UG/KG	U	
Toxaphene	480	UG/KG	U	
alpha-BHC	9.9	UG/KG	U	
alpha-Chlordane	55	UG/KG	PF	
beta-BHC	9.9	UG/KG	U	
delta-BHC	9.9	UG/KG	U	
gamma-BHC (Lindane)	9.9	UG/KG	U	
gamma-Chlordane	43	UG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS20****PB-SS-020-1201-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	27	UG/KG	U	
2,4,5-TP (Silvex)	27	UG/KG	U	
2,4-D	110	UG/KG	U	
4,4'-DDD	90	UG/KG	U	
4,4'-DDE	90	UG/KG	U	
4,4'-DDT	90	UG/KG	U	
Aldrin	47	UG/KG	U	
Aroclor 1016	470	UG/KG	U	
Aroclor 1221	470	UG/KG	U	
Aroclor 1232	470	UG/KG	U	
Aroclor 1242	470	UG/KG	U	
Aroclor 1248	470	UG/KG	U	
Aroclor 1254	4000	UG/KG		J
Aroclor 1260	900	UG/KG	U	
Dieldrin	90	UG/KG	U	
Endosulfan I	47	UG/KG	U	
Endosulfan II	90	UG/KG	U	
Endosulfan sulfate	90	UG/KG	U	
Endrin	90	UG/KG	U	
Endrin aldehyde	90	UG/KG	U	
Endrin ketone	90	UG/KG	U	
Heptachlor	47	UG/KG	U	
Heptachlor epoxide	47	UG/KG	U	
Methoxychlor	470	UG/KG	U	
Toxaphene	2300	UG/KG	U	
alpha-BHC	47	UG/KG	U	
alpha-Chlordane	47	UG/KG	U	
beta-BHC	47	UG/KG	U	
delta-BHC	47	UG/KG	U	
gamma-BHC (Lindane)	47	UG/KG	U	
gamma-Chlordane	76	UG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS21****PB-SS-021-1202-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	24	UG/KG	U	
2,4,5-TP (Silvex)	24	UG/KG	U	
2,4-D	95	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	10	UG/KG	U	
Aroclor 1016	100	UG/KG	U	
Aroclor 1221	100	UG/KG	U	
Aroclor 1232	100	UG/KG	U	
Aroclor 1242	100	UG/KG	U	
Aroclor 1248	100	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	10	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	10	UG/KG	U	
Heptachlor epoxide	10	UG/KG	U	
Methoxychlor	100	UG/KG	U	
Toxaphene	490	UG/KG	U	
alpha-BHC	10	UG/KG	U	
alpha-Chlordane	10	UG/KG	U	
beta-BHC	10	UG/KG	U	
delta-BHC	10	UG/KG	U	
gamma-BHC (Lindane)	10	UG/KG	U	
gamma-Chlordane	10	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS21****PB-SS-021D-1230-SO****0.0-0.5 FT****Field Sample Type: Field Duplicate****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	91	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.7	UG/KG	U	
Aroclor 1016	97	UG/KG	U	
Aroclor 1221	97	UG/KG	U	
Aroclor 1232	97	UG/KG	U	
Aroclor 1242	97	UG/KG	U	
Aroclor 1248	97	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.7	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.7	UG/KG	U	
Heptachlor epoxide	9.7	UG/KG	U	
Methoxychlor	97	UG/KG	U	
Toxaphene	470	UG/KG	U	
alpha-BHC	9.7	UG/KG	U	
alpha-Chlordane	9.7	UG/KG	U	
beta-BHC	9.7	UG/KG	U	
delta-BHC	9.7	UG/KG	U	
gamma-BHC (Lindane)	9.7	UG/KG	U	
gamma-Chlordane	9.7	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS23****PB-SS-023-1178-SO****0.0-0.5 FT****Field Sample Type: Split Sample****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	25	UG/KG	U	
2,4,5-TP (Silvex)	25	UG/KG	U	
2,4-D	100	UG/KG	U	
4,4'-DDD	82	UG/KG	U	
4,4'-DDE	82	UG/KG	U	
4,4'-DDT	82	UG/KG	U	
Aldrin	42	UG/KG	U	
Aroclor 1016	420	UG/KG	U	
Aroclor 1221	420	UG/KG	U	
Aroclor 1232	420	UG/KG	U	
Aroclor 1242	420	UG/KG	U	
Aroclor 1248	420	UG/KG	U	
Aroclor 1254	820	UG/KG	U	
Aroclor 1260	820	UG/KG	U	
Dieldrin	82	UG/KG	U	
Endosulfan I	42	UG/KG	U	
Endosulfan II	82	UG/KG	U	
Endosulfan sulfate	82	UG/KG	U	
Endrin	82	UG/KG	U	
Endrin aldehyde	82	UG/KG	U	
Endrin ketone	82	UG/KG	U	
Heptachlor	42	UG/KG	U	
Heptachlor epoxide	42	UG/KG	U	
Methoxychlor	420	UG/KG	U	
Toxaphene	2100	UG/KG	U	
alpha-BHC	42	UG/KG	U	
alpha-Chlordane	42	UG/KG	U	
beta-BHC	42	UG/KG	U	
delta-BHC	42	UG/KG	U	
gamma-BHC (Lindane)	42	UG/KG	U	
gamma-Chlordane	42	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS24****PB-SS-024-1180-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	30	UG/KG	U	
2,4,5-TP (Silvex)	30	UG/KG	U	
2,4-D	120	UG/KG	U	
4,4'-DDD	4900	UG/KG	U	
4,4'-DDE	4900	UG/KG	U	
4,4'-DDT	29000	UG/KG		
Aldrin	2500	UG/KG	U	
Aroclor 1016	25000	UG/KG	U	
Aroclor 1221	25000	UG/KG	U	
Aroclor 1232	25000	UG/KG	U	
Aroclor 1242	25000	UG/KG	U	
Aroclor 1248	25000	UG/KG	U	
Aroclor 1254	49000	UG/KG	U	
Aroclor 1260	49000	UG/KG	U	
Dieldrin	4900	UG/KG	U	
Endosulfan I	2500	UG/KG	U	
Endosulfan II	4900	UG/KG	U	
Endosulfan sulfate	4900	UG/KG	U	
Endrin	4900	UG/KG	U	
Endrin aldehyde	4900	UG/KG	U	
Endrin ketone	4900	UG/KG	U	
Heptachlor	2500	UG/KG	U	
Heptachlor epoxide	2500	UG/KG	U	
Methoxychlor	25000	UG/KG	U	
Toxaphene	120000	UG/KG	U	
alpha-BHC	2500	UG/KG	U	
alpha-Chlordane	4900	UG/KG		
beta-BHC	2500	UG/KG	U	
delta-BHC	2500	UG/KG	U	
gamma-BHC (Lindane)	2500	UG/KG	U	
gamma-Chlordane	5200	UG/KG		

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building

Station: SS25

PB-SS-025-1182-SO

0.0-0.5 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/22/97

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	29	UG/KG	U	
2,4,5-TP (Silvex)	29	UG/KG	U	
2,4-D	120	UG/KG	U	
4,4'-DDD	48	UG/KG	U	
4,4'-DDE	48	UG/KG	U	
4,4'-DDT	48	UG/KG	U	
Aldrin	25	UG/KG	U	
Aroclor 1016	250	UG/KG	U	
Aroclor 1221	250	UG/KG	U	
Aroclor 1232	250	UG/KG	U	
Aroclor 1242	250	UG/KG	U	
Aroclor 1248	250	UG/KG	U	
Aroclor 1254	480	UG/KG	U	
Aroclor 1260	480	UG/KG	U	
Dieldrin	48	UG/KG	U	
Endosulfan I	25	UG/KG	U	
Endosulfan II	48	UG/KG	U	
Endosulfan sulfate	48	UG/KG	U	
Endrin	48	UG/KG	U	
Endrin aldehyde	48	UG/KG	U	
Endrin ketone	48	UG/KG	U	
Heptachlor	25	UG/KG	U	
Heptachlor epoxide	25	UG/KG	U	
Methoxychlor	250	UG/KG	U	
Toxaphene	1200	UG/KG	U	
alpha-BHC	25	UG/KG	U	
alpha-Chlordane	25	UG/KG	U	
beta-BHC	25	UG/KG	U	
delta-BHC	25	UG/KG	U	
gamma-BHC (Lindane)	25	UG/KG	U	
gamma-Chlordane	25	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS26****PB-SS-026-1184-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/24/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	31	UG/KG	U	
2,4,5-TP (Silvex)	31	UG/KG	U	
2,4-D	120	UG/KG	U	
4,4'-DDD	25	UG/KG	U	
4,4'-DDE	25	UG/KG	U	
4,4'-DDT	25	UG/KG	U	
Aldrin	13	UG/KG	U	
Aroclor 1016	130	UG/KG	U	
Aroclor 1221	130	UG/KG	U	
Aroclor 1232	130	UG/KG	U	
Aroclor 1242	130	UG/KG	U	
Aroclor 1248	130	UG/KG	U	
Aroclor 1254	250	UG/KG	U	
Aroclor 1260	250	UG/KG	U	
Dieldrin	25	UG/KG	U	
Endosulfan I	13	UG/KG	U	
Endosulfan II	25	UG/KG	U	
Endosulfan sulfate	25	UG/KG	U	
Endrin	25	UG/KG	U	
Endrin aldehyde	25	UG/KG	U	
Endrin ketone	25	UG/KG	U	
Heptachlor	13	UG/KG	U	
Heptachlor epoxide	13	UG/KG	U	
Methoxychlor	130	UG/KG	U	
Toxaphene	630	UG/KG	U	
alpha-BHC	13	UG/KG	U	
alpha-Chlordane	13	UG/KG	U	
beta-BHC	13	UG/KG	U	
delta-BHC	13	UG/KG	U	
gamma-BHC (Lindane)	13	UG/KG	U	
gamma-Chlordane	13	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns
J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building

Station: SS27

PB-SS-027-1186-SO

0.0-0.5 FT

Field Sample Type: Composite - Surface Soil

Collected: 11/22/97

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	23	UG/KG	U	
2,4,5-TP (Silvex)	23	UG/KG	U	
2,4-D	93	UG/KG	U	
4,4'-DDD	19	UG/KG	U	
4,4'-DDE	19	UG/KG	U	
4,4'-DDT	19	UG/KG	U	
Aldrin	9.8	UG/KG	U	
Aroclor 1016	98	UG/KG	U	
Aroclor 1221	98	UG/KG	U	
Aroclor 1232	98	UG/KG	U	
Aroclor 1242	98	UG/KG	U	
Aroclor 1248	98	UG/KG	U	
Aroclor 1254	190	UG/KG	U	
Aroclor 1260	190	UG/KG	U	
Dieldrin	19	UG/KG	U	
Endosulfan I	9.8	UG/KG	U	
Endosulfan II	19	UG/KG	U	
Endosulfan sulfate	19	UG/KG	U	
Endrin	19	UG/KG	U	
Endrin aldehyde	19	UG/KG	U	
Endrin ketone	19	UG/KG	U	
Heptachlor	9.8	UG/KG	U	
Heptachlor epoxide	9.8	UG/KG	U	
Methoxychlor	98	UG/KG	U	
Toxaphene	480	UG/KG	U	
alpha-BHC	9.8	UG/KG	U	
alpha-Chlordane	17	UG/KG	PF	
beta-BHC	9.8	UG/KG	U	
delta-BHC	9.8	UG/KG	U	
gamma-BHC (Lindane)	9.8	UG/KG	U	
gamma-Chlordane	13	UG/KG		J

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UI-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS28****PB-SS-028-1188-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	22	UG/KG	U	
2,4,5-TP (Silvex)	22	UG/KG	U	
2,4-D	88	UG/KG	U	
4,4'-DDD	36	UG/KG	U	
4,4'-DDE	36	UG/KG	U	
4,4'-DDT	36	UG/KG	U	
Aldrin	19	UG/KG	U	
Aroclor 1016	190	UG/KG	U	
Aroclor 1221	190	UG/KG	U	
Aroclor 1232	190	UG/KG	U	
Aroclor 1242	190	UG/KG	U	
Aroclor 1248	190	UG/KG	U	
Aroclor 1254	360	UG/KG	U	
Aroclor 1260	360	UG/KG	U	
Dieldrin	36	UG/KG	U	
Endosulfan I	19	UG/KG	U	
Endosulfan II	36	UG/KG	U	
Endosulfan sulfate	36	UG/KG	U	
Endrin	36	UG/KG	U	
Endrin aldehyde	36	UG/KG	U	
Endrin ketone	36	UG/KG	U	
Heptachlor	19	UG/KG	U	
Heptachlor epoxide	19	UG/KG	U	
Methoxychlor	190	UG/KG	U	
Toxaphene	920	UG/KG	U	
alpha-BHC	19	UG/KG	U	
alpha-Chlordane	19	UG/KG	U	
beta-BHC	19	UG/KG	U	
delta-BHC	19	UG/KG	U	
gamma-BHC (Lindane)	19	UG/KG	U	
gamma-Chlordane	19	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Location: Pesticides Building**Station: SS29****PB-SS-029-1190-SO****0.0-0.5 FT****Field Sample Type: Composite - Surface Soil****Collected: 11/22/97**

Pesticides and/or PCBs	Result	Units	Qualifiers	
			Lab	Data
2,4,5-T	35	UG/KG	U	
2,4,5-TP (Silvex)	35	UG/KG	U	
2,4-D	140	UG/KG	U	
4,4'-DDD	110	UG/KG	U	
4,4'-DDE	110	UG/KG	U	
4,4'-DDT	110	UG/KG	U	
Aldrin	59	UG/KG	U	
Aroclor 1016	590	UG/KG	U	
Aroclor 1221	590	UG/KG	U	
Aroclor 1232	590	UG/KG	U	
Aroclor 1242	590	UG/KG	U	
Aroclor 1248	590	UG/KG	U	
Aroclor 1254	1100	UG/KG	U	
Aroclor 1260	1100	UG/KG	U	
Dieldrin	110	UG/KG	U	
Endosulfan I	59	UG/KG	U	
Endosulfan II	110	UG/KG	U	
Endosulfan sulfate	110	UG/KG	U	
Endrin	110	UG/KG	U	
Endrin aldehyde	110	UG/KG	U	
Endrin ketone	110	UG/KG	U	
Heptachlor	59	UG/KG	U	
Heptachlor epoxide	59	UG/KG	U	
Methoxychlor	590	UG/KG	U	
Toxaphene	2900	UG/KG	U	
alpha-BHC	59	UG/KG	U	
alpha-Chlordane	59	UG/KG	U	
beta-BHC	59	UG/KG	U	
delta-BHC	59	UG/KG	U	
gamma-BHC (Lindane)	59	UG/KG	U	
gamma-Chlordane	59	UG/KG	U	

Data Qualifiers:

L-Serial dilution criteria not met MBB-Detected in method blank at less than 5% of sample amount PF-RPD greater than 50% difference between columns

J-Estimated value U-Not detected UJ-Not detected, associated value uncertain

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
CS1272	Brown SILTY FINE TO COARSE SAND	12.8
CS1273	Brown FINE SAND , Traces of Fine to Coarse Gravel	15.7
CS1274	Brown SANDY SILT	21.3
CS1275	Brown Lean CLAY with Sand [CL]	20.2
CS1276	Brown and Gray SANDY SILTY CLAY [CL-ML]	23.5
CS1277	Brown SANDY SILT	18.2
CS1278	Brown SILTY FINE TO MEDIUM SAND	13.5
DF1151	Brown SILTY FINE TO COARSE SAND AND GRAVEL	17.9
DF1152	Dark Brown SILT with Roots	18.8
DF1153	Brown SANDY SILT	15.8
DF1154	Brown SANDY SILT	14.2
DF1155	Brown SANDY SILT	15.9
DF1156	Brown SILTY FINE TO COARSE SAND AND GRAVEL	18.4
DF1157	Brown SILTY SAND [SM]	19.2
DF1158	Brown SANDY SILT with Roots	16.9
DF1159	Brown SANDY SILT with Roots	14.9
DF1160	Brown SANDY SILT with Roots	14.6
DF1161, 6'-8'	Brown SILTY FINE SAND with Silt Seams	10.9

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
DF1162, 8'-10'	Brown SILTY FINE TO COARSE SAND AND GRAVEL	11.2
DF1261, 10'-12'	Brown SILTY SAND, [SM]	14.2
DF1262, 12'-14'	Brown FINE SAND	22.3
DF1263	Brown SILTY SAND [SM]	19.7
OD1001	Grayish Brown SILTY SAND AND GRAVEL	8.4
OD1002	Brown SILT , Traces of Clay	22.0
OD1003	Brown and Gray SILTY CLAY	24.4
OD1004	Brown and Gray SILTY SAND AND GRAVEL	12.1
OD1005	Brown and Gray SANDY SILT with Gravel	17.5
OD1006	Brown and Gray SILT with Roots	26.8
OD1007	Grayish Brown SILTY CLAY with Roots	19.1
OD1008	Brown SILTY CLAY	21.9
OD1009	Brown SILTY CLAY	20.0
OD1010	Brown SILTY CLAY	20.6
OD1011	Brown and Gray CLAYEY SILT with Roots	25.2
OD1012	Brown and Gray CLAYEY SILT with Roots	18.4
OD1013	Brown CLAYEY SILT with Roots	17.4
OD1014	Brown CLAYEY SILT with Roots	19.3
OD1015	Brown CLAYEY SILT with Roots	18.1

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
OD1016	Brown and Gray SILTY SAND AND GRAVEL	10.1
OD1017	Brown CLAYEY SILT with Roots	18.2
OD1018	Brown CLAYEY SILT with Roots	18.5
OD1019	Brown CLAYEY SILT with Roots	17.1
OD1020	Brown CLAYEY SILT with Roots	19.9
OD1021	Brown CLAYEY SILT with Roots	18.6
OD1022	Brown CLAYEY SILT with Roots	16.7
OD1023	Brown CLAYEY SILT with Roots	17.0
OD1024	Brown CLAYEY SILT with Roots	22.3
OD1025	Brown SILTY FINE TO COARSE SAND AND GRAVEL with Roots	7.6
OD1026	Brown and Gray SILT , Some Fine Sand	25.7
OD1027	Brown and Gray SILT , Some Fine Sand with Cobbles	12.2
OD1028	Brown and Gray SILT , Some Fine Sand with Cobbles	24.8
OD1029	Brown CLAYEY SILT	23.0
OD1030	Brown SILT with Roots	22.7
OD1031	Brown SILT with Roots	18.9
OD1032	Brown SILT with Roots	25.8
OD1033	Brown SANDY SILT , Traces of Fine to Coarse Gravel	12.5
OD1034	Brown SANDY SILT , Traces of Fine to Coarse Gravel	13.7

Client: SAIC
CTL Project No.: 97050931
Date: December 19, 1997

**Soil Description & Moisture Content
Army Ammunition Plant
Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
OD1035	Brown SILT	28.2
OD1036	Brown SILT	19.8
OD1037	Brown CLAYEY SILT with Roots	12.3
OD1038	Brown CLAYEY SILT with Roots	13.4
OD1039	Brown CLAYEY SILT with Roots	14.0
OD1040	Brown SILT	21.2
OD1041	Brown CLAYEY SILT	18.0
OD1042	Brown CLAYEY SILT	14.0
OD1043	Brown SILTY CLAY	18.5
OD1044	Brown CLAYEY SILT	15.1
OD1045	Brown CLAYEY SILT	16.1
OD1046	Brown CLAYEY SILT	14.3
OD1047	Brown CLAYEY SILT	13.0
OD1048	Brown CLAYEY SILT	13.9
OD1049	Brown and Gray SILTY CLAY	17.7
OD1050	Brown CLAYEY SILT	16.6
OD1051	Brown CLAYEY SILT	14.1
OD1052	Brown SILT, Traces of Clay	22.1
OD1053	Brown CLAYEY SILT	15.3
OD1054	Brown and Gray SANDY SILT	11.7

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
OD1055	Brown FINE TO COARSE SAND AND GRAVEL	11.8
OD1056	Brown FINE TO COARSE SAND AND GRAVEL	10.7
OD1057	Brown CLAYEY SILT with Roots	14.9
OD1058	Brown CLAYEY SILT with Roots	15.0
OD1059	Brown and Gray SANDY SILT, Some Fine to Coarse Gravel	12.1
OD1060	Brown and Gray SANDY SILT, Some Fine to Coarse Gravel	9.4
OD1061	Brown and Gray SANDY SILT, Some Fine to Coarse Gravel with Shale	12.9
OD1062	Brown CLAYEY SILT	12.0
OD1063	Brown SILT, Traces of Clay	23.6
OD1064	Brown and Gray SANDY SILT with Cobbles	13.5
OD1065	Brown CLAYEY SILT with Roots	14.6
OD1066	Brown SILT	12.7
OD1067	Brown SILT, Traces of Clay	12.1
OD1068	Brown SILTY CLAY with Sand [CL-ML]	15.1
OD1069	Brown CLAYEY SILT with Roots	17.2
OD1070	Brown SILT, Traces of Clay	14.2
OD1071	Brown SILT, Traces of Clay	17.5
OD1072	Brown SILT, Traces of Clay , Traces of Fine to Coarse Sand and Gravel	14.5

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
OD1073	Brown SANDY SILT with Roots and Organics	15.0
OD1074	Brown CLAYEY SILT	14.7
OD1075	Brown SANDY SILT , Traces of Fine to Coarse Gravel	12.3
OD1077	Brown CLAYEY SILT with Roots	16.8
OD1078	Brown and Gray SANDY SILT	13.5
OD1079	Gray SANDY SILTY CLAY [CL-ML]	9.7
OD1080	Gray SANDY SILT	10.8
OD1081	Brown SILT	17.2
OD1082	Brown and Gray SANDY SILT	12.3
OD1083	Gray SANDY SILT	10.0
OD1084	Gray SANDY SILT	10.1
OD1085	Brown CLAYEY SILT , Traces of Roots	17.2
OD1086	Brown SILT , Some Fine Sand	17.7
OD1087	Brown SILT , Some Fine Sand	13.5
OD1088	Brown SILT , Some Fine Sand	12.1
OD1089	Brown FINE TO COARSE SAND AND GRAVEL	13.1
OD1090	Brown and Gray CLAYEY SILT	20.7
OD1091	Moist, Brown and Gray CLAYEY SILT	22.2
OD1092	Moist, Brown and Gray CLAYEY SILT	22.8
OD1093	Brown SANDY SILT	11.5

12 3 3

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
OD1094	Brown SILT, Traces of Clay	21.6
OD1095	Brown CLAYEY SILT	27.9
OD1096	Brown SILT	13.1
OD1097	Brown SANDY SILT	12.9
OD1098	Brown SANDY SILT	12.5
OD1099	Brown SANDY SILT	13.2
OD1100	Brown SANDY SILTY CLAY [CL-ML]	11.3
OD1101	Brown CLAYEY SILT	13.9
OD1102	Brown SANDY SILT	14.2
OD1103	Brown SANDY SILT	10.6
OD1104	Brown FINE TO COARSE SAND AND GRAVEL	13.1
OD1105	Brown SANDY SILT	11.9
OD1106	Brown and Gray SANDY SILT	12.0
OD1107	Brown and Gray SANDY SILT	10.9
OD1108	Brown SILTY FINE SAND	13.4
OD1109	Brown SANDY SILT	15.8
OD1110	Brown CLAYEY SILT	21.9
OD1111	Brown and Gray CLAYEY SILT	18.8
OD1113	Brown SANDY SILT	15.1
OD1114	Brown SANDY SILT	13.4

OD1112 ?

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
OD1115	Brown SANDY SILT	13.3
OD1116	Brown CLAYEY SILT	14.6
OD1117	Gray SANDY SILT	7.9
OD1118	Brown and Gray SANDY SILT	9.9
OD1119	Brown SANDY SILT with Sandstone Fragments	9.7
OD1120	Brown SANDY SILT with Sandstone Fragments	11.5
OD1121	Brown and Gray SANDY SILT	8.7
OD1122	Wet, Brown and Gray SANDY SILT	21.2
OD1123	Brown SANDY SILT with Sandstone Fragments	10.5
OD1124	Brown SANDY SILT with Sandstone Fragments	11.2
OD1125	Brown CLAYEY SILT with Roots	15.0
OD1126	Brown CLAYEY SILT with Roots	13.8
OD1127	Brown SANDY SILT, Some Fine to Coarse Gravel	12.0
OD1128	Brown and Gray SANDY SILT	8.9
OD1129	Brown SANDY SILT, Some Fine to Coarse Gravel	11.4
OD1130	Brown SANDY SILT, Some Fine to Coarse Gravel	15.2
OD1131	Brown and Gray SANDY SILTY CLAY [CL-ML]	19.4
OD1133	Brown CLAYEY SILT with Roots	19.2
OD1134	Brown CLAYEY SILT with Roots	22.4
OD1135	Brown CLAYEY SILT with Roots	22.2

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
OD1136	Brown SILT, Traces of Clay	20.5
OD1137	Brown SILT, Traces of Clay	15.0
OD1138	Brown SILT, Traces of Clay	18.6
OD1139	Brown SILT, Traces of Clay	17.9
OD1141	Brown SILT with Roots	11.0
OD1142	Brownish Gray SANDY SILT	12.3
OD1143	Brownish Gray SANDY SILT	14.3
OD1144	Brown and Gray SANDY SILT, Traces of Fine to Coarse Gravel	15.0
OD1145	Brown CLAYEY SILT	16.7
OD1146	Brown SANDY SILT	15.1
OD1147	Brown and Gray SANDY SILT	11.5
OD1148		1.7
OD1233	Brown SILTY SAND AND GRAVEL	14.0
OD1239	Brown and Gray SANDY SILT with Shale	10.4
OD1241	Gray SANDY SILT	9.9
OD1242	Brown SANDY SILT	11.9
OD1257	Gray SANDY SILT	10.2
PB1163	Wet, Brown and Gray SILTY SAND AND GRAVEL	21.0
PB1164	Brown CLAYEY SILT	20.5

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
PB1165	Brown and Gray SANDY SILT	22.1
PB1166	Brown and Gray CLAYEY SILT	17.5
PB1167	Wet, Dark Gray SAND AND GRAVEL	12.7
PB1168	Gray SAND AND GRAVEL	9.7
PB1169	Gray SAND AND GRAVEL	9.1
PB1170	Dark Brown SAND AND GRAVEL	11.3
PB1171	Dark Brown SAND AND GRAVEL with Roots	13.7
PB1172	Brownish Gray SAND AND GRAVEL	9.6
PB1173	Brown CLAYEY SILT	24.6
PB1174	Dark Brown SILTY SAND AND GRAVEL	16.3
PB1175	Brown and Gray CLAYEY SILT with Sand and Gravel	14.7
PB1176	Dark Brown SAND AND GRAVEL with Roots	6.9
PB1177	Brown and Gray SILTY CLAY	22.8
PB1178	Dark Brown SAND AND GRAVEL with Organics	15.6
PB1179	Dark Brown SAND AND GRAVEL with Organics	17.1
PB1180	Wet, Dark Gray SILTY SAND AND GRAVEL	33.6
PB1181	Wet, Brown and Gray SILTY CLAY	36.1
PB1182	Wet, Brown and Gray SILTY CLAY	37.8
PB1183	Brown CLAYEY SILT	25.0
PB1184	Dark Brown SILT with Organics	63.7

Client: SAIC
 CTL Project No.: 97050931
 Date: December 19, 1997

**Soil Description & Moisture Content
 Army Ammunition Plant
 Ravenna, Ohio**

Sample I.D.	Description	Moisture Content (%)
PB1185	Dark Brown CLAYEY SILT	25.0
PB1186	Brown CLAYEY SILT	14.8
PB1187	Brown CLAYEY SILT	10.6
PB1188	Dark Brown SAND AND GRAVEL with Organics	9.9
PB1189	Dark Brown SAND AND GRAVEL with Organics	18.8
PB1190	Dark Brown SILT with Organics	85.7
PB1191	Wet, Gray SANDY SILT	36.0
PB1192	Wet, Dark Gray SAND AND GRAVEL with Roots	16.2
PB1193	Brown SAND AND GRAVEL	15.6
PB1194	Wet, Dark Brown SAND AND GRAVEL	17.5
PB1195	Wet, Dark Brown SAND AND GRAVEL	14.5
PB1196	Wet, Dark Brown SAND AND GRAVEL	16.0
PB1198	Brown SAND AND GRAVEL	13.0
PB1199	Brown SAND AND GRAVEL	12.6
PB1200	Brown SANDY SILT	14.1
PB1202	Brown SAND AND GRAVEL	15.0
PB1203	Brown SAND AND GRAVEL	14.7
PB1204	Gray SAND AND GRAVEL	11.0
PB1205	Brown SAND AND GRAVEL	7.8
PB1206	Gray SAND AND GRAVEL	18.1

Client: SAIC
CTL Project No.: 97050931
Date: December 19, 1997

Soil Description & Moisture Content
Army Ammunition Plant
Ravenna, Ohio

Sample I.D.	Description	Moisture Content (%)
PB1207	Wet, Brown SAND AND GRAVEL	9.5
PB1283	Brown and Gray SILTY CLAY	21.6
PB1284	Brown SILT [CL]	20.2
PB1285	Brown CLAYEY SILT	16.5
PB1286	Brown CLAYEY SILT	16.6
PB1287	Brown SILTY CLAY with Sand [CL-ML]	26.9
PB1288	Gray CLAYEY SILT with Fine Sand	18.8

Locate "Sample I.D." from Soil Description Report
to Identify Sample Location and Depth Interval

SMP ID	STATION	Depth
CS1272	SB01	0-2 ft.
CS1273	SB01	2-4 ft.
CS1274	SB01	4-6 ft.
CS1275	SB01	6-8 ft.
CS1276	SB01	8-10 ft.
CS1277	SB01	10-11 ft.
CS1278	SS01	0.0-0.5 ft.
DF1149	SS01	0.0-0.5 ft.
DF1150	SS02	0.0-0.5 ft.
DF1151	SS01	0.0-0.5 ft.
DF1152	SS02	0.0-0.5 ft.
DF1153	SB01	0-2 ft.
DF1154	SB01	2-4 ft.
DF1155	SB01	4-6 ft.
DF1156	SB01	6-8 ft.
DF1157	SB01	8-10 ft.
DF1158	SB02	0-2 ft.
DF1159	SB02	2-4 ft.
DF1160	SB02	4-6 ft.
DF1161	SB02	6-8 ft.
DF1162	SB02	8-10 ft.
DF1225	SS01	0.0-0.5 ft.
DF1226	SS02	0.0-0.5 ft.
DF1261	SB01	10-12 ft.
DF1262	SB01	12-14 ft.
DF1263	SB01	14-16 ft.
OD1001	SS01	0.0-0.3 ft.
OD1002	SS02	0.0-0.3 ft.
OD1003	SS03	0.0-0.3 ft.
OD1003	SB03	
OD1004	SS04	0.0-0.3 ft.
OD1005	SS05	0.0-0.3 ft.
OD1006	SS06	0.0-0.3 ft.
OD1007	SS07	0.0-0.3 ft.
OD1008	SS08	0.0-0.3 ft.
OD1009	SS09	0.0-0.3 ft.
OD1010	SS10	0.0-0.3 ft.
OD1011	SS11	0.0-0.3 ft.
OD1012	SS12	0.0-0.3 ft.
OD1013	SS13	0.0-0.3 ft.
OD1014	SS14	0.0-0.3 ft.
OD1015	SS15	0.0-0.3 ft.
OD1016	SS16	0.0-0.3 ft.

Locate "Sample I.D." from Soil Description Report
to Identify Sample Location and Depth Interval

<u>SMP ID</u>	<u>STATION</u>	<u>Depth</u>
OD1017	SS17	0.0-0.3 ft.
OD1018	SS18	0.0-0.3 ft.
OD1019	SS19	0.0-0.3 ft.
OD1020	SS20	0.0-0.3 ft.
OD1021	SS21	0.0-0.3 ft.
OD1022	SS22	0.0-0.3 ft.
OD1023	SS23	0.0-0.3 ft.
OD1024	SS24	0.0-0.3 ft.
OD1025	SS25	0.0-0.3 ft.
OD1026	SS26	0.0-0.3 ft.
OD1027	SS27	0.0-0.3 ft.
OD1028	SS28	0.0-0.3 ft.
OD1029	SS29	0.0-0.3 ft.
OD1030	SS30	0.0-0.3 ft.
OD1031	SS31	0.0-0.3 ft.
OD1032	SS32	0.0-0.3 ft.
OD1033	SB01	0-2 ft.
OD1034	SB01	2-4 ft.
OD1035	SB01	4-6 ft.
OD1036	SB01	6-8 ft.
OD1037	SB02	0-2 ft.
OD1038	SB02	2-4 ft.
OD1039	SB02	4-6 ft.
OD1040	SB02	6-8 ft.
OD1041	SB03	0-2 ft.
OD1042	SB03	2-4 ft.
OD1043	SB03	4-6 ft.
OD1044	SB03	6-8 ft.
OD1045	SB04	0-2 ft.
OD1046	SB04	2-4 ft.
OD1047	SB04	4-6 ft.
OD1048	SB04	6-8 ft.
OD1049	SB05	0-2 ft.
OD1050	SB05	2-4 ft.
OD1051	SB05	4-6 ft.
OD1052	SB05	6-8 ft.
OD1053	SB06	0-2 ft.
OD1054	SB06	2-4 ft.
OD1055	SB06	4-6 ft.
OD1056	SB06	6-8 ft.
OD1057	SB07	0-2 ft.
OD1058	SB07	2-4 ft.
OD1059	SB07	4-6 ft.

Locate "Sample I.D." from Soil Description Report
to Identify Sample Location and Depth Interval

<u>SMP ID</u>	<u>STATION</u>	<u>Depth</u>
OD1060	SB07	6-8 ft.
OD1061	SB08	0-2 ft.
OD1062	SB08	2-4 ft.
OD1063	SB08	4-6 ft.
OD1064	SB08	6-8 ft.
OD1065	SB09	0-2 ft.
OD1066	SB09	2-4 ft.
OD1067	SB09	4-6 ft.
OD1068	SB09	6-8 ft.
OD1069	SB10	0-2 ft.
OD1070	SB10	2-4 ft.
OD1071	SB10	4-6 ft.
OD1072	SB10	6-8 ft.
OD1073	SB11	0-2 ft.
OD1074	SB11	2-4 ft.
OD1075	SB11	4-6 ft.
OD1076	SB11	
OD1077	SB12	0-2 ft.
OD1078	SB12	2-4 ft.
OD1079	SB12	4-6 ft.
OD1080	SB12	6-8 ft.
OD1081	SB13	0-2 ft.
OD1082	SB13	2-4 ft.
OD1083	SB13	4-6 ft.
OD1084	SB13	6-8 ft.
OD1085	SB14	0-2 ft.
OD1086	SB14	2-4 ft.
OD1087	SB14	4-6 ft.
OD1088	SB14	6-8 ft.
OD1089	SB15	0-2 ft.
OD1090	SB15	2-4 ft.
OD1091	SB15	4-6 ft.
OD1092	SB15	6-8 ft.
OD1093	SB16	0-2 ft.
OD1094	SB16	2-4 ft.
OD1095	SB16	4-6 ft.
OD1096	SB16	6-8 ft.
OD1097	SB17	0-2 ft.
OD1098	SB17	2-4 ft.
OD1099	SB17	4-6 ft.
OD1100	SB17	6-8 ft.
OD1101	SB18	0-2 ft.
OD1102	SB18	2-4 ft.

Locate "Sample I.D." from Soil Description Report
to Identify Sample Location and Depth Interval

SMP ID	STATION	Depth
OD1103	SB18	4-6 ft.
OD1104	SB18	6-8 ft.
OD1105	SB19	0-2 ft.
OD1106	SB19	2-4 ft.
OD1107	SB19	4-6 ft.
OD1108	SB19	6-8 ft.
OD1109	SB20	0-2 ft.
OD1110	SB20	2-4 ft.
OD1111	SB20	4-6 ft.
OD1112	SB20	
OD1113	SB21	0-2 ft.
OD1114	SB21	2-4 ft.
OD1115	SB21	4-6 ft.
OD1116	SB21	6-8 ft.
OD1117	SB22	0-2 ft.
OD1118	SB22	2-4 ft.
OD1119	SB22	4-6 ft.
OD1120	SB22	6-8 ft.
OD1121	SB23	0-2 ft.
OD1122	SB23	2-4 ft.
OD1123	SB23	4-6 ft.
OD1124	SB23	6-8 ft.
OD1125	SB24	0-2 ft.
OD1126	SB24	2-4 ft.
OD1127	SB24	4-6 ft.
OD1128	SB24	6-8 ft.
OD1129	SB25	0-2 ft.
OD1130	SB25	2-4 ft.
OD1131	SB25	4-6 ft.
OD1132	SB25	
OD1133	SB26	0-2 ft.
OD1134	SB26	2-4 ft.
OD1135	SB26	4-6 ft.
OD1136	SB26	6-8 ft.
OD1137	SB27	0-2 ft.
OD1138	SB27	2-4 ft.
OD1139	SB27	4-6 ft.
OD1140	SB27	
OD1141	SB28	0-2 ft.
OD1142	SB28	2-4 ft.
OD1143	SB28	4-6 ft.
OD1144	SB28	6-8 ft.
OD1145	SB29	0-2 ft.

Locate "Sample I.D." from Soil Description Report
to Identify Sample Location and Depth Interval

<u>SMP ID</u>	<u>STATION</u>	<u>Depth</u>
OD1146	SB29	2-4 ft.
OD1147	SB29	4-6 ft.
OD1148	SB29	6-8 ft.
OD1208	SS01	0.0-0.3 ft.
OD1209	SS02	0.0-0.3 ft.
OD1210	SS03	0.0-0.3 ft.
OD1211	SS04	0.0-0.3 ft.
OD1212	SS05	0.0-0.3 ft.
OD1213	SS06	0.0-0.3 ft.
OD1214	SS07	0.0-0.3 ft.
OD1215	SS08	0.0-0.3 ft.
OD1216	SS09	0.0-0.3 ft.
OD1217	SS10	0.0-0.3 ft.
OD1218	SS11	0.0-0.3 ft.
OD1219	SS12	0.0-0.3 ft.
OD1220	SS13	0.0-0.3 ft.
OD1221	SS14	0.0-0.3 ft.
OD1222	SB05	4-6 ft.
OD1223	SB06	2-4 ft.
OD1224	SB29	2-4 ft.
OD1233	SB01	12-14 ft.
OD1239	SB10	12-14 ft.
OD1241	SB10	16-18 ft.
OD1242	SB10	19-20 ft.
OD1243	SB17	8-10 ft.
OD1244	SB17	10-12 ft.
OD1257	SB24	12-14 ft.
PB1163	SB09	0-2 ft.
PB1164	SB09	2-4 ft.
PB1165	SB09	4-6 ft.
PB1166	SB09	6-8 ft.
PB1167	SS09	0.0-0.5 ft.
PB1168	SS13	0.0-0.5 ft.
PB1169	SB13	1-2 ft.
PB1170	SS14	0.0-0.5 ft.
PB1171	SB22	1-2 ft.
PB1172	SS15	0.0-0.5 ft.
PB1173	SB15	1-2 ft.
PB1174	SS16	0.0-0.5 ft.
PB1175	SB16	1-2 ft.
PB1176	SS17	0.0-0.5 ft.
PB1177	SB17	1-2 ft.
PB1178	SS23	0.0-0.5 ft.

Locate "Sample I.D." from Soil Description Report
to Identify Sample Location and Depth Interval

<u>SMP ID</u>	<u>STATION</u>	<u>Depth</u>
PB1179	SB23	1-2 ft.
PB1180	SS24	0.0-0.5 ft.
PB1181	SB24	1-2 ft.
PB1182	SS25	0.0-0.5 ft.
PB1183	SB25	1-2 ft.
PB1184	SS26	0.0-0.5 ft.
PB1185	SB26	1-2 ft.
PB1186	SS27	0.0-0.5 ft.
PB1187	SB27	1-2 ft.
PB1188	SS28	0.0-0.5 ft.
PB1189	SB28	1-2 ft.
PB1190	SS29	0.0-0.5 ft.
PB1191	SB29	1-2 ft.
PB1192	SS03	0.0-0.5 ft.
PB1193	SS11	0.0-0.5 ft.
PB1194	SS04	0.0-0.5 ft.
PB1195	SS12	0.0-0.5 ft.
PB1196	SS05	0.0-0.5 ft.
PB1198	SS06	0.0-0.5 ft.
PB1199	SS18	0.0-0.5 ft.
PB1200	SS19	0.0-0.5 ft.
PB1201	SS20	0.0-0.5 ft.
PB1202	SS21	0.0-0.5 ft.
PB1203	SS02	0.0-0.5 ft.
PB1204	SS07	0.0-0.5 ft.
PB1205	SS08	0.0-0.5 ft.
PB1206	SS01	0.0-0.5 ft.
PB1207	SS10	0.0-0.5 ft.
PB1227	SS06	0.0-0.5 ft.
PB1228	SS18	0.0-0.5 ft.
PB1229	SS19	0.0-0.5 ft.
PB1230	SS21	0.0-0.5 ft.
PB1283	SB09	8-10 ft.
PB1284	SB09	10-12 ft.
PB1285	SB09	12-14 ft.
PB1286	SB09	14-16 ft.
PB1287	SB09	16-18 ft.
PB1288	SB09	18-20 ft.

Particle-Size Analysis
ASTM D-422

Client:	SAIC	Sample #	CS-1275	Date:	12/03/97
Project:	Army Ammunition Plant	Location:	SB01	Tech:	M.E.
	Ravenna, Ohio	Depth:	6-8 ft.	Gs:	2.71
Project #	97050931				

Total Sample Weight =	223.51 grams	Hydrometer Sample Weight =	40.66 grams
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Sieve Sizes	Weight Retained	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	0.0	0.0	100.0
#4	0.4	0.2	99.8
#10	1.8	0.8	99.2
#40	10.8	4.8	95.2
#200	4.6	15.6	84.4

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	41.0	4.5	36.5	84.43	0.01297	10.34	0.0295
15	29.5	4.5	25.0	57.83	0.01297	12.22	0.0117
60	20.0	4.5	15.5	35.86	0.01297	13.77	0.0062
250	15.0	4.5	10.5	24.29	0.01297	14.58	0.0031
1440	11.5	4.5	7.0	16.19	0.01297	15.16	0.0013

Summary of Grain Size Distributio	
0	% GRAVEL
1	% COARSE SAND
4	% MEDIUM SAND
11	% FINE SAND
53	% SILT
31	% CLAY (<0.005mm)

Atterberg Limits	
Liquid Limit	30
Plastic Limit	19
Plasticity Index	11

Natural Moisture Content	
	20.2%

Soil Description:	LEAN CLAY, with Sand
Unified Soil Classification System:	CL
AASHTO Soil Classification(ODOT):	A-6a (9)

Particle-Size Analysis
ASTM D-422

Client: SAIC	Sample # CS-1276	Date: 12/03/97
Project: Army Ammunition Plant	Location: SB01	Tech: M.E.
Ravenna, Ohio	Depth: 8-10 ft.	Gs: 2.69
Project # 97050931		

Total Sample Weight =	284.98 grams	Hydrometer Sample Weight =	43.53 grams
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Sieve Sizes	Weight Retaine	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	3.8	1.3	98.7
#4	10.4	3.7	96.3
#10	18.0	6.3	93.7
#40	35.0	12.3	87.7
#200	10.7	33.9	66.1

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Readin	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	36.0	4.5	31.5	62.96	0.01297	11.15	0.0306
15	24.0	4.5	19.5	38.97	0.01297	13.11	0.0121
60	18.0	4.5	13.5	26.98	0.01297	14.09	0.0063
250	14.0	4.5	9.5	18.99	0.01297	14.75	0.0032
1440	12.0	4.5	7.5	14.99	0.01297	15.07	0.0013

Summary of Grain Size Distributio	
4 % GRAVEL	
3 % COARSE SAND	
6 % MEDIUM SAND	
22 % FINE SAND	
41 % SILT	
24 % CLAY (<0.005mm)	

Atterberg Limits	
Liquid Limit	24
Plastic Limit	17
Plasticity Index	7

Natural Moisture Content	
	23.5%

Soil Description: SANDY SILTY CLAY

Unified Soil Classification System: CL-ML
AASHTO Soil Classification(ODOT): A-4a (7)

Particle-Size Analysis

ASTM D-422

Client:	SAIC	Sample #	DF-1157	Date:	12/03/97
Project:	Army Ammunition Plant	Location:	SB01	Tech:	M.E.
	Ravenna, Ohio	Depth:	8-10 ft.	Gs:	2.67
Project #	97050931				

Total Sample Weight =	156.33 grams	Hydrometer Sample Weight =	40.70 grams
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Sieve Sizes	Weight	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	0.0	0.0	100.0
#4	1.5	0.9	99.1
#10	13.9	8.9	91.1
#40	97.5	62.4	37.6
#200	21.5	82.3	17.7

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	22.0	4.5	17.5	16.10	0.01309	13.44	0.0339
15	16.5	4.5	12.0	11.04	0.01309	14.34	0.0128
60	14.0	4.5	9.5	8.74	0.01309	14.75	0.0065
250	12.0	4.5	7.5	6.90	0.01309	15.07	0.0032
1440	10.0	4.5	5.5	5.06	0.01309	15.4	0.0014

Summary of Grain Size Distributio

1 % GRAVEL
8 % COARSE SAND
54 % MEDIUM SAND
20 % FINE SAND
9 % SILT
8 % CLAY (<0.005mm)

Atterberg Limits

Liquid Limit N.P.
Plastic Limit N.P.
Plasticity Index N.P.

Natural Moisture Content

19.2%

Soil Description: SILTY SAND

Unified Soil Classification System: SM

AASHTO Soil Classification(ODOT): A-1-b

Particle-Size Analysis
ASTM D-422

Client: SAIC	Sample # DF-1261	Date: 12/03/97
Project: Army Ammunition Plant	Location: SB01	Tech: M.E.
Ravenna, Ohio	Depth: 10-12 ft.	Gs: 2.67
Project # 97050931		

Total Sample Weight =	265.28 grams	Hydrometer Sample Weight =	40.30 grams
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Sieve Sizes	Weight Retaine	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	3.0	1.1	98.9
#4	12.8	4.8	95.2
#10	30.9	11.6	88.4
#40	127.5	48.1	51.9
#200	22.5	77.1	22.9

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	21.0	4.5	16.5	21.16	0.01309	13.6	0.0341
15	15.5	4.5	11.0	14.11	0.01309	14.5	0.0129
60	13.0	4.5	8.5	10.90	0.01309	14.91	0.0065
250	11.5	4.5	7.0	8.98	0.01309	15.16	0.0032
1440	10.0	4.5	5.5	7.05	0.01309	15.4	0.0014

Summary of Grain Size Distributio

5 % GRAVEL
7 % COARSE SAND
37 % MEDIUM SAND
29 % FINE SAND
12 % SILT
10 % CLAY (<0.005mm)

Atterberg Limits

Liquid Limit N.P.
Plastic Limit N.P.
Plasticity Index N.P.

Natural Moisture Content

14.2%

Soil Description: SILTY SAND

Unified Soil Classification System: SM
AASHTO Soil Classification(ODOT): A-3a

Particle-Size Analysis
ASTM D-422

Client: SAIC	Sample # DF-1263	Date: 12/03/97
Project: Army Ammunition Plant	Location: SB01	Tech: M.E.
Ravenna, Ohio	Depth: 14-16 ft.	Gs: 2.68
Project # 97050931		

Total Sample Weight =	236.97 grams	Hydrometer Sample Weight =	84.29 grams
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Sieve Sizes	Weight Retaine	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	0.0	0.0	100.0
#4	0.0	0.0	100.0
#10	0.5	0.2	99.8
#40	65.0	27.4	72.6
#200	66.0	84.2	15.8

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Readin	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	21.0	4.5	16.5	14.13	0.01309	13.6	0.0341
15	17.0	4.5	12.5	10.70	0.01309	14.26	0.0128
60	14.0	4.5	9.5	8.13	0.01309	14.75	0.0065
250	12.0	4.5	7.5	6.42	0.01309	15.07	0.0032
1440	10.0	4.5	5.5	4.71	0.01309	15.4	0.0014

Summary of Grain Size Distributio
0 % GRAVEL
0 % COARSE SAND
27 % MEDIUM SAND
57 % FINE SAND
9 % SILT
7 % CLAY (<0.005mm)

Atterberg Limits
Liquid Limit N.P.
Plastic Limit N.P.
Plasticity Index N.P.

Natural Moisture Content
19.7%

Soil Description: SILTY SAND
Unified Soil Classification System: SM
AASHTO Soil Classification(ODOT): A-3a

Particle-Size Analysis**ASTM D-422**

Client:	SAIC	Sample #	OD-1068	Date:	12/04/97
Project:	Army Ammunition Plant	Location:	5809	Tech:	M.E.
	Ravenna, Ohio	Depth:	6-8 ft.	Gs:	2.70
Project #	97050931				

Total	Hydrometer
Sample	Sample
Weight = 204.70 grams	Weight = 40.92 grams

Sieve Sizes	Weight Retained	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	1.0	0.5	99.5
#4	2.3	1.1	98.9
#10	4.7	2.3	97.7
#40	14.5	7.1	92.9
#200	7.6	24.3	75.7

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	32.0	4.5	27.5	61.81	0.01297	11.81	0.0315
15	22.0	4.5	17.5	39.33	0.01297	13.44	0.0123
60	16.0	4.5	11.5	25.85	0.01297	14.42	0.0064
250	13.0	4.5	8.5	19.10	0.01297	14.91	0.0032
1440	11.0	4.5	6.5	14.61	0.01297	15.24	0.0013

Summary of Grain Size Distribution	
1	% GRAVEL
1	% COARSE SAND
5	% MEDIUM SAND
17	% FINE SAND
53	% SILT
23	% CLAY (<0.005mm)

Atterberg Limits	
Liquid Limit	24
Plastic Limit	19
Plasticity Index	5

Natural Moisture Content	
	15.1%

Soil Description: SILTY CLAY, with Sand

Unified Soil Classification System: CL-ML
AASHTO Soil Classification (ODOT): A-4b (8)



Particle-Size Analysis

ASTM D-422

Client:	SAIC	Sample #	OD-1079	Date:	12/04/97
Project:	Army Ammunition Plant	Location:	SB12	Tech:	M.E.
	Ravenna, Ohio	Depth:	4-6 ft.	Gs:	2.72
Project #	97050931				

Total	Hydrometer
Sample	Sample
Weight = 197.37 grams	Weight = 41.88 grams

Sieve	Weight	%	%
Sizes	Retaine	Retained	Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	4.9	2.5	97.5
#4	8.8	4.5	95.5
#10	13.8	7.0	93.0
#40	27.1	13.7	86.3
#200	9.1	32.4	67.6

Elapsed	Temp.	Corrected	Effective	Particle
Time	Hydro	Hydro	Length	Diameter
(min)	Reading	Readin	(cm)	(mm)
2	35.0	4.5	30.5	61.97
15	22.5	4.5	18.0	36.57
60	16.5	4.5	12.0	24.38
250	13.0	4.5	8.5	17.27
1440	10.0	4.5	5.5	11.17
				0.01297
				0.01297
				0.01297
				0.01297
				0.01297
				0.01297

Summary of Grain Size Distributio
5 % GRAVEL
3 % COARSE SAND
7 % MEDIUM SAND
19 % FINE SAND
45 % SILT
21 % CLAY (<0.005mm)

Atterberg Limits	
Liquid Limit	23
Plastic Limit	17
Plasticity Index	6

Natural Moisture Content
9.7%

Soil Description:	SANDY SILTY CLAY
Unified Soil Classification System:	CL-ML
AASHTO Soil Classification(ODOT):	A-4a (7)

Particle-Size Analysis**ASTM D-422**

Client:	SAIC	Sample #	OD-1100	Date:	12/04/97
Project:	Army Ammunition Plant	Location:	SB17	Tech:	M.E.
	Ravenna, Ohio	Depth:	6-8 ft.	Gs:	2.69
Project #	97050931				

Total	Hydrometer
Sample	Sample
Weight = 212.93 grams	Weight = 40.52 grams

Sieve Sizes	Weight Retained	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	5.3	2.5	97.5
#4	8.4	4.0	96.0
#10	13.9	6.5	93.5
#40	30.8	14.5	85.5
#200	13.8	43.7	56.3

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	27.0	4.5	22.5	47.10	0.01301	12.62	0.0327
15	20.0	4.5	15.5	32.44	0.01301	13.77	0.0125
60	15.5	4.5	11.0	23.03	0.01301	14.5	0.0064
250	13.0	4.5	8.5	17.79	0.01301	14.91	0.0032
1440	10.0	4.5	5.5	11.51	0.01301	15.4	0.0013

Summary of Grain Size Distributio
4 % GRAVEL
3 % COARSE SAND
8 % MEDIUM SAND
29 % FINE SAND
35 % SILT
21 % CLAY (<0.005mm)

Atterberg Limits
Liquid Limit 23
Plastic Limit 16
Plasticity Index 7

Natural Moisture Content
11.3%

Soil Description: SANDY SILTY CLAY

Unified Soil Classification System: CL-ML
AASHTO Soil Classification(ODOT): A-4a (5)

Particle-Size Analysis
ASTM D-422

Client: SAIC	Sample # OD-1131	Date: 12/04/97
Project: Army Ammunition Plant	Location: SB-25	Tech: M.E.
Ravenna, Ohio	Depth: 4-6 ft.	Gs: 2.70
Project # 97050931		

Total Sample Weight = 233.07 grams	Hydrometer Sample Weight = 41.72 grams
------------------------------------	----------------------------------------

Sieve Sizes	Weight Retained	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	6.0	2.6	97.4
#4	11.0	4.7	95.3
#10	15.0	6.4	93.6
#40	30.5	13.1	86.9
#200	11.6	37.2	62.8

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	32.0	4.5	27.5	56.71	0.01297	11.81	0.0315
15	22.5	4.5	18.0	37.12	0.01297	13.36	0.0122
60	18.5	4.5	14.0	28.87	0.01297	14.01	0.0063
250	15.0	4.5	10.5	21.65	0.01297	14.58	0.0031
1440	12.0	4.5	7.5	15.47	0.01297	15.07	0.0013

Summary of Grain Size Distributio	
5	% GRAVEL
2	% COARSE SAND
7	% MEDIUM SAND
24	% FINE SAND
36	% SILT
26	% CLAY (<0.005mm)

Atterberg Limits	
Liquid Limit	25
Plastic Limit	18
Plasticity Index	7

Natural Moisture Content
19.4%

Soil Description: SANDY SILTY CLAY

Unified Soil Classification System: CL-ML
AASHTO Soil Classification(ODOT): A-4a (6)

Particle-Size Analysis**ASTM D-422**

Client:	SAIC	Sample #	PB-1284	Date:	12/04/97
Project:	Army Ammunition Plant	Location:	SB09	Tech:	M.E.
	Ravenna, Ohio	Depth:	10-12 ft.	Gs:	2.72
Project #	97050931				

Total Sample Weight =	247.78 grams	Hydrometer Sample Weight =	41.15 grams
-----------------------	--------------	----------------------------	-------------

Sieve Sizes	Weight Retained	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	1.4	0.6	99.4
#4	3.6	1.5	98.5
#10	5.2	2.1	97.9
#40	10.5	4.2	95.8
#200	4.5	14.6	85.4

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	37.0	4.5	32.5	74.60	0.01297	10.99	0.0304
15	22.0	4.5	17.5	40.17	0.01297	13.44	0.0123
60	17.5	4.5	13.0	29.84	0.01297	14.18	0.0063
250	14.0	4.5	9.5	21.81	0.01297	14.75	0.0032
1440	11.5	4.5	7.0	16.07	0.01297	15.16	0.0013

Summary of Grain Size Distributio

2 % GRAVEL
1 % COARSE SAND
2 % MEDIUM SAND
10 % FINE SAND
58 % SILT
27 % CLAY (<0.005mm)

Atterberg Limits

Liquid Limit 27
Plastic Limit 19
Plasticity Index 8

Natural Moisture Content

20.2%

Soil Description: SILT

Unified Soil Classification System: CL
AASHTO Soil Classification(ODOT): A-4b (8)

Particle-Size Analysis
ASTM D-422

Client: SAIC	Sample # PB-1287	Date: 12/04/97
Project: Army Ammunition Plant	Location: SB09	Tech: M.E.
Ravenna, Ohio	Depth: 16-18 ft.	Gs: 2.70
Project # 97050931		

Total Sample Weight = 249.21 grams	Hydrometer Sample Weight = 40.46 grams
------------------------------------	----------------------------------------

Sieve Sizes	Weight Retaine	% Retained	% Passing
1"	0.0	0.0	100.0
3/4"	0.0	0.0	100.0
3/8"	0.0	0.0	100.0
#4	1.1	0.4	99.6
#10	2.8	1.1	98.9
#40	9.9	4.0	96.0
#200	6.3	18.9	81.1

Elapsed Time (min)	Hydro Reading	Temp. Correct. Value	Corrected Hydro Reading	% Total in Susp.	K	Effective Length (cm)	Particle Diameter (mm)
2	36.0	4.5	31.5	73.99	0.01297	11.15	0.0306
15	23.5	4.5	19.0	44.63	0.01297	13.2	0.0122
60	19.0	4.5	14.5	34.06	0.01297	13.93	0.0062
250	15.0	4.5	10.5	24.66	0.01297	14.58	0.0031
1440	12.5	4.5	8.0	18.79	0.01297	14.99	0.0013

Summary of Grain Size Distributio	
0	% GRAVEL
1	% COARSE SAND
3	% MEDIUM SAND
15	% FINE SAND
51	% SILT
30	% CLAY (<0.005mm)

Atterberg Limits	
Liquid Limit	28
Plastic Limit	22
Plasticity Index	6

Natural Moisture Content
26.9%

Soil Description: SILTY CLAY, with Sand
Unified Soil Classification System: CL-ML
AASHTO Soil Classification(ODOT): A-4b (8)

CTL Engineering Inc.

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E-mail: ctl@ctleng.com

Established 1927

Consulting Engineers • Testing • Inspection Services • Analytical Laboratories

Report on Sample of Soil

Project No.: 97311222/97311227/97050931

December 11, 1997

Client: Science Applications International Corporation
4031 Colonel Glenn Highway, Suite 3000
Beavercreek, Ohio 45431 - Attn: Kathy Dominic

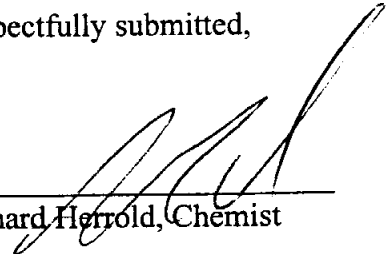
Identification: Eleven soil samples received 12-5-97, identified below.

TEST METHOD: ASTM D4972-89

TEST RESULTS:

<u>Sample ID</u>	<u>pH (S.U.)</u>
CS 1275	5.58
CS 1276	7.78
DF 1157	7.64
DF 1261	7.88
DF 1263	7.63
OD 1068	8.04
OD 1079	7.54
OD 1100	7.85
OD 1131	7.36
PB 1284	6.81
PB 1287	7.47

Respectfully submitted,


Richard Herrold, Chemist

RH/gm

APPENDIX B
METALS DATA SUMMARY

RVAAP DEACTIVATION FURNACE AREA TAL LEVELS

BORING	DEPTH (FT)	ALL READINGS IN MG/KG																						
		AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	PO	SE	AG	NA	TH	VN	ZN
SB01	0-2	14800	<0.57	12.7	81.0	0.79	<0.57	19000	20.4	<17.1	33.4	23700	16.4	6450	457	<0.11	26.0	3230	<0.57	<1.1	<570	<0.57	25.3	93.0
	2-4	10800	<0.58	13.0	56.7	0.58	<0.58	25000	17.5	<17.3	21.4	23100	10.7	5840	350	<0.12	26.0	2210	<0.58	<1.2	<576	<0.58	19.6	65.8
	4-6	11700	<0.58	12.7	64.6	<0.58	<0.58	26500	18.1	<17.5	20.2	24000	11.4	7150	405	<0.12	28.6	2300	<0.58	<1.2	<583	<0.58	21.0	65.8
	6-8	7290	<0.59	15.3	39.6	<0.59	<0.59	19300	11.8	<17.7	20.7	19500	9.9	4530	314	<0.12	17.5	1440	<0.59	<1.2	<590	<0.59	13.7	56.4
	8-10	5650	<0.56	11.6	<22.2	<0.56	<0.56	1890	9.6	<16.7	22.5	17100	9.5	1990	458	<0.11	17.4	998	<0.56	<1.1	<556	<0.56	10.8	58.6
SB02	0-2	13900	<0.59	20.6	65.9	1.00	<0.59	2190	22.2	<17.6	25.0	29000	13.7	4020	288	<0.12	27.9	2640	<0.59	<1.2	<588	<0.59	24.8	96.6
	2-4	14200	<0.57	13.1	72.4	0.67	<0.57	18800	20.7	<17.1	21.4	25500	11.2	5900	395	<0.11	27.7	3120	<0.57	<1.1	<569	<0.57	26.3	67.9
	4-6	16600	<0.57	13.4	80.9	0.74	<0.57	25400	23.0	<17.1	21.1	25800	12.9	6240	388	<0.11	28.5	4190	<0.57	<1.1	<570	<0.57	30.1	75.1
	6-8	4830	<0.56	13.5	27.8	<0.56	<0.56	3420	8.5	<16.9	18.4	16600	10.1	2220	306	<0.11	15.1	760	<0.56	<1.1	<563	<0.56	8.9	57.4
	8-10	6150	<0.55	14.9	38.6	<0.55	<0.55	3580	10.3	<16.5	22.5	18300	12.8	2230	578	<0.11	22.7	1250	<0.55	<1.1	550	<0.55	11.8	71.4
SLAG01	0-0.5	25800	<0.54	2.4	487.0	5.30	0.99	174000	12.4	<16.1	14.1	23100	5.4	30500	3170	<0.11	<4.3	1920	<0.54	<1.1	1580	0.74	11.1	28.0
MRD QA	0-0.5	10700	<0.60	16.4	53.1	0.61	<0.08	4280	15.7	10.3	57.4	28100	16.9	3400	376	0.12	23.2	1580	<0.6	<0.4	57	<1.0	18.5	92.3
SLAG02	0-0.5	15400	2.30	171.0	128.0	1.10	8.90	33900	18.9	<18.3	545.0	19200	144.0	6260	924	<0.12	21.7	2190	<0.61	<1.2	<609	<0.61	17.8	667.0

EPA	REGION 9																							
RESIDEN	PRG'S	77000	31.0	0.38	5300	0.14	38.0		30.0	4600	2800		400		3200	6.5	1500		380	380		6.1	540	23000
1991 BG			2.21	14.72		5.0	5.0		39.11		27.35		28.1				41.3							84.35
PH I BG		15600		19.6	75		0.29		18.7				17.9		728	0.08			2.6	<0.24				72.1
PH II BG		To		Be		Determined																		

TAL LEVELS

[illegible]

RVAAP OPEN DEMOLITION AREA

TAL LEVELS

BORING	DEPTH	ALL READINGS IN MG/KG																				TH	VN	ZN
	(FT)	AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	PO	SE	AG	NA			
SB11	0-2	11400	17.80	30.7	173.0	0.58	1.90	4120	18.6	<17.2	172.0	37300	4950.0	3920	454	<0.11	31.7	2190	<0.57	<1.1	<574	<0.57	24.3	806.0
SS-11	0-0.3	9790	<0.66	15.8	109.0	<0.66	2.50	4730	18.9	<19.7	156.0	25300	31.0	3950	373	0.15	25.3	1980	<0.66	<1.3	<657	<0.66	17.5	184.0
SS-11 DUP	0-0.3	7650	<0.62	13.1	88.8	<0.62	1.30	5520	13.1	<18.7	128.0	20100	24.0	3540	378	0.17	20.7	1240	<0.62	<1.2	<622	<0.62	13.8	264.0
	2-4	8350	1.10	15.2	81.1	<0.57	1.20	3480	13.8	<17.0	50.4	23100	168.0	2500	336	0.15	19.1	1370	<0.57	<1.1	<567	<0.57	15.7	114.0
	4-6	8590	2.80	14.6	44.9	<0.56	<0.56	1800	14.9	<16.9	98.7	22800	478.0	2310	375	<0.11	23.0	1520	<0.56	<1.1	<564	<0.56	16.7	295.0
SB12	0-2	9460	<0.59	15.7	83.2	<0.59	1.40	10500	16.2	<17.8	3200.0	24300	168.0	3780	403	0.14	23.8	1280	<0.59	<1.2	<594	<0.59	18.1	724.0
SS-12	0-0.3	8930	0.60	14.5	75.6	<0.60	1.20	5780	15.0	<17.9	103.0	21100	92.8	3580	358	<0.12	20.7	1650	<0.60	<1.2	<598	<0.60	16.8	192.0
SS-12 DUP	0-0.3	10100	0.64	15.2	77.4	<0.59	1.30	5500	16.1	<17.6	119.0	23400	28.8	3480	374	0.13	22.5	1760	<0.59	<1.2	<587	<0.59	18.7	181.0
	2-4	8300	<0.58	16.4	42.8	<0.58	<0.58	12000	14.4	<17.3	50.9	23400	14.0	4070	507	<0.12	23.2	1820	<0.58	<1.2	<577	<0.58	16.2	202.0
	4-6	8800	<0.55	17.2	30.6	<0.55	<0.55	9030	14.9	<16.5	23.4	22100	11.6	5130	288	<0.11	22.9	2010	<0.55	<1.1	<550	<0.55	16.3	57.1
	6-8	8500	<0.56	15.1	31.4	<0.56	<0.56	8550	14.7	<16.8	17.1	23300	10.9	5120	331	<0.11	22.9	1940	<0.56	<1.1	<561	<0.56	15.7	63.6
SB13	0-2	8300	<0.56	16.3	37.5	<0.56	<0.56	7230	12.7	<16.9	91.5	21500	11.7	4140	557	<0.11	21.9	1360	<0.56	<1.1	<564	<0.56	13.1	69.2
SS-13	0-0.3	11700	<0.60	16.6	59.1	<0.60	0.71	5330	17.9	<18.0	96.9	27300	18.3	4580	374	<0.12	26.4	1760	<0.60	<1.2	<599	<0.60	20.0	102.0
SS-13 DUP	0-0.3	13000	<0.59	11.7	48.6	<0.59	<0.59	2010	17.3	<17.8	30.4	22200	13.6	2870	185	<0.12	15.5	1200	<0.59	<1.2	<592	<0.59	25.8	62.5
	2-4	7130	<0.56	13.5	45.6	<0.56	<0.56	16500	11.7	<16.9	33.5	20800	11.4	4980	586	<0.11	20.0	1270	<0.56	<1.1	<562	<0.56	11.8	61.7
	4-6	7740	<0.55	13.5	30.7	<0.55	<0.55	7980	12.8	<16.5	17.4	22300	8.7	5080	343	<0.11	21.1	1600	<0.55	<1.1	<549	<0.55	14.0	53.8
	6-8	7990	<0.55	15.4	33.2	<0.55	<0.55	8800	15.2	<16.6	23.7	23600	15.0	5230	365	<0.11	22.2	1640	<0.55	<1.1	<552	<0.55	13.9	58.6
SB14	0-2	8900	<0.55	13.8	65.7	0.90	0.79	29200	8.7	<16.6	49.9	17300	16.0	7590	512	<0.11	15.0	826	<0.55	<1.1	<552	<0.55	9.2	177.0
SS-14	0-0.3	10600	<0.60	16.0	72.5	<0.60	1.40	4640	17.3	<18.1	127.0	24800	29.4	3740	383	<0.12	24.6	1980	<0.60	<1.2	<604	<0.60	19.8	190.0
SS-14 DUP	0-0.3	12000	<0.60	15.7	552.0	<0.60	0.79	3860	19.0	<17.9	96.3	25200	21.5	3770	353	0.14	28.0	220	<0.60	<1.2	<598	<0.60	21.7	126.0
	2-4	5630	<0.60	16.3	28.1	<0.60	<0.60	8450	10.0	<17.9	22.1	20500	11.7	4040	335	<0.12	18.1	978	<0.60	<1.2	<598	<0.60	10.7	57.7
	4-6	8000	<0.57	16.3	36.3	<0.57	<0.57	7860	13.7	<17.2	21.4	24100	10.9	4370	564	<0.11	25.4	1360	<0.57	<1.1	<575	<0.57	14.0	62.0
	6-8	7030	<0.56	17.8	31.9	<0.56	<0.56	7770	11.8	<16.8	17.4	23800	10.0	3560	351	<0.11	19.8	1330	<0.56	<1.1	<560	<0.56	13.0	84.7
SB15	0-2	5590	<0.58	10.2	35.1	<0.58	<0.58	25700	9.0	<17.5	12.6	13000	17.4	1500	303	<0.12	10.8	826	<0.58	<1.2	<583	<0.58	10.6	51.3
SS-15	0-0.3	6660	<0.60	12.9	73.3	<0.60	0.82	10100	13.1	<18.1	78.5	21500	24.9	2510	379	<0.12	20.4	1170	<0.60	<1.2	<602	<0.60	12.7	164.0
	2-4	11800	<0.61	14.2	51.0	<0.61	<0.61	1320	16.7	<18.2	19.1	22300	22.0	2400	533	<0.12	23.1	1870	<0.61	<1.2	<607	<0.61	21.4	79.7
	4-6	8400	<0.62	13.9	42.1	<0.62	<0.62	1290	13.1	<18.5	17.6	21100	25.9	2180	387	<0.12	21.0	976	<0.62	<1.2	<617	<0.62	15.5	63.1
	6-8	10600	<0.62	12.1	57.5	<0.62	<0.62	1570	14.9	<18.6	16.8	19100	34.3	2290	274	0.14	16.5	1410	<0.62	<1.2	<619	<0.62	20.1	91.1

EPA	REGION 9	PRG'S	77000	31.0	0.38	5300	0.14	38.0		30.0	4600	2800		400		3200	6.5	1500		380	380		6.1	540	23000
RESIDEN			15600		19.6	75		0.29		18.7				17.9		728	0.08			2.6	<0.24				72.1
PH I BG			To		Be		Determined																		
PH II BG																									

TAL LEVELS

[illegible]

RVAAP OPEN DEMOLITION AREA

TAL LEVELS

BORING	DEPTH	ALL READINGS IN MG/KG																						
	(FT)	AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	PO	SE	AG	NA	TH	VN	ZN
SB21 SS-21	0-2	7980	<0.58	14.7	42.3	<0.58	<0.58	3110	13.2	<17.4	56.1	22900	14.1	3370	471	<0.12	22.0	1190	<0.58	<1.2	<580	<0.58	13.6	88.6
	0-0.3	8510	<0.69	13	127	<0.69	1.8	8000	19.3	<20.8	126	24300	29.5	3490	455	0.16	18.7	1680	<0.69	<1.4	<693	<0.69	14.2	215
	2-4	7120	<0.57	15.6	30.0	<0.57	<0.57	12600	12.6	<17.1	20.6	24600	11.7	7170	388	<0.11	25.1	1290	<0.57	<1.1	<571	<0.57	13.1	60.0
	4-6	7280	<0.57	13.2	30.6	<0.57	<0.57	10800	14.1	<17.0	19.8	23400	10.1	5900	365	<0.11	82.5	1430	<0.57	<1.1	<568	<0.57	13.4	77.4
	6-8	10100	<0.57	17.6	39.5	<0.57	<0.57	7980	16.3	<17.1	20.6	25400	11.0	4530	451	<0.11	26.1	2310	<0.57	<1.1	<571	<0.57	18.4	69.1
SB22 SS-22	0-2	6780	<0.55	11.9	23.5	<0.55	<0.55	11600	11.9	<16.4	15.5	18500	8.1	3890	389	<0.11	18.1	1660	<0.55	<1.1	<546	<0.55	13.8	48.9
	0-0.3	9880	<0.59	15.7	202	<0.59	1.7	6000	17.9	<17.6	167	22600	35	3470	365	0.15	22.6	1880	<0.59	<1.2	<587	<0.59	17.9	260
	2-4	7320	<0.55	13.3	30.9	<0.55	<0.55	10400	13.7	<16.4	15.0	19400	8.4	5230	335	<0.11	26.8	1760	<0.55	<1.1	<546	<0.55	14.9	49.1
	4-6	3760	<0.55	12.6	25.6	<0.55	<0.55	20000	7.8	<16.5	16.9	18000	9.2	3610	449	<0.11	15.9	678	<0.55	<1.1	<551	<0.55	8.3	58.3
	6-8	4390	<0.56	9.2	28.9	<0.56	<0.56	14600	12.3	<16.7	14.4	15500	9.0	3990	363	<0.11	84.7	950	<0.56	<1.1	<555	<0.56	10.2	54.7
SB23 SS-23	0-2	7690	<0.55	16.7	26.7	<0.55	<0.55	6730	12.8	<16.5	18.2	21200	15.3	3830	325	<0.11	19.0	1700	<0.55	<1.1	<550	<0.55	14.6	58.5
	0-0.3	9920	<0.58	16.4	43.6	<0.58	<0.58	1750	15.8	<17.4	22.4	23800	12.5	2780	363	<0.12	22.4	2290	<0.58	<1.2	<581	<0.58	18.4	72.6
	2-4	5270	<0.55	35.7	25.8	<0.55	<0.55	10400	9.9	<16.4	15.2	22000	13.7	3330	320	<0.11	23.0	1110	<0.55	<1.1	<548	<0.55	10.8	46.9
	4-6	6040	<0.56	12.7	24.6	<0.56	<0.56	6830	12.3	<16.8	15.4	17000	9.6	3090	313	<0.11	16.5	1190	<0.56	<1.1	<559	<0.56	11.1	49.8
	6-8	7100	<0.62	12.3	<25.0	<0.62	<0.62	10500	11.7	<18.7	16.3	21300	9.8	4340	312	<0.12	19.0	1500	<0.62	<1.2	<624	<0.62	13.3	56.0
SB24 MRD QA SS-24	0-2	11200	<0.58	16.6	125.0	<0.58	2.40	4390	16.3	<17.3	238.0	25100	35.2	3740	326	0.17	24.0	1430	<0.58	<1.2	<575	<0.58	17.0	214.0
	0-2	11100	<0.60	15.8	100.0	0.59	1.53	5660	16.7	10.2	195.0	26900	31.1	4130	374	0.26	23.8	1590	<0.60	<0.40	82	<1.0	17.0	206.0
	0-0.3	10200	0.62	15.3	117	<0.61	1.4	6590	15.9	<18.2	102	28000	28.9	3630	417	0.17	22.4	1980	<0.61	<1.2	<608	<0.61	17.9	190
	2-4	9260	<0.57	15.7	79.8	<0.57	1.40	3780	15.2	<17.1	124.0	23900	34.6	3440	316	0.17	23.0	1240	<0.57	<1.1	<571	<0.57	15.4	197.0
	4-6	4520	<0.57	13.8	<22.9	<0.57	<0.57	3280	8.9	<17.2	39.4	17600	9.1	2340	320	<0.11	16.6	899	<0.57	<1.1	<573	<0.57	9.7	61.6
MRD QA	4-6	5330	<0.60	15.7	30.6	0.26	<0.08	3740	10.5	6.8	387.0	19000	20.6	2550	258	0.02	16.7	957	<0.6	<0.4	42	<1.0	9.9	114.0
	6-8	6080	<0.55	11.0	<21.9	<0.55	<0.55	7230	10.6	<16.4	14.2	18100	11.8	3820	312	<0.11	18.2	1290	<0.55	<1.1	<548	<0.55	12.2	48.1
	12-14	7950	<0.55	15.0	35.8	<0.55	<0.55	11400	13.4	<16.5	18.2	22900	9.6	5780	390	<0.11	22.9	1560	<0.55	<1.1	<549	<0.55	13.6	58.3
SB25 SS-25	0-2	9900	0.58	9.6	114.0	0.65	0.87	35000	15.0	<17.2	102.0	14200	50.1	3630	529	<0.11	12.6	1300	<0.57	<1.1	<573	<0.57	12.3	200.0
	0-0.3	12100	<0.60	9.5	106	2.9	0.87	57500	11.5	<18.0	62.8	15100	17.8	11200	788	<0.12	14.6	1850	<0.60	<1.2	<600	<0.60	13.8	100
	2-4	10500	0.60	15.1	52.6	<0.59	<0.59	5250	16.2	<17.8	26.6	23300	15.5	2900	551	<0.12	28.7	1380	<0.59	<1.2	<594	<0.59	18.5	77.0
	4-6	11100	<0.61	15.6	50.1	<0.61	<0.61	2200	16.7	<18.2	20.3	24200	14.1	2690	363	<0.12	28.7	1560	<0.61	<1.2	<605	<0.61	21.1	64.6

EPA	REGION 9																							
RESIDEN	PRG'S	77000	31.0	0.38	5300	0.14	38.0		30.0	4600	2800		400		3200	6.5	1500		380	380		6.1	540	23000
PH I BG		15600		19.6	75		0.29		18.7				17.9		728	0.08			2.6	<0.24				72.1
PH II BG	To			Be		Determined																		

RVAAP OPEN DEMOLITION AREA

TAL LEVELS

BORING	DEPTH (FT)	ALL READINGS IN MG/KG																				TH	VN	ZN
		AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	PO	SE	AG	NA			
		9850	355	110	115	<0.61	1.8	3300	15.9	<18.2	199	21100	40800	2830	425	0.15	19.7	1440	<0.61	<1.2	<605	<0.69	16.8	281
SB26	0-2	7310	0.88	15	142	<0.78	1.2	8070	20.9	<23.4	118	29000	35.4	3440	504	<0.16	26.1	1340	<0.78	<1.6	<781	<0.78	14.1	246
SS-26	0-0.3	16900	3.3	15.9	110	0.64	<0.63	1830	23.6	<18.8	41.8	28000	186	3400	790	<0.13	24.6	2160	<0.63	<1.3	<626	<0.63	30.7	94.2
	2-4	13300	1.7	14.6	90.1	<0.61	<0.61	1740	18.8	<18.3	39.3	26900	175	2780	1000	<0.12	19.8	1350	<0.61	<1.2	<611	<0.61	26.4	72.9
	4-6	10300	1.8	15.1	121	<0.61	4.1	2680	15.8	<18.2	120	22800	285	3230	292	0.15	21.3	2010	<0.61	<1.2	<605	<0.61	19	128
	6-8																							
		8330	<0.58	15.6	69.8	<0.58	<0.58	1410	13.2	<17.5	43.5	23800	16.7	2650	372	<0.12	21.7	1190	<0.58	<1.2	<583	<0.58	14.5	88.7
SB27	0-2	8650	<0.67	<12.9	99.5	<0.67	1.4	3840	14	<20.0	85.5	20000	33.9	3340	319	<0.13	20.2	1770	<0.67	<1.3	<668	<0.67	15.7	157
SS-27	0-0.3	11200	<0.58	13.9	38.6	<0.58	<0.58	2080	18.4	<17.5	18.9	27500	10	4500	391	<0.12	31.1	1720	<0.58	<1.2	<584	<0.58	18	68.5
	2-4	8960	<0.61	13.1	38.5	<0.61	<0.61	2010	15.7	<18.4	19.5	23300	10.5	3160	406	<0.12	24.4	1700	<0.61	<1.2	<615	<0.61	16.4	64.2
	4-6																							
		10500	<0.57	15.3	42.1	<0.57	<0.57	3620	15.4	<17.2	23.2	22500	12.2	2840	375	<0.11	20.9	2000	<0.57	<1.1	<575	<0.57	18.5	69.7
SB28	0-2	8900	<0.60	13.4	82.9	<0.60	1.4	5620	14.1	<17.9	112	19000	30.3	3120	368	<0.12	18	1570	<0.60	<1.2	<598	<0.60	14.3	161
SS-28	0-0.3	7200	<0.56	18.3	22.9	<0.56	<0.56	7510	12	<16.9	37.6	22600	10.8	4410	388	<0.11	22	1310	<0.56	<1.1	<563	<0.56	13	64.1
	2-4	7670	<0.57	16.4	34.2	<0.57	<0.57	9190	13	<17.2	26.7	25100	11.7	4690	415	<0.11	21.2	1390	<0.57	<1.1	<573	<0.57	13.7	85.9
	4-6	10200	<0.57	17.5	53	<0.57	<0.57	12500	16.6	<17.1	19.8	26900	11.6	5880	390	<0.11	26.1	2000	<0.57	<1.1	<570	<0.57	17.9	61
	6-8																							
		8940	<0.57	14.8	112	<0.57	1.3	3640	13.7	<17.2	65.5	22600	20.1	3270	380	0.18	20.9	1160	<0.57	<1.1	<573	<0.57	15.5	122
SB29	0-2	8770	<0.60	14.1	77.6	<0.61	1.2	3730	14.8	<18.2	102	21000	22.3	3210	342	<0.12	21.2	1520	<0.61	<1.2	<606	<0.61	15.7	149
SS-29	0-0.3	9880	<0.59	16.7	74.3	<0.59	1.3	2610	15.5	<17.8	70	26100	22.3	3150	336	0.18	22.6	1220	<0.59	<1.2	<593	<0.59	17.8	121
	2-4	4240	<0.57	10.3	24.2	<0.57	7.4	3370	9.7	<17.0	28.4	20400	17.8	1980	269	<0.11	20.5	747	<0.57	<1.1	<567	<0.57	8.9	141
	4-6	7890	<0.60	14.2	48.3	0.43	5.82	6470	12.8	8.7	54.8	23400	22.8	3560	384	0.05	20.1	1330	<0.6	<0.4	63	<1.0	13.4	142
MRD QA	4-6	7100	<0.55	11.7	24.7	<0.55	<0.55	10900	11.4	<16.5	15.4	22400	8.3	4770	557	<0.11	19.1	1460	<0.55	<1.1	<550	<0.55	13	48.9
	6-8																							

EPA	REGION 9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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RVAAP OPEN DEMOLITION AREA

TAL LEVELS

DEPTH		ALL READINGS IN MG/KG																						
BORING	(FT)	AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	PO	SE	AG	NA	TH	VN	ZN
SS-01	0-0.3	7290	<0.57	9.1	117.0	<0.57	<0.57	161000	10.4	<17.1	47.7	15400	16.8	3140	469	<0.11	17.6	1320	<0.57	<1.1	<570	<0.57	12.6	82.1
SS-01 DUP	0-0.3	6070	<0.53	7.5	113.0	<0.53	0.58	202000	8.7	<15.9	36.1	11700	11.3	3340	514	<0.11	15.3	1100	<0.53	<1.1	<529	<0.53	10.8	57.8
SS-02	0-0.3	7630	<0.64	13.3	96.8	<0.64	1.00	6930	13.8	<19.1	89.3	20700	61.7	2990	329	<0.13	21.1	1270	<0.64	<1.3	<637	<0.64	14.9	202.0
SS-02 DUP	0-0.3	8910	0.75	14.6	92.2	<0.65	1.40	7340	15.2	<19.4	93.9	22500	78.5	3320	325	0.80	22.0	1450	<0.65	<1.3	<647	<0.65	16.7	214.0
SS-03	0-0.3	14100	<0.61	15.0	62.3	<0.61	<0.61	12500	21.4	<18.4	71.7	26300	20.2	3320	329	<0.12	23.5	2170	<0.61	<1.2	<612	<0.61	25.3	132.0
SS-03 DUP	0-0.3	13800	<0.61	14.8	73.4	<0.61	<0.61	8010	22.8	<18.4	51.8	27200	19.5	3640	398	<0.12	26.1	2030	<0.61	<1.2	<612	<0.61	25.6	103.0
SS-04	0-0.3	8920	<0.58	11.8	98.4	<0.58	0.86	75400	14.1	<17.3	89.1	18600	17.3	3240	430	<0.12	20.8	1710	<0.58	<1.2	<577	<0.58	16.3	85.2
SS-04 DUP	0-0.3	5500	<0.56	7.3	92.0	<0.56	0.64	167000	8.8	<16.7	47.5	12300	12.6	2930	476	<0.11	15.6	979	<0.56	<1.1	<557	<0.56	9.7	60.7
SS-05	0-0.3	8860	<0.60	12.8	69.4	<0.60	0.61	48700	14.4	<17.9	56.0	20500	17.6	2930	397	<0.12	20.4	1120	<0.6	<1.2	<595	<0.6	17.0	90.5
SS-5 DUP	0-0.3	5490	<0.58	19.6	64.4	<0.58	0.80	137000	10.7	<17.5	64.2	16900	16.8	2790	441	<0.12	17.3	862	<0.58	<1.2	<582	<0.58	10.4	73.8
SS-06	0-0.3	9170	<0.63	16.5	81.5	<0.63	1.20	5990	15.5	<18.8	101.0	22700	22.0	3670	402	<0.13	22.0	1690	<0.63	<1.3	<628	<0.63	16.8	145.0
SS-06 DUP	0-0.3	8280	0.68	14.0	63.2	<0.66	1.80	11000	14.0	<19.8	102.0	21100	36.6	3850	333	0.13	21.5	1390	<0.66	<1.3	<660	<0.66	14.9	162.0
SS-07	0-0.3	8600	<0.62	15.5	31.3	<0.62	0.95	8890	14.1	<18.6	95.8	20800	24.3	3760	365	0.23	20.9	1640	<0.62	<1.2	<621	<0.62	15.9	125.0
SS-07 DUP	0-0.3	8740	<0.62	13.8	71.6	<0.62	1.10	6160	14.5	<18.7	94.8	21000	24.3	3710	342	0.15	21.2	1400	<0.62	<1.2	<624	<0.62	15.8	158.0
SS-08	0-0.3	8270	0.65	14.7	67.3	<0.61	0.69	8060	17.1	<18.4	76.7	30800	20.9	3590	494	<0.12	23.3	1110	<0.61	<1.2	<612	<0.61	17.1	158.0
SS-08 DUP	0-0.3	10700	<0.59	14.9	85.7	<0.59	0.78	4110	17.4	<17.8	93.3	25000	25.0	3430	648	<0.12	23.0	1400	<0.59	<1.2	<594	<0.59	20.9	158.0
SS-09	0-0.3	11200	<0.60	18.1	50.9	<0.60	<0.60	1950	18.5	<17.9	19.7	28200	11.8	3860	351	<0.12	28.2	2020	<0.60	<1.2	<595	<0.60	20.0	68.3
SS-09 DUP	0-0.3	11500	<0.59	16.8	31.7	<0.59	<0.59	2600	18.5	<17.8	28.0	26000	15.2	3450	447	<0.12	28.3	2290	<0.59	<1.2	<592	<0.59	22.3	77.9
SS-10	0-0.3	11800	<0.60	17.3	84.3	<0.60	<0.60	3530	19.6	<18.0	29.1	28000	13.9	4040	333	<0.12	31.5	1540	<0.60	<1.2	<600	<0.60	21.5	85.0
SS-10 DUP	0-0.3	13700	<0.61	13.0	123.0	0.86	<0.61	3640	22.0	<18.3	25.4	26500	14.1	4080	537	<0.12	35.1	2130	<0.61	<1.2	<612	<0.61	25.1	70.8
SS-11	0-0.3	9790	<0.66	15.8	109.0	<0.66	2.50	4730	18.9	<19.7	156.0	25300	31.0	3950	373	0.15	25.3	1980	<0.66	<1.3	<657	<0.66	17.5	184.0
SS-11 DUP	0-0.3	7650	<0.62	13.1	68.8	<0.62	1.30	5520	13.1	<18.7	128.0	20100	24.0	3540	378	0.17	20.7	1240	<0.62	<1.2	<622	<0.62	13.8	284.0
SS-12	0-0.3	8930	0.60	14.5	75.6	<0.60	1.20	5780	15.0	<17.9	103.0	21100	92.8	3560	358	<0.12	20.7	1650	<0.60	<1.2	<598	<0.60	16.8	192.0
SS-12 DUP	0-0.3	10100	0.84	15.2	77.4	<0.59	1.30	5500	16.1	<17.6	119.0	23400	28.8	3480	374	0.13	22.5	1760	<0.59	<1.2	<587	<0.59	16.7	181.0
SS-13	0-0.3	11700	<0.60	16.6	59.1	<0.60	0.71	5330	17.9	<18.0	96.9	27300	18.3	4580	374	<0.12	26.4	1760	<0.60	<1.2	<599	<0.60	20.0	102.0
SS-13 DUP	0-0.3	13000	<0.59	11.7	48.6	<0.59	<0.59	2010	17.3	<17.8	30.4	22200	13.6	2870	185	<0.12	15.5	1200	<0.59	<1.2	<592	<0.59	25.8	62.5
SS-14	0-0.3	10600	<0.60	16.0	72.5	<0.60	1.40	4640	17.3	<18.1	127.0	24800	29.4	3740	383	<0.12	24.6	1980	<0.60	<1.2	<604	<0.60	19.8	190.0
SS-14 DUP	0-0.3	12000	<0.60	15.7	552.0	<0.60	0.79	3860	19.0	<17.9	96.3	25200	21.5	3770	353	0.14	26.0	220	<0.60	<1.2	<598	<0.60	21.7	126.0
SS-15	0-0.3	6660	<0.60	12.9	73.3	<0.60	0.82	10100	13.1	<18.1	78.5	21500	24.9	2510	379	<0.12	20.4	1170	<0.60	<1.2	<602	<0.60	12.7	164.0
SS-16	0-0.3	12600	<0.57	15.6	62.9	0.61	<0.57	79900	17.0	<17.2	391.0	16500	39.1	3740	460	<0.11	17.4	1560	<0.57	<1.1	<574	0.57	14.2	77.9
SS-17	0-0.3	7900	<0.59	14.3	72.8	<0.59	1.50	5160	13.8	<17.7	136.0	21300	27.7	3280	344	0.33	21.5	1310	<0.59	<1.2	<591	<0.59	14.7	219.0
SS-18	0-0.3	11800	<0.61	14.3	74.5	<0.61	0.76	3810	17.9	<18.2	76.1	23100	20.9	3760	339	<0.12	24.5	2400	<0.61	<1.2	<605	<0.61	21.0	137.0

EPA RESIDEN	REGION 9 PRG'S	77000	31.0	0.38	5300	0.14	38.0		30.0	4600	2800		400		3200	6.5	1500		380	380		6.1	540	23000
PH I BG		15600		19.6	75		0.29		18.7				17.9		728	0.08			2.6	<0.24				72.1
PH II BG		To		Be	Determined																			

RVAAP OPEN DEMOLITION AREA

TAL LEVELS

BORING	DEPTH (FT)	ALL READINGS IN MG/KG																HG	NI	PO	SE	AG	NA	TH	VN	ZN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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EPA	REGION 9																							
RESIDEN	PRG'S	77000	31.0	0.38	5300	0.14	38.0		30.0	4600	2800		400		3200	6.5	1500		380	380		6.1	540	23000
PH I BG		15600		19.6	75		0.29		18.7				17.9		728	0.08			2.6	<0.24				72.1
PH I BG		To		Be		Determined																		

APPENDIX C
BORING LOGS

HTRW DRILLING LOG

PROJECT RVAAP RCRA INVESTIGATIONS				INSPECTOR K. DOMINIC		HOLE NUMBER SB-1
						SHEET 11/2/97
DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
						W
1.0		topsoil, silt to clayey silt, brown, ML	Ø.Ø	DF1153	DF1153 1422	15.8
2.0		silt to clayey silt, ML	Ø.Ø	DF1154	DF1154 1426	14.2
3.0						
4.0						
5.0			Ø.Ø	DF1155	DF1155 1430	15.7
6.0		CL, sandy, silty, stiff yellowish-brown, moist		DF1156	DF1156 1435	18.4
7.0			Ø.Ø			
8.0		coarse sand, well sorted, stringer of pea-sized gravel SP-SM	1 1/2	DF1157	DF1157 1442	19.2
9.0		sand only, 2" clay stringer SM silty sand.	Ø.Ø	Geotech		
10.0						
11.0		SM, silty sand		DF1261 1451		14.2
12.0		same, wet				
13.0		well sorted sand, wet		DF1262 1501		22.3
14.0						
15.0		SM, saturated sand, w/minor silt component		DF1263 1505		19.7
16.0						
17.0		TD = 16.0' w/sampling				
18.0						
19.0						
20.0						

Rods pushed to TD = 43' without refusal. Boring terminated @ 1541

PROJECT

HOLE NO

DFA SBØ1

HTRW DRILLING LOG

PROJECT		INSPECTOR				HOLE NUMBER
RVAAP		Paul Parrish				SB-2
ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0	2.5Y5/6 light Olive Brown Clay, Dense, Dry, Non-plastic, Trace Silt, Trace Fine Sand	Øpp-	DF1158	DF1158 0905	16.9
	2.0	2.5Y5/4 light Olive Brown Clay, Some Silt, Trace Fine Sand, Dry, Medium Stiff, Loose, Non-plastic	Øpp-	DF1159	DF1159 0905	14.9
	3.0					
	4.0					
	5.0		Øpp-	DF1160	DF1160 0923	14.6
	6.0	Same As Above except Dense 6-7.0, SW				
	7.0		Øpp-	DF1161	DF1161 0926	10.9
	8.0	10YR2.5/4 Dark Yellowish-Brown Fine to Medium Sand; Moist; Loose; Trace Clay, Subangular to subrounded grains. SW-SM	Øpp-	DF1162	DF1162 0929	11.2
	9.0	▽				
	10.0	10YR2.5/4 Dark Yellowish-Brown Gravel; Some Very Coarse Sand, Trace Clay; Wet; Loose; Gravel to 40mm; Angular SW-SM				
	11.0					
	12.0	Bottom of Boring Empty at 10'				
	13.0					
	17.0					
	15.0					
	16.0					
	17.0					
	18.0	Bottom of Boring C 43' logs				
	19.0	Hammered last 6'				
	20.0					

PROJECT

RVAAD

HOLE NO

34

HOLE NUMBER 5B-9

SHEET 11/22/97

PROJECT RVAAP RCRA INVESTIGATIONS

INSPECTOR K DOMINIC

DATE	TIME	LOCATION	DEPTH (ft)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
11/22/14	3:20	21.0	0.0	surface fill material		PB1163	PB1163 0933	NO FURTHER LOGGING
		22.0	1.0	CL, silty clay, stiff, mottled, with coarse gravel to 10%. 2.5% 4/4 olive brown, dry SW-SM		PB1164	PB1164 0943	MS/MSD
		23.0	2.0					
		24.0	3.0					
		25.0	4.0	CL, less silt, soft, slightly plastic, color change to grey		PB1165	PB1165 1002	
		26.0	5.0	4/4 dark grey to black sand stringer				
		27.0	6.0					
		28.0	7.0	--- color change, brown w/ grey mottling	1.5	PB1166	PB1166 1004	
		29.0	8.0					
		30.0	9.0		0.0	PB1283 1017		
		31.0	10.0	CL, clay w/ fine sand, stiff, moist, non plastic	0.0	PB1284 1025 Geotech		
		32.0	11.0					TD = 34' geoprobe refusal.
		33.0	12.0					
		34.0	13.0	sand stringer (fine), SW	0.0	PB1285 1030		
		35.0	14.0		0.0	PB1286 1038		
			15.0	CL-ML silty clay grey 4/4 dark grey, firm, moist, low plasticity	0.0	PB1287 1040 Geotech		
			16.0		0.0	PB1288 1044		
			17.0	CL, grey silty clay to saturated sand (0.5) clayey silt, CL-ML	0.0	PB1289 1048		
			18.0					
			19.0					
			20.0					

ПРОДУКТ

HOLE NO.

HOLE NO PESTS BLDG SB-9

PESTICIDE

HTRW DRILLING LOG

PROJECT			INSPECTOR			HOLE NUMBER
			Paul M. Parish			CS301
DATE	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
(A)	(B)	(C)	(D)	(E)	(F)	(G)
	1.0	7.5YR4/6 Strong Brown Sand and Clay; medium Sand; subangular; moist; soft; medium plastic SM	Open Fill	CS1272 0956		12.8
	2.0			CS1273 0956		15.7
	3.0	7.5YR2.5/6 Strong Brown Fine Sand; Some Clay, Moist to Wet; Soft; medium plastic SW	Fill	CS1274 0959		21.3
	4.0			CS1275 0959 Geotech		20.2
	5.0	10YR2.5/4 Dark Yellowish Brown mottled w/ 10YR5/2 Grayish Brown Clay; some silt; trace fine Sand; dense; medium plastic; dry to moist	CL	CS1276 1016 Geotech		23.5
	6.0	10YR2.5/4 Dark Yellowish Brown Clay; Trace Fine Sand; Stiff; Plastic; Moist; Trace Gravel to Brown Rounded to Subangular	CL-ML	CS1277 1016		18.2
	7.0	10YR2.5/6 Yellowish Brown Sand; medium to fine; Some Clay; Wet; Slightly Plastic; Loose ML				
	8.0	10YR2.5/4 Dark Gray Clay; Some fine Sand; Dense; Dry to Moist; Trace Gravel to Brown; Medium Plastic ML				
	9.0	2.5Y4/3 Olive Brown Clay; Some fine to medium Sand; Moist; Dense; Medium Plastic ML				
	10.0	Boring Not Logged Below 11' bgs				
	11.0	28.5' bgs bottom of Boring Did not encounter bedrock.				
	12.0					

HTRW DRILLING LOG

SB01

70

PROJECT		INSPECTOR		SHEET	
DEPTH (ft)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS (G)	IDENTITY OF SAMPLE (OF CORE RUN NO.)	ANALYTICAL SAMPLE NO. (G)	REMARKS (G)
1.0'	CLAY and SILT with some fine to medium sand and traces of subrounded gravel (CL), moist, very stiff, nonplastic, light olive brown (2.5Y5K).	1.2	OD1033	OD1033 0825 11/21/97	SP-SM
2.0'		ØØ	OD1034	OD1034 0825	SP-SM
3.0'	2.0'-4.0': Stringer of medium sand				
4.0'		ØØ	OD1035	OD1035 0837	ML
5.0'	Silty CLAY with traces of angular gravel (CL), moist, medium stiff, slightly plastic, yellowish brown (10YR5K).	ØØ	OD1036	OD1036 11/21/97 0842	ML
6.0'					
7.0'					
8.0'	8.75'-9.0': Seam of well sorted coarse sand	ØØ	OD1231		
9.0'	9.0'-9.5' Sandy CLAY		Ø85Ø		
10.0'	Silty CLAY with traces of gravel, wet, stiff, plastic, gray (N5/5).		OD1232	Ø9Ø2	
11.0'	10.5'-10.8': Seam of poorly sorted silty SAND, saturated				
12.0'		ØØ	OD1233	OD1233 Ø9Ø1 0913	SP-SM
13.0'	CLAY				
14.0'	Bottom of Boring = 14.0'				Stopped Boring due to water in the 11'-14' run.
15.0'					
16.0'					
17.0'					
18.0'					
19.0'					
20.0'					

PROJECT

HOLE NO.

SB01

HTRW DRILLING LOG

PROJECT **RVAAP**

INSPECTOR **P. Parrish**

SUB NUMBER **SB02 ODA 11/18/97**

SHEET **2 of 2**

DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		Clay w/some silt. light olive brown (5/4) medium stiff, moist, non-plastic	φ	OD1037	OD1037 11.18.97 0913	CL-ML
	2.0					
	3.0			OD1038	OD1038 11.18.97 0939	CL-ML
	4.0	Silt: some fine sand; trace Clay; Dry; Loose; non-plastic; 2.5/4 light olive brown.				CL-ML
	5.0			OD1039	OD1039 11.18.97 0946	
	6.0					ML
	7.0			OD1040	OD1040 11.18.97 0953	
	8.0	Clay; Med. Stiff; Moist; Slightly Plastic 2.5/4				
		Bottom of Boring				

PROJECT **RVAAP**

HOLE NO **CDM7 DND**

HTRW DRILLING LOG

HOLE NUMBER

SB03 ODA

34

PROJECT

RVAAP EI of RCRA Sites

INSPECTOR

P.M. Parrish

SHEET

11/18/97

LEVEL (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0	Clay with some silt and fine sand, medium stiff, moist, non-plastic, dark yellowish brown (10/18/97)	Ø.1	OD1Ø41	OD1Ø41 11/18/97 1Ø43	CL-ML
	2.0		Ø.Ø	OD1Ø42	OD1Ø42 11/18/97 1Ø49	CL-ML
	3.0	3.8'-6.2': Same as above but very stiff with traces of rounded to subrounded gravel.				
	4.0		Ø.8	OD1Ø43	OD1Ø43 11/18/97 1Ø56	CL-ML
	5.0					
	6.0		Ø.4	OD1Ø44	OD1Ø44 11/18/97 1Ø55	CL-ML
	7.0					
	8.0	Bottom of Boring = 8.0'				

PROJECT

RVAAP EI of RCRA Sites

HOLE NO

SB03 ODA

HTRW DRILLING LOG

PROJECT		INSPECTOR			HOLE NO.	DATE
					55024 ODA	11/19/97
ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with some Fine sand (CL), moist, medium stiff, slightly plastic, dark yellowish brown (10 yr 4/4).	4.5	OD1045	OD1045 11/19/97 1334	CL-ML
	2.0'		0.7	OD1046	OD1046 11/19/97 1343	CL-ML
	3.0'					
	4.0'		0.0	OD1047	OD1047 11/19/97 1350	CL-ML
	5.0'	4.0'-6.0': Same as above with trace of rounded to subrounded gravel.				
	6.0'		1.6	OD1048	OD1048 11/19/97 1401	CL-ML
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

HTRW DRILLING LOG

SB05 ODA

60

PROJECT		INSPECTOR		SHEET	
DEPTH (ft)	DESCRIPTION OF MATERIALS (ft)	FIELD SCREENING RESULTS (%)	LABORATORY SAMPLE NO. (if core box no.)	ANALYTICAL SAMPLE NO. (%)	REMARKS (ft)
1.0'	Clayey SILT with traces of gravel (SC), moist, stiff, non plastic, light yellowish brown (2.5V64)	0.0	OD1049	OD1049 11/20/97 1545	CL-ML
2.0'	0.0' to 0.3': Gravel Road bed material underlain with black woven polyethylene liner,		OD1050	OD1050 11/20/97 1550	CL-ML
3.0'					
4.0'			OD1051	OD1051 11/20/97 1558	CL-ML
5.0'					
6.0'	6.0' CLAY with traces of sand (CL), moist, stiff, plastic, yellowish brown (10R54)		OD1052	OD1052 11/20/97 1555 PSL 1604 11/20/97	ML
7.0'					
8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO

SB05 ODA

HTRW DRILLING LOG

PROJECT		INSPECTOR				HOLE NUMBER
DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD RECORDING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with some fine sand and traces of gravel (CL), moist, medium stiff, slightly plastic, light blue brown (10YR 5/6). 0.8' Evidence of an oxidized Fuse blue in color	Ø.3	OD1053	OD1053 11/21/97 Ø931	CL-ML 0.8' Pieces of blue oxidized Fuses placed in metals sample for representative composite.
	2.0'	2.4' Cobble of subrounded granite (pink & black)		OD1054	OD1054 11/21/97 Ø940	ML
	3.0'					
	4.0'	3.8' Poorly sorted SAND and Gravel with seams of clay (GC), moist, soft, nonplastic, yellowish brown (10YR 5/6).		OD1055	OD1055 11/21/97	SP
	5.0'					
	6.0'			OD1056	OD1056 11/21/97 1003	SP
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO.

SR0607A

HTRW DRILLING LOG

HOLE NUMBER

5807

34

PROJECT

INSPECTOR

SHEET

11/21/97

DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Sandy CLAY with some gravel (CL) 11/21/97 moist, off nonplastic, yellowish brown (10YR 5/6)	Ø.Ø	OD1057	OD1057 11/21/97 1008	CL - ML
	2.0'		Ø.1	OD1058	OD1058 11/21/97 1015	II - ML
	3.0'	2.3' Shrapnell fragments				
	4.0'		Ø.Ø	OD1059 OD1059	OD1059 11/21/97 1021	ML
	5.0'	4.7'-8.0' Stringers of sandy clay and gravel				
	6.0'		Ø.Ø	OD1060	OD1060 11-21-97 1020	ML
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO.

5807 ODA

HTRW DRILLING LOG

PROJECT		INSPECTOR			HOLE NUMBER	
					3808 ODA	
DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIAL (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with some Fine sand (CL), moist, slightly plastic, soft, dark yellowish brown (10 yr 4/6).	Ø.Ø	OD1Ø61	OD1Ø61 11/18/97 1113	ML
	2.0'		Ø.Ø	OD1Ø62	OD1Ø62 11/18/97 1119	CL-ML
	3.0'					
	4.0'					
	4.2'	CLAY with some silt and Fine sand (CL), moist, medium plastic, stiff, olive brown (2.5 yr 4/3).	1.7	OD1Ø63	OD1Ø63 11/18/97 1129	ML
	5.0'					
	6.0'		Ø.7	OD1Ø64	OD1Ø64 11/18/97 1139	ML
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO.

3808 ODA

HTRW DRILLING LOG

HOLE NUMBER: **SB09 ODA**

46

PROJECT

INSPECTOR

SHEET

11/19/97

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0'	Silty CLAY with some Fine sand (CL), moist, slightly plastic, dark yellowish brown (10 yr 4A)	0.0	OD1065	OD1065 11/19/97 1419	CL-ML
	2.0'		0.0	OD1066	OD1066 11/19/97 1424	.ML
	3.0'					
	4.0'		0.0	OD1067	OD1067 11/19/97 1430	ML
	5.0'					
	6.0'	6.3'-8.0': Clay is medium plastic and gray	1.8	OD1068	OD1068 11/19/97 1436	CL-MIL
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO.

SB09 ODA

HTRW DRILLING LOG

HOLE NUMBER **SB10 ODA**

5

PROJECT

INSPECTOR

SHEET

11/20/97

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0'	Silty CLAY with some fine sand and traces of rounded to subrounded gravel (CL), moist, medium stiff, slightly plastic, yellowish brown (10YR 5/4).	Ø.1	OD1069	OD1069 11/20/97 1058	CL-ML
	2.0'		Ø.Ø	OD1070	OD1070 11/20/97 1104	ML
	3.0'		Ø.Ø	OD1071	OD1071 11/20/97 1111	ML
	4.0'		Ø.Ø	OD1072	OD1072 11/20/97 1116	ML
	5.0'		Ø.Ø	OD1237		
	6.0'		Ø.Ø	OD1238		
	7.0'		Ø.Ø	OD1239	OD1239 11/20/97 1132	ML
	8.0'		Ø.Ø	OD1240		
	9.0'		Ø.5	OD1241	1132 OD1241 11/20/97	ML
	10.0'		Ø.5	OD1242	OD1242 11/20/97 1144	ML
	11.0'					
	12.0'					
	13.0'					
	14.0'					
	15.0'					
	16.0'					
	17.0'					
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	242.0'					
	243.0'					
	244.0'</					

HTRW DRILLING LOG

HOLE NUMBER SB11

36

PROJECT

INSPECTOR

SHEET 11/21/97

DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with traces of sand (CL), moist, stiff, nonplastic, light olive brown (2.5Y5/4).	OD1073 PSL Ø.Ø	OD1073	OD1073 11/21/97 1039	ML
	2.0'	0.0'-2.0': Burnt wood in sample				
	3.0'		Ø.Ø	OD1074	OD1074 11/21/97 1046	CL-ML
	4.0'					
	40'	40'				
	50'	Fill material, silt, sand, and gravel, moist, soft, nonplastic.	Ø.Ø	OD1075	OD1075 11/21/97 1053	ML
	60'					
	70'		Ø.Ø	N/A	N/A	80'-100': No sample due to insufficient recovery
	80'	Bottom of Boring = 80'				

PROJECT

HOLE NO

SB11 ODA

HTRW DRILLING LOG

HOLE NUMBER

SB12 ODA

PROJECT

INSPECTOR

SHEET

11/18/97

DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
1.0'	Clay, trace of silt, trace of fine to medium sand, soft, damp, slightly plastic	1.7	OD1077	OD1077 11/18/97 1405	CL-ML
2.0'		0.3	OD1078	OD1078 11/18/97 1412	ML
3.0'	3.0' - 3.5' 11/18/97 Silt, dry, loose, trace of clay, trace of fine sand Very dark gray (10yr 3/1)				
4.0'	4.0' - 6.0': Trace of pebbles 5-10 mm diameter, rounded to subrounded	0.0	OD1079 Felt Analysis Geotech	OD1079 11/18/97 1421	CL-ML
5.0'					
6.0'	6.0' - 8.0': Same as above but hard.	0.0	OD1080	OD1080 11/18/97 1430	ML
7.0'					
8.0'	Bottom of Boring 8.0'				

PROJECT

HOLE NO.

SB12 ODA

HTRW DRILLING LOG

HOLE NUMBER SB15

44

PROJECT

INSPECTOR

SHEET

11/21/97

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with some gravel (CL), moist, stiff, nonplastic, yellow brown (10YR5/4)	Ø.8	OD1089	OD1089 11/21/97 1443	SP
	2.0'	2.0'-4.0': Same as above but more plastic	Ø.Ø	OD1090	OD1090 11/21/97 1505	CL-ML
	3.0'					
	4.0'		Ø.Ø	OD1091 Not enough Sample For analysis PSL	OD1091 11/21/97 1515	CL-ML
	5.0'					
	6.0'	6.0'-8.0': Sample is wet	Ø.Ø	OD1092 Not enough recovery due to moisture of sample PSL	OD1092 11/21/97 1520	CL-ML
	7.0'	7.3': Red Brick Fragments				
	7.7'	Gray CLAY, plastic				
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO

SB 15 ODA

HTRW DRILLING LOG

PROJECT		INSPECTOR				HOLE NUMBER
						SHEET
ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY, moist, stiff, nonplastic, light olive brown (2.5Y5/4).	Ø.Ø	OD1Ø93	OD1Ø93 11/21/97 11ØØ	Bowl is visably pitted from HCl ML
	2.0'		Ø.Ø	OD1Ø94	OD1Ø94 11/21/97 11Ø6	ML
	3.0'					
	4.0'	4.0-5.0': More moist 4.0-5.0': Seams of Seams of sand	Ø.Ø	OD1Ø95	OD1Ø95 11/21/97 1111	CL - ML
	5.0'					
	6.0'		Ø.7	OD1Ø96	OD1Ø96 11/21/97 1117	ML
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO.

SB 16 ODA

HTRW DRILLING LOG

HOLE NUMBER

SB130DA

48

PROJECT

INSPECTOR

SHEET

11/19/97

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	CLAY with some gravel (CL) moist, stiff, plastic, yellowish brown (10yr 5/4) Gravel is subrounded.	Ø, Ø	ØD1Ø81	ØD1Ø81 11/19/97 1447	ML
	2.0'		Ø, Ø	ØD1Ø82	ØD1Ø82 11/19/97 1452	ML
	3.0'					
	4.0'	SILT with some fine sand and traces of subrounded gravel (ML) soft, non-plastic, gray (5Y5/1).	Ø.6	ØD1Ø83	ØD1Ø83 11/19/97 1457	ML
	5.0'					
	6.0'		Ø, Ø	ØD1Ø84	ØD1Ø84 11/19/97 15Ø7	ML
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO.

SB130DA

HTRW DRILLING LOG

HOLE NUMBER **SR 40DA**

PROJECT

INSPECTOR

SHEET **11/20/97**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	SILT with some Fine sand (SM), moist, medium stiff, nonplastic, olive brown (2.5Y4/4)	1.0	OD1085	OD1085 11/20/97 1151	CL-ML
	2.0'		0.0	OD1086	OD1086 11/20/97 1201	ML
	3.0'					
	4.0'		0.6	OD1087	OD1087 11/20/97 1208	ML
	5.0'					
	6.0'		0.7	OD1088	OD1088 11/20/97 1213	ML
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO

SR 40DA

HTRW DRILLING LOG

HOLE NUMBER
SB 17 ODA
SHEET 11/18/97

38

PROJECT		INSPECTOR		SHEET 11/18/97		
ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0	Clay, trace silt, trace Fine sand, dry, slightly plastic and stiff, Olive brown (25yr 4/4)	Ø.2	OD1097	OD1097 11/18/97 1438	ML
	2.0	2.2'				
	3.0	Clay, some silt, some Fine to medium sand, non-plastic, dark yellowish brown (210yr 4/4), Iron staining.	Ø.Ø	OD1098	OD1098 11/18/97 1444	ML
	4.0		Ø.Ø	ØD1099	ØD1099 11/18/97 1451	ML
	5.0					
	6.0	5.5' : Same as above with more sand	Ø.Ø	ØD1100	ØD1100 11/18/97 1458	CL - ML
	7.0			Fott Analysis Geotech		
	8.0			ØD1243 1503	ØD1243 11/18/97 PSL 11/18/97	
	9.0					
	10.0			ØD1244 1504	ØD1244 11/18/97 PSL 11/18/97	
	11.0					
	12.0	Silt, dry, loose, trace of clay, trace of Fine sand, very dark gray (10yr 3/1). Bottom of Boring=12.0'				Refusal @ 120'

PROJECT

HOLE NO. SB 17 ODA

HTRW DRILLING LOG						HOLE NO. SBK ODA
PROJECT		DISPECTOR				SHEET 11/19/97
ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0'	Silty CLAY with some Fine sand and traces of gravel (CL), moist, nonplastic, olive brown (2.5Y4/4).	Ø.Ø	OD11Ø1	OD11Ø1 11/19/97 1514	CL-ML
	2.0'		Ø.7	OD11Ø2	OD11Ø2 11/19/97 1524	ML
	3.0'					
	4.0'	4.2'				
	5.0'	Clayey SAND with some silt (SC), moist, nonplastic, yellowish brown (10YR5/4).	Ø.Ø	OD11Ø3	OD11Ø3 11/19/97 1528	ML
	6.0'					
	6.5'		Ø.Ø	OD11Ø4	OD11Ø4 11/19/97 1535	SP
	7.0'	Silty CLAY with some Fine sand and traces of gravel (CL), moist, nonplastic, olive brown (2.5Y4/4).				
	8.0'	Bottom of Boring = 8.0'				

HTRW DRILLING LOG

HOLE NUMBER SB 190DA

62

PROJECT

INSPECTOR

SHEET

11/20/97

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0'	Silt and Clay with some rounded to subrounded gravel (SC), moist, medium stiff, nonplastic, light olive brown (2.5Y4/6).	Ø.5	OD1105	OD1105 11/20/97 1216	Slag in first 2'
	2.0'		Ø.Ø	OD1106	OD1106 11/20/97 1222	ML
	3.0'					ML
	3.5'					
	4.0'					
	5.0'		Ø.4	OD1107	OD1107 11-20-97 1335	ML
	6.0'	same as above				
	7.0'		Ø.Ø	OD1108	OD1108 1342	SM
	8.0'	Sand mixed w/clay (35% sand)				
		TD = 8.0				

PROJECT

HOLE NO

SB 190DA

HTRW DRILLING LOG

HOLE NUMBER SB20

PROJECT

INSPECTOR

SHEET 11/21/97

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with traces of pebbles (CL), moist, stiff, nonplastic, yellow brown (10YR 5/8).	Ø.Ø	OD1109	OD1109 11/21/97 1202	Sample is From 0'-1', lost recovery may be coarse white sand seam ML
	2.0'		Ø.Ø	OD1110	OD1110 11/21/97 1206	CL - ML
	3.0'					
	4.0'	4.0'-8.0': More clay content causing greater plasticity	Ø.Ø	OD1111	OD1111 11/21/97 1213	CL - ML
	5.0'					
	6.0'		Ø.Ø	OD1112	OD1112 11/21/97	
	7.0'	7.0'-8.0': Dark gray to black				
	8.0'	Bottom of Boring - 8.0'				

PROJECT

HTRW DRILLING LOG

HOLE NUMBER **SB25**

46

PROJECT _____ INSPECTOR _____ SHEET **11/21/97**

DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with some gravel and sand (CL), moist, very stiff, nonplastic, light olive brown (2.5Y5A)		OD1129	OD1129 11/21/97 1545	ML
	2.0'	1.3': Large white weathered sandstone cobble				
	3.0'			OD1128 OD1130	OD1129 OD1130 11/21/97 1550	ML
	4.0'	3.8': Same as above but gray		OD1131	OD1131 11/21/97 1555	CL-ML
	5.0'	5.0'		Geotech		
	6.0'	CLAY, gray, medium stiff, plastic,				
	7.0'			OD1132 PSC No Recovery	OD1132 11/21/97 PSC No Recovery	
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO

SB25 ODA

HTRW DRILLING LOG

HOLE NUMBER **SB26**

PROJECT

INSPECTOR

SHEET **11/21/97**

DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with traces of gravel (CL), moist medium stiff, slightly plastic, dark yellow brown (IGYR4/4). 1.3' Large 0.1' long piece of exploded metal Schrapnell		OD1133	OD1133 11/21/97 1618	CL - ML
	2.0'			OD1134	OD1134 11/21/97 1623	CL - ML
	3.0'					
	4.0'			OD1135	OD1135 11/21/97 1628	CL - ML
	5.0'					
	6.0'					
	7.0'			OD1136	OD1136 11/21/97 1633	ML
	7.6'	Same as above but gray				
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HTRW DRILLING LOG

HOLE NO. SB27 ODA

54

PROJECT

INSPECTOR

SHEET

11/20/97

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0'	Silty CLAY with traces of gravel (cl), moist, medium stiff, nonplastic, light olive brown (2.5Y4/6),	0.0	OD1137	OD1137 11/20/97 1033	ML
	2.0'		0.4	OD1138	OD1138 11/20/97 1046	ML
	3.0'					
	4.0'	----- refusal 4.3'	0.2	OD1139 Not Collected	OD1139 11/20/97 1053	ML
	5.0'					
	6.0'					
	7.0'					
	8.0'					

PROJECT

HOLE NO.

SB27 ODA

HTRW DRILLING LOG

HOLE NUMBER SB28 JDA

PROJECT

INSPECTOR

SHEET 11/20/97

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	CLAY with some sand and gravel (CL), moist, medium stiff, slightly plastic, dark yellowish brown (10YR4/4).	1.1	OD1141	OD1141 11/20/97 1025	ML
	2.0'					
	2.4'					
	3.0'	Silty CLAY with traces of gravel (CL), moist, stiff, plastic, olive brown (2.5Y4/4).	0.6	OD1142	OD1142 11/20/97 1005	ML
	4.0'					
	5.0'		0.1	OD1143	OD1143 11/24/97 1017	ML
	6.0'					
	7.0'		0.3	OD1144	OD1144 11/20/97 1025	ML
	7.5'					
	8.0'	CLAY with traces of sand (CL), moist, medium stiff, very plastic, gray (10Y4/1). Bottom of Boring = 8.0'				

HTRW DRILLING LOG

 HOLE NUMBER **SB21**

40

PROJECT

INSPECTOR

SHEET

11/21/97

DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0'	Silty CLAY with traces of gravel (CL), moist, stiff, nonplastic, light olive brown (2.5 YSA).	Ø.Ø	OD1113	OD1113 11/21/97 1127	ML
	2.0'	1.1'-1.9': Pocket of well sorted, white, medium sand.	Ø.Ø	OD1114	OD1114 11/21/97 1132	ML
	3.0'					
	4.0'	4.0'-8.0': Same as above but more yellow	Ø.Ø	OD1115	OD1115 1139	ML
	5.0'					
	6.0'		Ø.7	OD1116	OD1116 11/21/97 1145	CL-ML
	7.0'					
	8.0'	Bottom of Boring = 8.0'				

PROJECT

HOLE NO

SB21 OD14

HTRW DRILLING LOG

PROJECT		INSPECTOR				HOLE NUMBER SB22 ODA
DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		Clay, some fine to medium sand, medium stiff, non-plastic, moist, light olive brown (2.5y 4/4).	0.0	OD1117	OD1117 11/18/97 1521	ML
	0.8'	Silt, dry, loose, trace of clay, trace of fine sand. Very dark gray (10 yr 3/1).				
	1.0'					
	2.0'		0.0	OD1118	OD1118 11/18/97 1536	ML
	3.0'					
	3.6'					
	4.0'	Silt and fine sand, trace of medium sand, trace of clay, trace of pebbles ~10 mm rounded to subrounded, damp, soft, loose, non-plastic, dark yellowish brown (10 yr 4/6).	9.1 (1.2 downhole)	OD1119	OD1119 11/18/97 1542	ML
	5.0'					
	6.0'			OD1120	OD1120 11/18/97 1550	ML
	7.0'					
	8.0'					
	9.0'					While attempting to probe from 8-12' slidding. I shaped piece broke & we had to leave sampler down hole.

PROJECT

HOLE NO

SB22 ODA

HTRW DRILLING LOG

HOLE NUMBER ODA SB23

52

PROJECT		INSPECTOR		SHEET 11/20/97		
ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0'	CLAY and SILT with some Fine sand and traces of gravel (ML), moist, nonplastic, yellowish brown (10YR 5/6).	Ø.3	OD1121	OD1121 11/20/97 Ø90Ø	ML
	2.0'	1.6' Fine SAND with SILT and GRAVEL (SW/SP), moist, soft, nonplastic, yellowish brown (10YR 5/4).	Ø.4	OD1122	OD1122 11/20/97 Ø918	ML
	3.0'					
	4.0'		Ø.1	OD1123	OD1123 11/20/97 Ø92Ø	ML
	5.0'					
	6.0'		Ø.Ø	OD1124	OD1124 11/20/97 Ø94Ø	ML
	7.0'					
	8.0'	7.5' SILT with some Fine sand and traces of gravel (ML), soft, nonplastic, gray (5Y 5/1).				
		Bottom of Boring = 8.0'				

PROJECT

HOLE NO

SB23 ODA

HTRW DRILLING LOG

3B-24

PROJECT		INSPECTOR		SHEET	
DEPTH (ft)	DESCRIPTION OF MATERIALS (10)	FIELD SCREENING RESULTS (10)	GRAVITY SAMPLE OR CORE RUN NO. (11)	ANALYTICAL SAMPLE NO. (12)	REMARKS (13)
1.0	CL, clay with silt, cohesive, mod. plastic, gravel dry	$\phi. \phi$	OD1125	OD1125 1350 11-20-97	CL-ML
2.0	Same, w/ 10% coarse gravel.	$\phi. \phi_{ppm}$	OD1126	OD1126 1358 11-20-97	CL-ML
3.0					
4.0	Change to silty sand, trace gravel (SC) (SM)	$\phi. \phi_{ppm}$	OD1127	OD1127 1407 11-20-97	ML
5.0					
6.0	7.0'		OD1128	OD1128 11/20/97 1414	ML
7.0					
8.0	Sandy SILT with traces of clay (ML), moist, medium stiff, nonplastic, gray (N4/I).		OD1255	OD1255 PSL 11/20/97 Sample not collected	
9.0					
10.0			OD1256	OD1256 PSL 11/20/97 Not Sampled	
11.0					
12.0			OD1257	OD1257 11/20/97 1425	ML
13.0					
14.0	13.5'-14.0': Very stiff, dark gray to black, platy shale fragments				Refusal at 14.0'
15.0	Bottom of Boring = 14.0'				
16.0					
17.0					
18.0					
19.0					
20.0					

PROJECT

HOLE NO. 3B-24

HTRW DRILLING LOG

PROJECT		INSPECTOR		SHEET SB29 ODA		66
DEPTH (FT)	DESCRIPTION OF MATERIALS (F)	FIELD SCREENING RESULTS (D)	LABORATORY SAMPLES FOR CLOVE ANALYSIS (E)	ANALYTICAL SAMPLES (F)	REMARKS (G)	11/20/97
1.0	Silty CLAY with traces of subrounded gravel (CL), moist, medium stiff, brown (10YR 5/3).	1.4	OD1145	OD1145 11/20/97 1444	CL-ML	
2.0		0.5	OD1146	OD1146 11/20/97 1449	ML	
3.0						
4.0		0.4	OD1147	OD1147 11/20/97 1457	ML	
5.0						
6.0	6.1' SILT and FINE SAND with some gravel (SM), moist, soft, gray (N5/5).	0.0	OD1148	OD1148 11/20/97 1501	ML ?	
7.0						
8.0	7.6'-8.0': SILT and Fine SAND, moist, nonplastic, light brown. Bottom of Boring = 8.0'					

PROJECT

HOLE NO

SB29 ODA

APPENDIX D

RESULTS OF FIELD SCREENING FOR EXPLOSIVES

PROJECT NAME: RVAAP TNT and DNT FIELD SCREENING LOGSHEET DELIVERY ORDER NO: 0002

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: Calibration

DATE: 11/18/97

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	Acetone Blank	NA	11/10/97 1330	NA	NA	clear	NA	0.030	0.060	0	0	NA
DNT	Acetone Blank	NA	11/16/97 1330	NA	NA	clear	NA	0.032	0.064	0	0	NA
TNT	4 mg/L					Pinkish red	0.802 0.82	0.030	NA			
TNT	2 mg/L						0.421					
TNT	.8 mg/L						0.193					
TNT	.4 mg/L						0.090					
TNT	.2 mg/L						0.046					
TNT/ DNT MFO 6.18	R Blank					clear	0.018					
DNT	4 mg/L					violet blue	0.829	0.032				
DNT	2 mg/L						0.422					
DNT	.8 mg/L						0.205					

COMMENTS: A blank = reagent blank. Note 3% ~~H₂O~~^{mtb} H₂O added to std.s

SIGNATURE(S):

QA CHECKED BY: V. Hunt / B. Long 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: CalibrationDATE: 11/10/97

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTGT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	.4 mL	N/A	11/10/97	N/A	N/A	violet haz	0.117	0.032				
DNT	.2 mL	↓	↓	↓	↓	↓	0.087	↓				
DNT	R Blank	↓	↓	↓	↓	↓	0.033	↓				

COMMENTS:

SIGNATURE(S): meQA CHECKED BY: Matt O'Neil 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: 00A3A ODADATE: 11/19/97

RF Daily = 4.9020 TNT RF Aliq = 3.4630

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTRCT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT/ ^{MD} DNT	OD1040	00A	11/18/97	20.0	NA	clear	0.033	0.013	0.026	0.007	0.034	0.17
DNT	OD1040			20.0		↓	0.037	0.011	0.022	0.015	0.051 0.074	0.26 0.37
TNT	OD1064			20.9		clear	0.018	0.021	0.042	0.006	0.029	0.14
DNT	OD1064			20.9		↓	0.042	0.018	0.036	0.006	0.020 0.029	0.10 0.14
TNT	OD1062			20.1			0.044	0.023	0.046	-0.002	ND	ND
DNT	OD1062			20.1			0.032	0.019 0.023	0.038	-0.003	ND	ND
TNT	OD1063			20.0			0.028	0.018	0.036	-0.008	ND	ND
DNT	OD1063			20.0			0.029	0.015	0.030	-0.001	ND	ND
TNT	OD1061			20.4			0.043	0.037	0.074	-0.031	ND	ND
DNT	OD1061			20.4			0.034	0.032	0.064	-0.030	ND	ND
TNT	OD1042			20.0		↓	0.109	0.164	0.328	-0.219	ND	ND

COMMENTS: Note samples left in filter receptacles for ~ 2 hr. Acetone began to dissolve filter units. Samples with high backgrounds were cloudy from reaction (e.g. OD1042 & OD1041)

SIGNATURE(S): jaQA CHECKED BY: Walt Bley 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: ODA

DATE: 11/19/17

RF only = 4.9620 TNT RF only = 3.4130

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTOT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	OD1042	ODA	11/19/17	20.0	NA	clear	0.086	0.146	0.292	-0.206	NA	ND
TNT	OD1041			20.0			0.185	0.148	0.296	-0.111		
DNT	OD1041			20.0			0.158	0.194	0.268	-0.110		
TNT	OD1043			20.0	NA	clear	0.098	0.096	0.192	-0.094		
DNT	OD1043			20.0			0.083	0.086	0.172	-0.089		
TNT	OD1044			20.8		clear	0.060	0.013	0.026	0.042	0.202	0.990
DNT	OD1044			20.8			0.063	0.016	0.032	0.031	0.106	0.510
											0.152	0.731
TNT	OD1039			21.2	NA		0.037	0.034	0.068	-0.031	NA	ND
DNT	OD1039			21.2			0.029	0.029	0.058	-0.029		
TNT	OD1037			20.1	NA	clear	0.054	0.038	0.076	-0.022		
DNT	OD1037			20.1			0.047	0.034	0.068	-0.021		

COMMENTS: See comments pg 11, (B)

SIGNATURE(S): /a

QA CHECKED BY: Met 08/09 12.3.97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: ODA

DATE: 11/19/97 // 11/20/97

RF Dil = 4.9020 TNT RF Dil = 1.4130

RF A TNT = 4.926 RF A DNT = 3.466

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTCT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X1	CORRECT EXTRACT ABSORB	EXTRACT CONC (mg/L)	SAMPLE CONC. (ug/g)
① TNT	OD103B	ODA	11/18/97	21.6	NA	clear	0.077	0.044	0.088	-0.011	NA	ND
① DNT	OD103B	ODA	↓	21.6	↓	↓	0.059	0.039	0.078	-0.019	NA	ND
① TNT	OD1043W	↓	↓	20.2	↓	↓	0.053	0.023	0.046	0.007	0.034	0.168
① DNT	OD1043W	↓	↓	20.2	↓	↓	0.035	0.020	0.040	-0.005	NA	ND
11/19/97 TNT	OD1098	ODA	11/18/97	19.9	1	clear	0.133	0.142	0.284	-0.151	NA	ND
DNT	OD1098	↓	↓	19.9	↓	↓	0.097	0.127	0.254	-0.157	↓	↓
TNT	OD1099	↓	↓	20.2	↓	clear cl	0.240	0.295	0.390	-0.150	↓	↓
DNT	OD1099	↓	↓	20.2	↓	↓	0.212	0.276	0.552	-0.340	↓	↓
TNT	OD1080	↓	↓	21.2	↓	clear	0.185	0.242	0.484	-0.299	↓	↓
DNT	OD1080	↓	↓	21.2	↓	↓	0.163	0.223	0.446	-0.283	↓	↓
TNT	OD1119	↓	↓	20.3	↓	clear	0.118	0.156	0.312	-0.194	↓	↓

COMMENTS: ① See comments pg 11 RF Dil = 4.902

SIGNATURE(S):

/a

QA CHECKED BY:

Mark May 12-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: 00A

DATE: 11/20/97

RF Daily TNT=4.926 DNT=3.466

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTOT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X1	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	001119	00A	11/18/97	20.3	1	clear	0.163	0.142	0.284	-0.181	NA	ND
TNT	001078			20.6		CL cloudy	0.459	0.575	0.115	-0.691		
DNT	001078			20.6		↓	0.412	0.500	1.020	-0.608		
TNT	001097			20.0		clear CL	0.315	0.415	0.830	-0.515		
DNT	001097			20.0		↓	0.277	0.381	0.762	-0.485		
TNT	001100			20.0		CL cloudy	0.222	0.255	0.540	-0.088		
DNT	001100			20.0		↓	0.194	0.220	0.440	-0.246		
TNT	001118			20.1		CL	0.061	0.064	0.128	-0.067		
DNT	001118			20.1		↓	0.052	0.059	0.118	-0.066		
TNT	001120			20.2		clear	0.096	0.132	0.264	-0.168		
DNT	001120			20.2		↓	0.085	0.117	0.234	-0.149		

COMMENTS:

SIGNATURE(S): juQA CHECKED BY: Mark J. Day 12-3-97 ATO

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: ODADATE: 11/20/97REF ID: TNT=4.926 DNT=3.466

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB S2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	OD1107	ODA	11/18/97	20.0	1	clear	0.126	0.179	0.358	-0.232	NA	ND
DNT	OD1107	↓	↓	20.0	↓	↓	0.109	0.165	0.330	-0.221	↓	↓
TNT	OD1019	ODA	11/19/97	19.8	↓	slightly cloudy	0.141	0.144	0.288	-0.147	↓	↓
DNT	OD1019	↓	↓	19.8	↓	↓	0.124	0.132	0.264	-0.140	↓	↓
TNT	OD1014	↓	11/19/97	20.3	↓	slightly cloudy	0.151	0.143	0.286	-0.135	↓	↓
DNT	OD1014	↓	↓	20.3	↓	↓	0.133	0.131	0.262	-0.129	↓	↓
TNT	OD1017	↓	11/19/97	20.3	↓	clear	0.218	0.228	0.456	-0.238	↓	↓
DNT	OD1017	↓	↓	20.3	↓	↓	0.184	0.208	0.416	-0.232	↓	↓
TNT	OD1012	↓	11/19/97	20.4	↓	slightly cloudy	0.181	0.188	0.376	-0.195	↓	↓
DNT	OD1012	↓	↓	20.4	↓	↓	0.148	0.180	0.364	-0.212	↓	↓
TNT	OD1079	↓	11/18/97	20.2	↓	slight cloud	0.265	0.278	0.556	-0.291	↓	↓

COMMENTS:

SIGNATURE(S): AKQA CHECKED BY: Mark Dwyer

12-7-97

PROJECT NAME: RVAAP	TNT and DNT FIELD SCREENING LOGSHEET	DELIVERY ORDER NO: 0002
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SITE: DDA

DATE: 10/20/97

RF 12:4 TNT = 4.926 DNT = 3.466

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DILUT COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X3	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	001079	DDA	11/18/97	20.2	1	slightly cloudy	0.228	0.260	0.520	-0.292	NH	ND
TNT	^{min} 001077		11/18/97	19.9	1	slightly cloudy (red)	0.249	0.280	0.560	-0.311		
DNT	001077		↓	19.9		slightly cloudy	0.205	0.264	0.528	-0.323		
TNT	001010		11/19/97	20.2		slightly cloudy	0.135	0.155	0.310	-0.175		
DNT	001010		↓	20.2		↓	0.114	0.141	0.282	-0.168		
TNT	001002		11/19/97	19.9		clear (red)	0.191	0.150	0.300	-0.109		
DNT	001002		↓	19.9		↓	0.176	0.138	0.276	-0.106		
TNT	001008		11/19/97	19.9		(red) cloudy	0.406	0.470	0.940	-0.534		
DNT	001008		↓	19.9		↓	0.347	0.445	0.890	-0.543		
TNT	001005		11/19/97	19.9		slightly cloudy (red)	0.179	0.188	0.376	-0.197		
DNT	001005		↓	19.9	↓	↓	0.149	0.173	0.346	-0.197		

COMMENTS: _____

SIGNATURE(S): ja

QA CHECKED BY: Mark O'Leary 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: ODA

DATE: 11/20/97 ^{wt} / 11/21/97 ^{Analyzed}

REF = 1 TWT = 4.376 / DNT = 4.975

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTCT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	001104	ODA	11/19/97 1535	19.9	1	clear cl	0.055	0.055	0.110	-	NA	ND
DNT	001104 001068 gm		1535 11/19/97	19.9		↓	0.047	0.046	0.092	-		
TNT	001103		1528 11/19/97	20.0		clear cl	0.078	0.073	0.146	-		
DNT	001103 001013 gm		1528 11/19/97	20.0		↓	0.065	0.064	0.128	-		
TNT	001066		1424	20.2		clear cl	0.043	0.044	0.088	-		
DNT	001066		1424	20.2		↓	0.033	0.035	0.070	-		
TNT	001068		1436	20.2		clear cl	0.141	0.161	0.322	-		
DNT	001068		1436	20.2		↓	0.121	0.142	0.284	-		
TNT	001013		1551	20.1		clear cl slight red	0.117	0.120	0.240	-		
DNT	001013		1551	20.1		↓	0.096	0.105	0.210	-		
TNT	001101		1514	20.2		clear cl	0.122	0.135	0.270	-		

COMMENTS: When negative value is calculated for corrected Extract value "-" is indicated.

SIGNATURE(S): gmQA CHECKED BY: Mass 02 long 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: ODA

DATE: 11/21/97

REMARK: TNT = 4.376 / DNT = 4.975

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIE COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	OD 1101	ODA	11/19/97 1514	20.2	1	clear cl	0.098	0.122	0.244	—	NA	NO
TNT	OD 1004		1046	20.0		clear red	max	0.119	0.238	NA	—	9
DNT	OD 1004		1046	20.0		↓	max 0.117	0.142	NA	—	—	9
TNT	OD 1009		1101	20.5		cloudy cl	0.164	0.157	0.314	—	NA	NO
DNT	OD 1009		1101	20.5		↓	0.147	0.142	0.284	—	—	—
TNT	OD 1067		1430	20.1		clear cl	0.045	0.031	0.062	—	—	—
DNT	OD 1067		1430	20.1		↓	0.034	0.062	0.124	—	—	—
TNT	OD 1022		1049	20.0		clear	0.133	0.117	0.234	—	—	—
DNT	OD 1022		1049	20.0		↓	0.133	0.117	0.236	—	—	—
TNT	OD 1003			20.0		clear (light pink)	0.104	0.090	0.180	—	—	—
DNT	OD 1003	↓		20.0	↓	↓	0.084	0.082	0.164	—	↓	↓

COMMENTS: Sample OD 1004 maxed out see pg 41

SIGNATURE(S): [Signature]QA CHECKED BY: [Signature] 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: ODADATE: ^{wt} 11/20/97 // ^{run} 11/21/97

RF daily TNT = 4.376 / DNT = 4.975

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTGT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	00 1084	ODA	11/18/97 1507	20.1	1	clear	0.081	0.081	0.162	—	NA	ND
DNT	00 1084		1507	20.1		↓	0.070	0.073	0.146	—		
TNT	00 1001		1405	20.2		clear	0.111	0.101	0.202	—		
DNT	00 1001		1405	20.2		↓	0.097	0.092	0.184	—		
TNT	00 1102		1524	20.2		clear	0.123	0.125	0.250	—		
DNT	00 1102		1524	20.2		↓	0.103	0.111	0.222	—		
TNT	00 1065		1419	19.9		clear	0.115	0.121	0.242	—		
DNT	00 1065		1419	19.9		↓	0.098	0.106	0.212	—		
TNT	00 1048		1401	20.0		clear	0.104	0.103	0.206	—		
DNT	00 1048		1401	20.0		↓	0.091	0.093	0.186	—		
TNT	00 1045		1334	19.9		cloudy	0.339	0.345	0.690	—		

COMMENTS:

SIGNATURE(S): JAQA CHECKED BY: Nett DeLong 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: ODADATE: 11/21/97RF ~~data~~ TNT=4.376/DNT=4.975

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTOT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	001045	ODA	11/19/97 1334	19.9	1	clear	0.305	0.319	0.638	—	N/A	N/D
TNT	001081		1447	19.9	↓	clear	0.072	0.078	0.156	—		
DNT	001081		1447	19.9	1	↓	0.062	0.063	0.126	—		
TNT	001082		1452	20.0	1	clear	0.082	0.032	0.064	—		
DNT	001082		1452	20.0	1	↓	0.025	0.028	0.056	—		
TNT	001083		1457	20.1		clear	0.084	0.088	0.176	—		
DNT	001083		1457	20.1		↓	0.073	0.078	0.156	—		
TNT	001047		1350	19.9		clear	0.056	0.060	0.120	—		
DNT	001047		1350	19.9		↓	0.047	0.054	0.108	—		
TNT	001046		1343	20.1		cloudy	0.213	0.258	0.516	—		
DNT	001046		1343	20.1	↓	↓	0.191	0.232	0.464	—		

COMMENTS:

SIGNATURE(S): MAQA CHECKED BY: MA06/09 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: 00ADATE: 11/21/97

R.F. Daily TNT = 4.376 DNT = 4.975

RF dil: 1/4 TNT = 4.376 DNT = 4.975												
ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X1	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	001004	00A	11/14/97 1046	20.0	1/100	red clear	0.160	0.608	0.016	0.144	0.630	315
DNT	001004	00A	↓		1/100	↓	0.106	0.608	0.016	0.090	0.448	224
TNT	001087		11/20/97 1201	20.0	1	clear	0.0410	0.041	0.0088	-	N/A	N/D
DNT	001087		↓			↓	0.025	0.038	0.0076	-		
TNT	001241		1136	20.4		clear	0.125	0.139	0.278	-		
DNT	001241		↓			↓	0.111	0.128	0.256	-		
TNT	001139		1053	20.2		clear	0.019	0.015	0.016	0.032	-	
DNT	001139		↓			↓	0.015	0.013	0.026	-		
TNT	001088		1213	20.1		clear	0.109	0.116	0.232	-		
DNT	001088		↓			↓	0.096	0.107	0.464	-		
TNT	001086		1201	19.9		clear	0.058	0.060	0.120	-		

COMMENTS:

SIGNATURE(S): JA

QA CHECKED BY:

Matt O'Leary 12-2-97

TNT and DNT FIELD SCREENING LOGSHEET	
PROJECT NAME: RVAAP	DELIVERY ORDER NO: 0002

SITE: ODPA

DATE: 11/21/97

RF Daily TNT = 4.376 / DNT = 4.975

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X1	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	OD1080	ODPA	11/20/97 1201	19.9	1	clear	0.052	0.053	0.146	-	N/A	ND
TNT	OD1085		11/20/97 1151	20.3		clear	0.102	0.105	0.210	-		
DNT	OD1085		↓	↓			0.088	0.094	0.184	-		
TNT	OD1138		1046	20.1			0.075	0.086	0.172	-		
DNT	OD1138		↓	↓			0.064	0.076	0.152	-		
TNT	OD1123		0920	20.2			0.129	0.126	0.132	-		
DNT	OD1123		↓	↓			0.112	0.108	0.216	-		
TNT	OD1242		1144	20.2			0.048	0.051	0.102	-		
DNT	OD1242		↓	↓			0.042	0.044	0.088	-		
TNT	OD1239		1132	20.2		clear cl	0.167	0.218	0.436	-		
DNT	OD1239	✓	↓	↓	✓	↓	0.150	0.199	0.398	-	↓	↓

COMMENTS: _____

SIGNATURE(S): *[Signature]*

QA CHECKED BY: *Mark Orlow* 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: ODADATE: 11/21/97

RF daily TWI = 4.376 / DNT = 4.975

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTOT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	001257	ODA	11/21/97 1425	20.2	1	clear	0.087	0.090	0.180	-	NA	ND
DNT	001257		↓	↓			0.077	0.078	0.156			
TNT	001142		1005	20.3			0.114	0.153	0.306	-		
DNT	001142		↓	↓			0.117	0.138	0.276	-		
TNT	001137		1033	20.1			0.061	0.062	0.124	-		
DNT	001137		↓	↓			0.054	0.055	0.110	-		
TNT	001121		0900	20.2			0.090	0.093	0.186	-		
DNT	001121		↓	↓			0.080	0.081	0.162	-		
TNT	001145		1444	20.0			0.101	0.103	0.206	-		
DNT	001145		↓	↓			0.087	0.092	0.184	-		
TNT	001124	↓	↓	0440	20.0	↓	0.123	0.121	0.242	-	↓	↓

COMMENTS:

SIGNATURE(S): na

QA CHECKED BY:

Mark Moley 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET
PROJECT NAME: RVAAP
DELIVERY ORDER NO: 0002

SITE: ODPA 4.5 5.602

DATE: 11/21/97 // 11/22/97

RF daily TWT = 0.357 / DNT = 3.711

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTRCT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	OD1124	COA	11/20/97 0940	20.0	1	clear	0.107	0.106	0.212	-	NA	ND
TWT	OD1106		1222	20.0			0.061	0.083	0.166	-		
DNT	↓		↓	↓			0.053	0.078	0.156	-		
TWT	OD1125		1350	20.0			0.057	0.069	0.138	-		
DNT	↓		↓	↓			0.049	0.061	0.122	-		
TWT	OD1108		1342	20.2			0.025	0.024	0.048	-		
DNT	↓		↓	↓			0.019	0.021	0.042	-		
TWT	OD1049		1545	20.1			0.056	0.061	0.122	-		
DNT	↓		↓	↓			0.047	0.056	0.112	-		
TWT	OD1072		1116	16.9			0.024	0.026	0.050	-		
DNT	↓		↓	↓			0.026	0.018	0.036	-		

COMMENTS: _____

SIGNATURE(S): pa

QA CHECKED BY: Matt O'Leary 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: ODA

DATE: 11/22/97 // 11/23/97

RF daily TNT = 5.602 / DNT = 3.711 // TNT = 5.495 / DNT = 3.413

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTCT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
ST 10/24 DNT	OD1052	ODA	1604	20.1	1	Clear	0.037	0.030	0.060	—	NA	ND
12/17 DNT	↓	↓		↓	↓	↓	0.032	0.028	0.056	—	↓	↓
TNT	OD1174		1025	20.0			0.076	0.002	0.164	—	↓	↓
DNT	↓			↓			0.070	0.077	0.154	—	↓	↓
TNT	OD1127			19.8			0.107	0.125	0.150	—	↓	↓
DNT	↓			↓			0.093	0.117	0.234	—	↓	↓
TNT	OD1147		1452	20.0			0.051	0.044	0.088	—	↓	↓
DNT	↓			↓		↓	0.043	0.040	0.080	—	↓	↓
TNT	OD1141		0955	20.2		Clear	0.015	0.010	0.020	—	↓	↓
5/4/97 DNT	↓			↓		↓	0.010	0.007	0.134	—	↓	↓
TNT	OD1050		1550	20.2	↓	↓	0.030	0.021	0.042	—	↓	↓

COMMENTS:

SIGNATURE(S):

QA CHECKED BY:

Matt Doherty 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: 00ADATE: 11/23/97REF: TNT = 5.495 / DNT = 03.413

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTOT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	001050	00A	1550	20.2	1	clear	0.027	0.015	0.030	—	NA	ND
TNT	001120		1414	20.2			0.033	0.029	0.058	—		
DNT	↓		↓	↓			0.025	0.023	0.046	—		
TNT	001107		1335	20.2			0.021	0.016	0.032	—		
DNT	↓		↓	↓			0.019	0.009	0.018	0.001	0.003	0.01
TNT	001122		0918	19.9			0.122	0.095	0.190	—	NA	ND
DNT	↓		↓	↓			0.100	0.081	0.162	—		
TNT	001126		1358	20.0			0.053	0.029	0.058	—		
DNT	↓		↓	↓			0.038	0.021	0.042	—		
TNT	001070		1104	19.9			0.043	0.055	0.110	—		
DNT	↓		↓	↓			0.034	0.049	0.098	—		

COMMENTS: _____

SIGNATURE(S): /s/QA CHECKED BY: 11/23/97

12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: 00ADATE: 11/22/97
74

RF Daily TNT = 5.495 / DNT = 3.413

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X1	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	OD 1071	00A	1111	20.2	1	clear	0.028	0.020	0.040	-	N/A	ND
DNT	↓	↓	↓	↓	↓	↓	0.019	0.018	0.036	-	↓	↓
TNT	OD 1051	↓	1558	20.3	↓	↓	0.060	0.009	0.018	0.042	0.231	1.14
DNT	↓	↓	↓	↓	↓	↓	0.050	0.005	0.010	0.044	0.137	0.67
TNT	OD 1143	↓	1417	20.2	↓	↓	0.057	0.053	0.106	-	N/A	ND
DNT	↓	↓	↓	↓	↓	↓	0.051	0.006	0.100	-	↓	↓
TNT	OD 1069	↓	1058	19.9	↓	clear	0.033	0.006	0.012	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.027	0.007	0.014	0.013	0.044	0.22
TNT	OD 1105	↓	1216	20.0	↓	↓	0.020	0.003	0.006	0.014	0.077	0.38
DNT	↓	↓	↓	↓	↓	↓	0.014	0.003	0.006	0.008	0.027	0.135
TNT	H# OD 1148	↓	1501	20.1	↓	pink slight	0.106	0.012	0.024	0.082	0.451	2.24

COMMENTS:

SIGNATURE(S): 74

QA CHECKED BY:

Matt Oley 12-3-97

PROJECT NAME: RVAAP	TNT and DNT FIELD SCREENING LOGSHEET	DELIVERY ORDER NO: 0002
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SITE: ODA / DFA

DATE: 11/23/97

RE only TNT=5.455/ DNT=3.413

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXCT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (mg/g)
DNT	001148 001146	ODA	1501	20.1	1	slight pink	0.07	0.010	0.020	0.052	0.145	0.97
TNT	001146	↓	1449	20.1	1	slight pink	0.134	0.031	0.062	0.072	0.396	1.97
DNT	↓	↓	↓	↓	1	slight pink	0.115	0.029	0.058	0.055	0.188	0.94
TNT	DF1157	DFA	11/21/97 1442	20.3		clear	0.180	0.218	0.436	—	NA	ND
DNT	↓	↓	↓	↓			0.150	0.148	0.396	—		
TNT	001133	ODA	11/21/97 1168	20.0			0.164	0.151	0.302	—		
DNT	↓	↓	↓	↓			0.143	0.139	0.278	—		
TNT	001136		11/21/97 1633	20.3			0.062	0.064	0.128	—		
DNT	↓	↓	↓	↓			0.054	0.061	0.122	—		
TNT	001134		11/21/97 1623	19.7			0.164	0.204	0.408	—		
DNT	↓	↓	↓	↓			0.141	0.188	0.376	—		

COMMENTS: _____

SIGNATURE(S): Joe

QA CHECKED BY: Walt Doherty 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE:

ODA / DEA

DATE:

11/23/97

RF Daily

TNT = 5.485 / DNT = 3.413

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTOT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X1	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	OD1089	ODA	11/21/97 1443	19.9	1	Clear	0.048	0.050	0.100	—	NA	ND
DNT	↓	↓	↓	↓	↓	↓	0.038	0.046	0.092	—	↓	↓
TNT	OD1090	↓	11/21/97 1505	19.8	↓	↓	0.065	0.063	0.126	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.055	0.059	0.118	—	↓	↓
TNT	OD1233	↓	11/21/97 0903	20.2	↓	↓	0.086	0.150	0.300	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.074	0.143	0.286	—	↓	↓
TNT	OD1091	↓	11/21/97 1515	19.8	↓	↓	0.056	0.049	0.098	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.046	0.045	0.090	—	↓	↓
TNT	DF1154	DF	11/21/97 1426	20.1	↓	↓	0.127	0.040	0.080	0.047	0.258	1.28
DNT	↓	↓	↓	↓	↓	↓	0.113	0.038	0.076	0.033	0.126	0.63
TNT	OD1135	ODA	11/21/97 1628	20.0	↓	↓	0.162	0.176	0.352	—	NA	ND

COMMENTS:

SIGNATURE(S):

/u

QA CHECKED BY:

M. B. B. B.

12-7-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE:

00A

DATE:

11/24/87

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTGT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	001130	00A	11/24/87 1130	20.2	1	clear	0.074	0.093	0.186	—	NA	ND
DNT	↓	↓	↓	↓	↓	↓	0.069	0.079	0.158	—	↓	↓
TNT	001131	↓	1555	22.3	↓	↓	0.060	0.067	0.134	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.056	0.056	0.112	—	↓	↓
TNT	001115	↓	1139	20.7	↓	↓	0.075	0.065	0.130	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.072	0.055	0.110	—	↓	↓
TNT	001055	↓	1111	26.6	↓	clear	0.202	0.185	0.370	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.183	0.160	0.320	—	↓	↓
TNT	001073	↓	1039	20.2	↓	↓	0.029	0.033	0.066	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.029	0.026	0.052	—	↓	↓
TNT	001114	↓	↓	20.1	↓	↓	0.048	0.042	0.084	—	↓	↓

COMMENTS:

SIGNATURE(S):

JA

QA CHECKED BY:

Mick Polony 12-3-97

PROJECT NAME: RVAAP	TNT and DNT FIELD SCREENING LOGSHEET	DELIVERY ORDER NO: 0002
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SITE: ODA

DATE: 11/24/97

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	OD 1114	ODA	11/24	20.1	1	clear	0.044	0.077	0.078	—	NA	ND
TNT	OD 1111		1213	20.0			0.037	0.044	0.208	—		
DNT	↓		↓	↓			0.078	0.066	0.192	—		
TNT	OD 1094		1106	29.0			0.040	0.059	0.118	—		
DNT	↓		↓	↓			0.038	0.054	0.108	—		
TNT	OD 1096	1117	1112	19.9			0.064	0.064	0.128	—		
DNT	↓		↓	↓			0.059	0.058	0.116	—		
TNT	OD 1113		1123	20.0			0.050	0.062	0.124	—		
DNT	↓		↓	↓			0.045	0.055	0.110	—		
TNT	OD 1109		1202	21.3			0.108	0.098	0.196	—		
DNT	↓		↓	↓			0.101	0.088	0.176	—		

COMMENTS: _____

SIGNATURE(S): ga

QA CHECKED BY: Mark DeLong 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: 00A / OFADATE: 11/24/97

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL COLUMN	EXTCT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	001116	00A	11/21/97 1145	20.0	1	cl	0.169	0.119	0.238	—	NA	ND
DNT	↓	↓	↓	↓	↓	↓	0.190	0.099	0.198	—	↓	↓
TNT	001092	↓	1520	24.8	↓	↓	0.056	0.054	0.108	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.051	0.048	0.096	—	↓	↓
TNT	001057	↓	1000	20.2	↓	↓	0.217	0.229	0.458	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.183	0.215	0.430	—	↓	↓
TNT	001060	↓	1026	21.8	↓	↓	0.098	0.095	0.190	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.087	0.083	0.176	—	↓	↓
TNT	001075	↓	1053	20.6	↓	↓	0.226	0.229	0.458	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.208	0.211	0.422	—	↓	↓
TNT	001153	OFA	1422	20.8	↓	↓	0.141	0.122	0.244	—	↓	↓

COMMENTS: _____

SIGNATURE(S): naQA CHECKED BY: [Signature]

12-3-97

TNT and DNT FIELD SCREENING LOGSHEET	
PROJECT NAME: RVAAP	DELIVERY ORDER NO: 0002

SITE: ODA / DFA

DATE: 11/24/97

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DILUT COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	DF1153	DFA		20.8		Clear	0.127	0.116	0.232	—	NA	ND
TNT	OD1058	ODA	11/21 1015	19.9			0.465	0.338	0.676	—		
DNT	↓						0.432	0.346	0.632	—		
TNT	OD1074		11/21 1016	19.9			0.322 0.617	0.323	0.746	—		
DNT	↓						0.320	0.358	0.716	—		
TNT	OD1035		0857	20.2			0.026	0.016	0.032	—		
DNT	↓						0.021	0.013	0.026	—		
TNT	OD1054		11/21 0916	19.9		link	0.225 0.107	0.119	0.238	—		
DNT	↓					link	0.220	0.111	0.222	—		
TNT	OD1056		1003	19.9		cl	0.055	0.082	0.184	—		
DNT	↓	↓				↓	0.049	0.087	0.174	—	↓	↓

COMMENTS: _____

SIGNATURE(S): *[Signature]*

QA CHECKED BY: *Walt Doherty* 12-3-97

PROJECT NAME: RVAAP

TNT and DNT FIELD SCREENING LOGSHEET

DELIVERY ORDER NO: 0002

SITE: ODA // OFA

DATE: 11/24/87 // 11/25/87

RF Daily TNT = 5.3908 / DNT = 2.123.7383

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTGT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB 2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	001053	ODA	11/21 0831	20.2	1	clear	0.099	0.083	0.166	-	NA	ND
DNT	↓	↓	↓	↓	↓	↓	0.086	0.075	0.150	-	↓	↓
TNT	001059	↓	1021	20.2	↓	↓	0.174	0.180	0.360	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.154	0.167	0.334	-	↓	↓
TNT	001110	↓	1206	20.2	↓	↓	0.082	0.087	0.174	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.074	0.081	0.162	-	↓	↓
TNT	DF 1158	DF 14	11/23 0805	20.0	1	clear	0.078	0.072	0.144	-	NA	ND
DNT	↓	↓	↓	↓	↓	↓	0.065	0.062	0.124	-	↓	↓
TNT	DF 1160	↓	11/23 0923	20.2	↓	↓	0.090	0.086	0.192	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.076	0.083	0.166	-	↓	↓
TNT	DF 1162	↓	11/23 0924	20.0	↓	↓	0.090	0.097	0.194	-	↓	↓

COMMENTS:

SIGNATURE(S):

na

QA CHECKED BY:

M. J. B. B. B. 12-3-87

TNT and DNT FIELD SCREENING LOGSHEET	
PROJECT NAME: RVAAP	DELIVERY ORDER NO: 0002

SITE: 00A / DFA

DATE: 11/24/97 - 11/25

RF Early TNT = 5.3808 DNT = 3.7383

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	DF1162	DFA	11/23 0829	14.9	1	clear	φ.081	φ.084	φ.168	-	N/A	ND
TNT	DF1161	DFA	11/23 0929	20.1	↓	↓	φ.118	φ.118	φ.236	-	↓	↓
DNT	↓	↓	↓	↓			φ.105	φ.103	φ.206	-		
TNT	OD1031	00A	11/23 1325	20.2			φ.174	φ.185	φ.370	-		
DNT	↓	↓	↓	↓			φ.150	φ.164	φ.328	-		
TNT	OD1032	00A	11/23 1338	20.1			pink φ.336	φ.274	φ.548	-		
DNT	↓	↓	↓	↓			clear φ.282	φ.234	φ.468	-		
TNT	OD1030	00A	11/23 1345	20.1			φ.133	φ.125	φ.250	-		
DNT	↓	↓	↓	↓			φ.40	φ.104	φ.208	-		
TNT	DF1152	DFA	11/24 1123	20.0			φ.190	φ.182	φ.364	-		
DNT	↓	↓	↓	↓			φ.165	φ.151	φ.302	-		

COMMENTS: _____

SIGNATURE(S): ja QA CHECKED BY: Matt O'Day 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: ODA / DFA

DATE: 11/28/97
MTO

RF Daily TNT = 5.3908 DNT = 3.7383

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BACKGRD ABSORB	BACKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	OD1055	ODA	11/21 0857	12.9	1	clear	0.128	0.185	0.370	—	N/A	N/A
DNT	↓	↓	↓	↓	↓	↓	0.154	0.171	0.342	—	↓	↓
TNT	OD1025	↓	11/23 1025	20.0	↓	cloudy	0.286	0.321	0.642	—	↓	↓
DNT	↓	↓	↓	↓	↓	cloudy	0.267 0.446	0.289	0.578	—	↓	↓
TNT	DF1151	DFA	11/24 1048	19.9	↓	clear	0.205	0.252	0.504	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.183	0.232	0.464	—	↓	↓
TNT	OD1034	ODA	11/21 0828	20.0	↓	↓	0.060	0.072	0.144	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.054	0.065	0.130	—	↓	↓
TNT	DF1159	DFA	11/23 0809	20.1	↓	↓	0.177 0.188	0.322	0.644	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.176	0.299	0.598	—	↓	↓
OD TNT	OD1036	ODA	11/21 0842	20.1	↓	↓	0.152	0.225	0.450	—	↓	↓

COMMENTS:

SIGNATURE(S):

Jm

QA CHECKED BY:

MTO MTO 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE: DDADATE: 11/25/97RF Δ : 5.3808 = TNT DNT = 3.7383

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	DD 1036	DDA	11/23 1244	20.1	1	clear	0.147	0.206	0.412	-	NA	ND
TNT	DD 1028	DDA	11/23 1250	20.2	1	green/red	0.228	0.180	0.360	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.183	0.164	0.328	-	↓	↓
TNT	DD 1021	DDA	11/23 1330	19.9	1	clear	0.213	0.229	0.458	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.184	0.183	0.366	-	↓	↓
TNT	DD 1016	DDA	11/23 1223	20.2	1	↓	0.233	0.316	0.620	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.210	0.220	0.560	-	↓	↓
TNT	DD 1027	DDA	11/23 1245	20.1	1	green/pink?	0.196	0.090	0.180	0.410	0.653	0.26
DNT	↓	↓	↓	↓	↓	↓	0.146	0.080	0.160	-	NA	ND
TNT	DD 1023	DDA	11/23 1233	20.1	1	clear	0.157	0.123	0.246	-	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.125	0.117	0.234	-	↓	↓

COMMENTS: DD 1027 TNT at 0.26 mg/kg is less than detection limit.

SIGNATURE(S): gaQA CHECKED BY: Max O'Brien 12-3-97

TNT and DNT FIELD SCREENING LOGSHEET

PROJECT NAME: RVAAP

DELIVERY ORDER NO: 0002

SITE:

00A

DATE: 1/25/87

RF daily TNT = 5.3808 DNT = 3.7383

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTRACT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X2	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
TNT	001026	00A	1/23 1233	20.0	1	Pink clear	0.214 0.070	0.078	0.156	0.058	0.313	1.52
DNT	↓	↓	↓	↓	↓	↓	0.170	0.067	0.134	0.036	0.184	0.97
TNT	001024	00A	1/23 1240	20.0	↓	↓	0.238	0.264	0.528	—	NA	NA
DNT	↓	↓	↓	↓	↓	↓	0.212	0.240	0.480	—	↓	↓
TNT	001015	00A	1/23 1218	19.9	↓	↓	0.118	0.090	0.180	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.094	0.078	0.156	—	↓	↓
TNT	001006	00A	1/23 1152	20.2	↓	clear	0.172	0.117	0.234	—	↓	↓
DNT	↓	↓	↓	↓	↓	clear	0.150	0.102	0.204	—	↓	↓
TNT	001018	00A	1/23 1228	20.7	↓	Pink	0.130	0.084	0.168	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.100	0.075	0.150	—	↓	↓
TNT	001011	00A	1/23 1200	20.5	↓	↓	0.116	0.086	0.172	—	↓	↓

COMMENTS:

SIGNATURE(S):

/s/

QA CHECKED BY:

M. J. O'Leary 12-347

PROJECT NAME: RVAAP	TNT and DNT FIELD SCREENING LOGSHEET	DELIVERY ORDER NO: 0002
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SITE: 00A

DATE: 11/25/97

RF Rec'd TNT = 5.3908 DNT = 3.7383

ANALYTE	FIELD SAMPLE NO.	SITE ID NO.	DATE/TIME COLLECTED	SAMPLE WEIGHT (g)	DIL. COLUMN	EXTOT COLOR	EXTRACT ABSORB	BCKGRD ABSORB	BCKGRD ABSORB X1	CORRECT EXTRACT ABSORB	EXTRACT CONC. (mg/L)	SAMPLE CONC. (ug/g)
DNT	001011	00A	11/23 1200	20.5	1	pink	0.092	0.074	0.148	—	N/A	ND
TNT	001007	00A	11/23 1153	21.0	1	↓	0.103	0.057	0.114	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.079	0.049	0.098	—	↓	↓
TNT	001029	↓	11/23 1255	20.9	↓	clear	0.051	0.033	0.066	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.038	0.027	0.054	—	↓	↓
TNT	001020	↓	11/23 1325	20.2	↓	↓	0.117	0.074	0.148	—	↓	↓
DNT	↓	↓	↓	↓	↓	↓	0.103	0.065	0.130	—	↓	↓
End of Sample												

COMMENTS: _____

SIGNATURE(S): *[Signature]*

QA CHECKED BY: Matt O'Leary 12-3-97

APPENDIX E
QUALITY ASSURANCE LABORATORY RESULTS

26 JAN 1998

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
CHEMISTRY & MATERIALS QUALITY ASSURANCE LABORATORY
OMAHA, NEBRASKA 68102

Subject: Quality Assurance Test Results

Project: Ravenna AAP - Env. Investigation at 5 Sites, OH

Intended Use: IRP-Army PA/SI

Source of Material: _____

Submitted by: John Jent, CELRL-ED-GE

Date Sampled: 19-24 Nov 97 Date Received: 25 Nov 97

Method of Test or Specification: See attached test result sheets

References: Louisville District Request No. W22W9K73387523
dated 04 Dec 1997

-- REMARKS --

1. Review comments for project data are presented on the following pages.
2. Sample receipt information and analytical data are provided in the following parts of the report.

Part A: Sample Receipt Information (1 page)
Part B: Chain-of-Custody Information (2 pages)
Part C: Quality Assurance Test Results (55 pages)
3. The Quality Assurance Test Results are attached; if you have questions please contact Laura Percifield at (402)444-4313

Submitted by:

Douglas B. Taggart

DOUGLAS B. TAGGART
Director, CMQA Laboratory

RP1-25-98

Percifield/glm/444-4313

TEST RESULTS

1. SUMMARY

CMQA Laboratory compiled the data package according to the USACE HTRW minimum chemistry reporting requirements. CMQA Laboratory and Continental Analytical Services, Inc. (CAS), performed the analyses using EPA methods. Proper quality control procedures were followed and documented. The method quality control results outlined below support the usability of the data.

2. DISCUSSION

- a. Thirteen soil samples were received by CMQA Laboratory on 25 Nov 97. The samples were analyzed for one or more of the following:

- Pesticide/PCB (P/PCB) by EPA method 8081.
- Herbicides (Herb) by EPA method 8151.
- Explosives (EXP) by a modified EPA method 8330M.
- Metals by EPA method: 7471 for mercury; and 6010 for aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.

The methods are from SW-846 (1986), "Test Methods for Evaluation of Solid Waste."

Part "A" of this report lists all of the samples received.

- b. The following shipping and chain-of-custody errors were noted for the sample shipments received by CMQA Laboratory.

- 1) There were no custody seals on the outside of the sample shipping container.
- 2) The custody papers were not sealed in a plastic bag and taped to the inside of the sample shipping container.

Part "B" of this report contains the chain-of-custody information.

- c. The samples were analyzed by CMQA Laboratory and CAS.

Part "C" of this report lists the analytical test results.

3. METHOD QUALITY CONTROL

- a. P/PCB:

- 1) Surrogate spike recoveries were within acceptable limits.
- 2) The method blanks were free of contamination.
- 3) Laboratory duplicate results matched the results from the original field samples.

- 4) The matrix spike/matrix spike duplicate (MS/MSD) recoveries were within acceptable limits except for 4,4'-DDT and endrin whose batch specific recoveries were out (page C5). Relative percent differences (RPD) for MS/MSD recoveries were within acceptable limits.
 - 5) Laboratory control sample (LCS) recoveries were within acceptable limits.
 - 6) Holding times were met.
- b. Herbicides:
- 1) Surrogate spike recoveries were within acceptable limits.
 - 2) The method blanks were free of contamination.
 - 3) The MS recoveries were within acceptable limits. A MSD was not analyzed due to insufficient sample volume (page C16).
 - 4) LCS/LCSD recoveries were within acceptable limits except for dinoseb whose recoveries were outside acceptable limits (page C11). RPD for LCS/LCSD recoveries were within acceptable limits.
 - 5) Holding times were not met (pages C8 and C9).
- c. EXP:
- 1) Surrogate spike recoveries were within acceptable limits.
 - 2) The method blanks were free of contamination.
 - 3) Laboratory duplicate results matched the results from the original field samples except for tetryl and nitrocellulose whose RPD were above acceptable limits (pages C19 and C29).
 - 4) The MS/MSD recoveries were within acceptable limits except for tetryl whose recoveries were out (page C20). RPD for MS/MSD recoveries were within acceptable limits.
 - 5) LCS recoveries were within acceptable limits.
 - 6) Holding times were met except for sample OD1077 whose extraction holding time was exceeded because of the late arrival of funds (page C17).
- d. Metals:
- 1) The method blanks were free of contamination except for an estimated concentration of aluminum (page C48).
 - 2) Laboratory duplicate results matched the results from the original field samples.
 - 3) The MS/MSD recoveries were within acceptable limits except for antimony, magnesium, and potassium whose batch specific recoveries were outside acceptable limits (page C50). RPD for MS/MSD recoveries were within acceptable limits.
 - 4) LCS recoveries were within acceptable limits.
 - 5) Holding times were met.

Al

PART A

SAMPLE RECEIPT INFORMATION

QA/QC Table #	Customer Sample #	Date Sampled	Matrix	Lab # Assigned	Tests Assigned	QA Test Results Page Number
001	001077	19 Nov 97	Soil	971204-024	Explosives	C17
				971204-024	Nitroglycerine	C22
				971204-024	Nitrocellulose	C27
002	001141	20 Nov 97	Soil	971204-027	Metals	C32-C33
003	001069	20 Nov 97	Soil	971204-028	Metals	C34-C35
004	001105	20 Nov 97	Soil	971204-029	Metals	C36-C37
005	001127	20 Nov 97	Soil	971204-030	Metals	C38-C39
006	001147	20 Nov 97	Soil	971204-031	Metals	C40-C41
007	001049	20 Nov 97	Soil	971204-032	Metals	C42-C43
008	001125	20 Nov 97	Soil	971204-033	Metals	C44-C45
009	PB1169	22 Nov 97	Soil	971204-025	Herbicides (to CAS)	C8
010	PB1178	22 Nov 97	Soil	971204-026	Herbicides (to CAS)	C9
011	PB1169	22 Nov 97	Soil	M970529-001	Pesticides/PCB	C1
012	PB1178	22 Nov 97	Soil	M970529-002	Pesticides/PCB	C2
013	DF1151	24 Nov 97	Soil	971204-034	Metals	C46-C47

PART B

CHAIN-OF-CUSTODY INFORMATION

Page No.	Chain-of-Custody No.	Date Signed
81	COE001	24 Nov 97



Science Applications
International Corporation
An Employee-Owned Company

Chain of Custody Record

Date 11/24/97

Page 1 of 1

Site ID No.
CUE 001

Name <u>Paul Parrish</u> Address <u>4031 Col Glenn Hwy Ste 203 Bannock, CO 80431</u> Phone Number <u>(937) 431-2220</u> Project Manager <u>Kathy Dornic</u> Project Name <u>RVAAP</u> Job/P.O. No. <u>01-0513-04-998</u>						Requested Parameters										NO. OF CONTAINERS	Laboratory Name <u>MIRD Laboratory</u> Address <u>420 S. 18th St</u> <u>Omaha, NE 68102</u> Phone <u>(402) 444-4302</u> Contact Name <u>Sample Custodian</u> <u>L.M.S. # 4844</u>						
Sampler (Signature) <u>[Signature]</u> (Printed Name) <u>Paul M. Parrish</u>						Pesticides 163 SW/46 8330	Herbicides SW/46	GC/MS SW/46 7020	Metals SW/46 7020	Explosives SW/46 8330													
Laboratory No.	Matrix	Sample No.	Date	Time	Site/Zone																		
	SC	PB1169	22-Nov-97	1258	PB	X	X															2	1-2'
		PB1178	22-Nov-97	1410	PB	X	X															2	0-0.5'
		DD 1141	20-Nov-97	955	ODA			X														1	0-2'
		DD1069	20-Nov-97	1058	ODA			X														1	0-2'
		DD1105	20-Nov-97	1216	ODA			X														1	0-2'
		DD1127	20-Nov-97	1407	ODA			X														1	4-6'
		DD1147	20-Nov-97	1457	ODA			X														1	4-6'
		DD1049	20-Nov-97	1545	ODA			X														1	0-2'
		DD1077	20-Nov-97	1405	ODA				X													2	0-2'
		DD 1125	20-Nov-97	1350	ODA			X														1	0-2'
	✓	LF1151	24-Nov-97	1040	DFA			X														1	0-0.5'
Relinquished by <u>[Signature]</u> Signature <u>Paul M. Parrish</u> Printed Name <u>SAIC</u> Company						Date <u>11/24/97</u> Time <u>1400</u>	Received by <u>[Signature]</u> Signature Printed Name Company						Date Time	Total Number of Containers: <u>14</u> Instructions 1. Fill out form completely except for shaded areas (lab use only). 2. Complete in ballpoint pen. Draw one line through errors and initial. 3. Request analyses using EPA method numbers only. Consult the project UAPP for instructions. Complete as shown. 4. Reference all field QC samples to the applicable site or zone. 5. Note all applicable preservatives. 6. Group all sample containers and requested analyses from one sampling location together. Do not list individually.						Shipment Method: <u>FedEx</u> SAIC Location (circle) Washington, DC 1710 Goodridge Dr., McLean, VA 22102 (703) 734-2500 Oak Ridge 800 Oak Ridge Trpk., Oak Ridge, TN 37830 (615) 482-9031 Paramus One Sears Drive, Paramus, NJ 07652 (201) 598-0100 <u>Dayton</u> 1321 Research Park Drive, Dayton, OH 45432 (513) 429-6550 Columbus 655 Mohr Lane South, Suite 245, Dublin, OH 43017 (614) 793-2800 Cincinnati 635 West 7th St., Suite 401, Cincinnati, OH 45201 (513) 721-2600			
Relinquished by Signature Printed Name Company						Date Time	Received by <u>[Signature]</u> Signature Printed Name Company						Date Time										

LIMS# 4844 MRD Cooler # — Number of Coolers 1 Contractor Cooler SAIC
PROJECT: Riverina AAP Date received: 11/25/97

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 11/25/97 C-of-C Number: COEQ41
by (print) Shelly Swink (sign) Shelly Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ☒ YES ☐ NO

If YES, enter carrier name & air bill number here: SeoEx 1469988295

2. Were custody seals on outside of cooler? ☐ YES ☒ NO

How many & where: — seal date: — seal name —

3. Were custody seals unbroken and intact at the date and time of arrival? ☐ YES ☒ NO

4. Did you screen samples for radioactivity using the Geiger Counter? ☒ YES ☐ NO

5. Were custody papers sealed in a plastic bag & taped inside to the lid? ☐ YES ☒ NO

6. Were custody papers filled out properly (ink, signed, etc.)? ☒ YES ☐ NO

7. Did you sign custody papers in the appropriate place? ☒ YES ☐ NO

8. Was project identifiable from custody papers? ☒ YES ☐ NO

9. Type of ice: dry Temperature: 4.7° Date temperature measured: 11/25

10. Describe type of packing in cooler: bubble wrap

11. Were all bottles sealed in separate plastic bags? ☒ YES ☐ NO

B. LOG-IN PHASE: Date samples were logged-in: 12/4/97

by (print) Shelly Swink (sign) Shelly Swink

12. Did all bottles arrive unbroken & were labels in good condition? ☒ YES ☐ NO

13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ☒ YES ☐ NO

14. Did all bottle labels agree with custody papers? ☒ YES ☐ NO

15. Were correct containers used for the tests indicated? ☒ YES ☐ NO

16. Were correct preservatives added to samples? na ☒ YES ☐ NO

17. Was a sufficient amount of sample sent for tests indicated? ☒ YES ☐ NO

18. Was headspace absent in Volatile samples? If NO, list by QA#: na ☒ YES ☐ NO

QA # (cont.) —

19. Were the custody papers checked against the sample receipt form? By whom? SP Date: 12/24/97

PART C

QUALITY ASSURANCE TEST RESULTS

C1

DEPARTMENT OF THE ARMY
Corps of Engineers
Missouri River Laboratory

Pesticides/PCBs Sample Report

Project Name: Ravenna AAP - Env Investigatio	Date Sampled: 11/22/97	Matrix: Soil
Project Number: 4844	Date Received: 11/25/97	Units: ug/kg
Client Sample ID: PB1169	Date Reported: 01/05/98	Sample Amount: 25.1 g
MRL Sample ID: M970529-001		% Solids: 89.1

Analyst: Asuncion	Date Extracted: 12/04/97	Dilution Factor: 1
Method: SW-846 3540B/9081	Date Analyzed: 12/13/97	Batch ID: WG1493

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
309-00-2	Aldrin	u	5.6	0.5
319-84-6	Alpha BHC	u	5.6	0.5
319-95-7	Beta BHC	u	11	1
319-86-8	Delta BHC	u	5.6	0.5
58-99-9	Gamma BHC (Lindane)	u	5.6	0.5
57-74-9	Chlordane (Technical)	u	5.6	0.5
72-54-8	4,4'-DDD	u	11	1
72-55-9	4,4'-DDE	u	11	1
50-29-3	4,4'-DDT	u	11	1
60-57-1	Dieldrin	u	11	1
959-98-8	Alpha Endosulfan	u	5.6	0.5
33213-65-9	Beta Endosulfan	u	11	1
1031-07-8	Endosulfan Sulfate	u	11	1
72-20-8	Endrin	u	11	1
7421-93-4	Endrin Aldehyde	u	11	1
53494-70-5	Endrin Ketone	u	11	1
76-44-8	Heptachlor	u	5.6	0.5
1024-57-3	Heptachlor Epoxide	u	5.6	0.5
72-43-5	Methoxychlor	u	22	2
8001-35-2	Toxaphene	u	84	8
12674-11-2	Aroclor-1016	u	56	5
1104-28-2	Aroclor-1221	u	56	5
11141-16-5	Aroclor-1232	u	56	5
53469-21-9	Aroclor-1242	u	56	5
12672-29-6	Aroclor-1248	u	56	5
11097-69-1	Aroclor-1254	u	56	5
11096-82-5	Aroclor-1260	u	56	5

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	56 *	60-150	200
Tetrachloro-meta-xylene	80	52-143	200

Method Blank : WG1493-1	Laboratory Duplicate : WG1493-6
Pesticide Matrix Spike : WG1493-7	Pesticide Matrix Spike Duplicate : WG1493-8
PCB Matrix Spike : WG1493-4	PCB Matrix Spike Duplicate : WG1493-5
Pesticide LCS : WG1493-2	
PCB LCS : WG1493-3	

MR Laboratory Approval

Analyst: ASUNCION 19-DEC-97

Supervisor: SPLICHAL 19-DEC-97

QA: MACMILLAN 05-JAN-98

C2

DEPARTMENT OF THE ARMY
Corps of Engineers
Missouri River Laboratory

Pesticides/PCBs Sample Report

Project Name: Ravenna AAP - Env Investigatio	Date Sampled: 11/22/97	Matrix: Soil
Project Number: 4844	Date Received: 11/25/97	Units: ug/kg
Client Sample ID: PB1178	Date Reported: 01/05/98	Sample Amount: 25.1 g
MRL Sample ID : M970529-002		% Solids: 87.8

Analyst: Asuncion	Date Extracted: 12/04/97	Dilution Factor: 1
Method: SW-846 3540B/8081	Date Analyzed : 12/13/97	Batch ID: WG1493

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
109-00-2	Aldrin	u	5.7	0.5
119-84-6	Alpha BHC	u	5.7	0.5
119-85-7	Beta BHC	u	11	1
119-86-8	Delta BHC	u	5.7	0.5
58-89-9	Gamma BHC (Lindane)	u	5.7	0.5
57-74-9	Chlordane (Technical)	u	5.7	0.5
72-54-8	4,4'-DDD	u	11	1
72-55-9	4,4'-DDE	u	11	1
50-29-3	4,4'-DDT	u	11	1
60-57-1	Dieldrin	u	11	1
959-98-8	Alpha Endosulfan	u	5.7	0.5
11213-65-9	Beta Endosulfan	u	11	1
1031-07-8	Endosulfan Sulfate	u	11	1
72-20-3	Endrin	u	11	1
7421-93-4	Endrin Aldehyde	u	11	1
53494-70-5	Endrin Ketone	u	11	1
76-44-8	Heptachlor	u	5.7	0.5
1024-57-3	Heptachlor Epoxide	u	5.7	0.5
72-43-5	Methoxychlor	u	23	2
8001-35-2	Toxaphene	u	85	8
12674-11-2	Aroclor-1016	u	57	5
1104-28-2	Aroclor-1221	u	57	5
11141-16-5	Aroclor-1232	u	57	5
53469-21-9	Aroclor-1242	u	57	5
12672-29-6	Aroclor-1248	u	57	5
11097-69-1	Aroclor-1254	u	57	5
11096-82-5	Aroclor-1260	u	57	5

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	64	60-150	200
Tetrachloro-meta-xylene	80	52-143	200

Method Blank : WG1493-1	Laboratory Duplicate : WG1493-6
Pesticide Matrix Spike : WG1493-7	Pesticide Matrix Spike Duplicate : WG1493-8
PCB Matrix Spike : WG1493-4	PCB Matrix Spike Duplicate : WG1493-5
Pesticide LCS : WG1493-2	
PCB LCS : WG1493-3	

MR Laboratory Approval

Analyst: ASUNCION 19-DEC-97

Supervisor: SPLICHAL 19-DEC-97

QA: MACMILLAN 05- N

C3

DEPARTMENT OF THE ARMY
Corps of Engineers
Missouri River Laboratory

Pesticides/PCBs Method Blank Report

Method Blank Sample ID: WG1493-1

Date Reported: 01/05/98

Matrix: Soil
Units: ug/kg

Analyst: Asuncion

Date Extracted: 12/04/97

Dilution Factor: 1

Method: SW-846 J540B/8081

Date Analyzed: 12/12/97

Batch ID: WG1493

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
109-00-2	Aldrin	u	5.0	0.5
319-84-6	Alpha BHC	u	5.0	0.5
319-85-7	Beta BHC	u	10	1
319-86-8	Delta BHC	u	5.0	0.5
53-89-9	Gamma BHC (Lindane)	u	5.0	0.5
57-74-9	Chlordane (Technical)	u	5.0	0.5
72-54-8	4,4'-DDD	u	10	1
72-55-9	4,4'-DDE	u	10	1
50-29-3	4,4'-DDT	u	10	1
60-57-1	Dieldrin	u	10	1
959-98-8	Alpha Endosulfan	u	5.0	0.5
33213-65-9	Beta Endosulfan	u	10	1
1031-07-8	Endosulfan Sulfate	u	10	1
72-20-8	Endrin	u	10	1
7421-93-4	Endrin Aldehyde	u	10	1
53494-70-5	Endrin Ketone	u	10	1
76-44-8	Heptachlor	u	5.0	0.5
1024-57-3	Heptachlor Epoxide	u	5.0	0.5
72-43-5	Methoxychlor	u	20	2
8001-35-2	Toxaphene	u	75	8
12674-11-2	Aroclor-1016	u	50	5
1104-28-2	Aroclor-1221	u	50	5
11141-16-5	Aroclor-1232	u	50	5
53469-21-9	Aroclor-1242	u	50	5
12672-29-6	Aroclor-1248	u	50	5
11097-69-1	Aroclor-1254	u	50	5
11096-82-5	Aroclor-1260	u	50	5

u: Below Method Detection Limit

Laboratory Comments:

Quality Control			
Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	88	60-150	200
Tetrachloro-meta-xylene	94	52-143	200

MR Laboratory Approval

Analyst: ASUNCION 19-DEC-97

Supervisor: SPLICHAL 19-DEC-97

QA: MACMILLAN 05-JAN

420 South 13th Street Omaha, NE 68102

FAX: (402) 341-5448
PHONE: (402) 444-4300

C4

DEPARTMENT OF THE ARMY
Corps of Engineers
Missouri River Laboratory

Pesticides/PCBs (Laboratory Matrix Duplicate) Report

LD Sample ID: WG1493-6 Date Reported: 01/05/98 Matrix: Soil
Sample ID: M970524-006 Units: ug/kg
Sample Amount: 25.1 g
% Solids: 90.9

Analyst: Asuncion Date Extracted: 12/04/97 Batch ID: WG1493
Method: SW-846 3540B/8081 Date Analyzed: 12/13/97

CAS Number	Target Analyte	Sample Result	LD Result	Laboratory Reporting Limit	Method Detection Limit	RPD	QC Limits
309-00-2	Aldrin	u	u	5.5	0.5	NC	52
319-84-6	Alpha BHC	u	u	5.5	0.5	NC	36
319-85-7	Beta BHC	u	u	11	1	NC	36
319-86-8	Delta BHC	u	u	5.5	0.5	NC	36
58-89-9	Gamma BHC (Lindane)	u	u	5.5	0.5	NC	36
57-74-9	Chlordane (Technical)	u	u	5.5	0.5	NC	36
72-54-8	4,4'-DDD	u	u	11	1	NC	27
72-55-9	4,4'-DDE	u	u	11	1	NC	27
50-29-3	4,4'-DDT	u	u	11	1	NC	27
60-57-1	Dieldrin	u	u	11	1	NC	33
959-98-8	Alpha Endosulfan	u	u	5.5	0.5	NC	27
33213-65-9	Beta Endosulfan	u	u	11	1	NC	27
1031-07-8	Endosulfan Sulfate	u	u	11	1	NC	27
72-20-8	Endrin	u	u	11	1	NC	42
7421-93-4	Endrin Aldehyde	u	u	11	1	NC	42
53494-70-5	Endrin Ketone	u	u	11	1	NC	25
76-44-8	Heptachlor	u	u	5.5	0.5	NC	34
1024-57-3	Heptachlor Epoxide	u	u	5.5	0.5	NC	34
72-43-5	Methoxychlor	u	u	22	2	NC	34
8001-15-2	Toxaphene	u	u	82	8	NC	34
12674-11-2	Aroclor-1016	u	u	55	5	NC	35
1104-28-2	Aroclor-1221	u	u	55	5	NC	35
11141-16-5	Aroclor-1232	u	u	55	5	NC	35
53469-21-9	Aroclor-1242	u	u	55	5	NC	35
12672-29-6	Aroclor-1248	u	u	55	5	NC	35
11097-69-1	Aroclor-1254	u	u	55	5	NC	35
11096-82-5	Aroclor-1260	60	64	55	5	6	51

u: Below Detection Limit
NC: Not Calculable

Laboratory Comments:

RPD = (|Sample Result - LD Result| x 100)/((Sample Result + LD Result)/2)

Quality Control

Surrogate Standard	Recovery (%) Sample LD	Acceptable	Spike (ug/kg)	RPD	QC Limits
Decachlorobiphenyl	84 87	60-150	200	3	54
Tetrachloro-meta-xylene	70 79	52-143	200	13	54

MR Laboratory Approval

Analyst: ASUNCION 19-DEC-97

Supervisor: SPLICHAL 19-DEC-97

QA: MACMILLAN 05- N

C5

DEPARTMENT OF THE ARMY
Corps of Engineers
Missouri River Laboratory

Pesticides/PCBs(Matrix Spike/Matrix Spike Duplicate)

MS Pest Sample ID: WG1493-7
MSD Pest Sample ID: WG1493-8
Sample ID: M970524-006

MS PCB Sample ID: WG1493-4
MSD PCB Sample ID: WG1493-5
Date Reported: 01/05/98

Matrix: Soil
Units: ug/kg
% Solids: 90.9

Analyst: Asuncion
Method: SW-846 3540B/8081

Date Extracted: 12/04/97
Date Analyzed: 12/13/97

Batch ID: WG1493

CAS Number	Target Analyte	Sample Result	Spike Added	Conc MS	% Rec MS	QC Limits	Conc MSD	% Rec MSD	RPD	RPD Limits
309-00-2	Aldrin	u	44	40	90	35-131	44	101	11	52
319-84-6	Alpha BHC	u	44	39	90	42-128	44	100	11	36
319-85-7	Beta BHC	u	44	48	110	42-128	49	112	1	36
319-86-8	Delta BHC	u	44	47	108	42-128	48	109	1	36
58-89-9	Gamma BHC (Lindane)	u	44	45	103	42-128	49	112	9	36
57-74-9	Chlordane (Technical)	u	NS	u	NC	42-128	u	NC	NC	36
72-54-8	4,4'-DDD	u	44 J#	51	117	50-141	54 J#	124	6	27
72-55-9	4,4'-DDE	u	44	51	115	50-141	52	119	3	27
50-29-3	4,4'-DDT	u	44	63	144 *	50-141	71	161 *	11	27
60-57-1	Dieldrin	u	44	47	106	53-134	49	111	4	33
959-98-8	Alpha Endosulfan	u	44	38	86	50-141	40	91	5	27
33213-65-9	Beta Endosulfan	u	44	44	100	50-141	46	106	6	27
1031-07-8	Endosulfan Sulfate	u	44	47	108	50-141	50	113	4	27
72-20-8	Endrin	u	44 J#	64	146 *	52-140	69 J#	158 *	8	42
7421-93-4	Endrin Aldenhyde	u	44 J#	50	114	52-140	57 J#	129	13	42
53494-70-5	Endrin Ketone	u	44 J#	51	115	52-140	54 J#	122	6	25
76-44-8	Heptachlor	u	44 J#	50	115	37-140	57 J#	130	13	34
1024-57-3	Heptachlor Epoxide	u	44	47	106	37-140	49	112	5	34
72-43-5	Methoxychlor	u	44	52	119	37-140	56	127	6	34
8001-35-2	Toxaphene	u	NS	u	NC	37-140	u	NC	NC	34
12674-11-2	Aroclor-1016	u	440	430	99	60-141	450	103	4	35
1104-28-2	Aroclor-1221	u	NS	u	NC	60-141	u	NC	NC	35
11141-16-5	Aroclor-1232	u	NS	u	NC	60-141	u	NC	NC	35
53469-21-9	Aroclor-1242	u	NS	u	NC	60-141	u	NC	NC	35
12672-29-6	Aroclor-1248	u	NS	u	NC	60-141	u	NC	NC	35
11097-69-1	Aroclor-1254	u	NS	u	NC	60-141	u	NC	NC	35
11096-82-5	Aroclor-1260	60	440	420	82	41-149	490	97	14	51

u: Below Method Detection Limit

NC: Not Calculable

*: Indicates the value is outside control limits for %Rec.

NS: Compound not spiked.

†: Analyte concentrations noted as estimates due to calibration check acceptance criteria failure.

J: Estimated Concentration.

Laboratory Comments:

RPD = (|MS Result - MSD Result| x 100)/((MS Result + MSD Result)/2)
Normal sample amount is 25 g.

Quality Control

Surrogate Standard	Recovery (%)		Acceptable	Spike (ug/kg)	RPD	QC Limits
	MS	MSD				
Decachlorobiphenyl	91	91	60-150	200	0	54
Tetrachloro-meta-xylene	86	98	52-143	200	13	54

MR Laboratory Approval

Analyst: ASUNCION 19-DEC-97

Supervisor: SPLICHAL 19-DEC-97

QA: MACMILLAN 05-JAN-98

420 South 18th Street Omaha, NE 68102

FAX: (402) 341-5448
PHONE: (402) 444-4300

C6

DEPARTMENT OF THE ARMY
Corps of Engineers
Missouri River Laboratory

Pesticides (Laboratory Control Sample)

LCS ID: WG1493-2

Date Reported: 01/05/98

Matrix: Soil
Units: ug/kg

Analyst: Asuncion
Method: SW-846 3540B/8081

Date Extracted: 12/04/97
Date Analyzed: 12/13/97
Batch ID: WG1493

MR Pest Code: PESTS-006

CAS Number	Compound	Result	True Value	Method Detection Limit	Lab Reporting Limit	% Rec	Acceptance Limits (%)
309-00-2	Aldrin	40	40	0.5	5.0	100	35-131
319-84-6	Alpha BHC	41	40	0.5	5.0	103	42-128
319-85-7	Beta BHC	46	40	1	10	114	42-128
319-86-8	Delta BHC	45	40	0.5	5.0	112	42-128
58-89-9	Gamma BHC (Lindane)	46	40	0.5	5.0	116	42-128
57-74-9	Chlordane (Technical)	u	NS	0.5	5.0	NC	42-128
72-54-8	4,4'-DDD	49 J#	40	1	10	124	50-141
72-55-9	4,4'-DDE	50	40	1	10	126	50-141
50-29-3	4,4'-DDT	56	40	1	10	141	50-141
60-57-1	Dieldrin	45	40	1	10	112	53-134
959-98-8	Alpha Endosulfan	38	40	0.5	5.0	95	50-141
33213-65-9	Beta Endosulfan	41	40	1	10	104	50-141
1031-07-3	Endosulfan Sulfate	46	40	1	10	116	50-141
72-20-8	Endrin	56 J#	40	1	10	140	52-140
7421-93-4	Endrin Aldehyde	49 J#	40	1	10	122	52-140
53494-70-5	Endrin Ketone	45 J#	40	1	10	113	52-140
76-44-8	Heptachlor	52 J#	40	0.5	5.0	129	37-140
1024-57-3	Heptachlor Epoxide	46	40	0.5	5.0	114	37-140
72-43-5	Methoxychlor	50	40	2	20	126	37-140
8001-35-2	Toxaphene	u	NS	8	75	NC	37-140

u: Below Method Detection Limit

NC: Not Calculable

#: Analyte concentrations noted as estimates due to calibration check acceptance criteria failure.

J: Estimated Concentration.

NS: Compound not spiked.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	96	60-150	200
Tetrachloro-meta-xylene	101	52-143	200

MR Laboratory Approval

Analyst: ASUNCION 19-DEC-97

Supervisor: SPLICHAL 19-DEC-97

QA: MACMILLAN 05-JAN-98

420 South 18th Street Omaha, NE 68102

FAX: (402) 341-5448
PHONE: (402) 444-4300

C7

DEPARTMENT OF THE ARMY
Corps of Engineers
Missouri River Laboratory

PCBs (Laboratory Control Sample)

LCS ID: WG1493-3

Date Reported: 01/05/98

Matrix: Soil
Units: ug/kg

Analyst: Asuncion
Method: SW-846 3540B/8081

Date Extracted: 12/04/97
Date Analyzed: 12/13/97
Batch ID: WG1493

MR PCB Code: PCBS-006

CAS Number	Compound	Result	True Value	Method Detection Limit	Lab Reporting Limit	% Rec	Acceptance Limits (%)
12674-11-2	Aroclor-1016	340	400	5	50	84	60-141
1104-28-2	Aroclor-1221	u	NS	5	50	NC	60-141
11141-15-5	Aroclor-1232	u	NS	5	50	NC	60-141
53469-21-9	Aroclor-1242	u	NS	5	50	NC	60-141
12672-29-6	Aroclor-1248	u	NS	5	50	NC	60-141
11097-69-1	Aroclor-1254	u	NS	5	50	NC	60-141
11096-82-5	Aroclor-1260	440	400	5	50	110	41-149

u: Below Method Detection Limit
NC: Not Calculable

NS: Compound not spiked.
Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	92	60-150	200
Tetrachloro-meta-xylene	92	52-143	200

MR Laboratory Approval

Analyst: ASUNCION 19-DEC-97

Supervisor: SPLICHAL 19-DEC-97

QA: MACMILLAN 05-JAN-98

420 South 18th Street Omaha, NE 68102

FAX: (402) 341-5448
PHONE: (402) 444-4300

Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586

Date Sample Rptd: 12/19/97
Date Sample Recd: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Lab Number: 97120574
Sample Description: 971204-H025

Date Sampled: 11/22/97
Time Sampled: 1258

<u>Analysis</u>	<u>Concentration</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Reporting Limit</u>
EPA SW846 8151 Non-Aqueous				
2,4,5-T	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
2,4,5-TP (Silvex)	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
2,4-D	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
2,4-DB	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
Dalapon	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
Dicamba	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
Dichloroprop	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
Dinoseb	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
MCPA	ND(11)	mg/kg Dry Wt.	1.0	10
MCPP	ND(11)	mg/kg Dry Wt.	1.0	10
Solids, Total	92.7	% By Weight	1.0	2

<u>Analysis</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>QC Batch</u>	<u>Analyst</u>	<u>Analytical Method</u>
EPA SW846-8151 Non Aque	12/10/97	12/16/97	971210-1	JDL	8151
Solids, Total	NA	12/08/97	971208-1	GT	160.3/SM2540 B

Laboratory analyses were performed on samples utilizing procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA Publication, SW-846, 3rd edition, September, 1986 and the latest promulgated update. ND(), where noted, indicates none detected with the reporting limit in parentheses. Samples will be retained for thirty days unless otherwise notified.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Clifford J. Baker
Laboratory Director



Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586

Date Sample Rptd: 12/19/97
Date Sample Recd: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Lab Number: 97120575
Sample Description: 971204-H026


Date Sampled: 11/22/97
Time Sampled: 1610

<u>Analysis</u>	<u>Concentration</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Reporting Limit</u>
EPA SW846 8151 Non-Aqueous				
2,4,5-T	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
2,4,5-TP (Silvex)	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
2,4-D	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
2,4-DB	ND(0.02)	mg/kg Dry Wt.	1.0	0.02
Dalapon	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
Dicamba	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
Dichloroprop	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
Dinoseb	ND(0.11)	mg/kg Dry Wt.	1.0	0.10
MCPA	ND(11)	mg/kg Dry Wt.	1.0	10
MCPP	ND(11)	mg/kg Dry Wt.	1.0	10
Solids, Total	89.6	% By Weight	1.0	2

<u>Analysis</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>QC Batch</u>	<u>Analyst</u>	<u>Analytical Method</u>
EPA SW846-8151 Non Aque	12/10/97	12/16/97	971210-1	JDL	8151
Solids, Total	NA	12/08/97	971208-1	GT	160.3/SM2540 B

Laboratory analyses were performed on samples utilizing procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA Publication, SW-846, 3rd edition, September, 1986 and the latest promulgated update. ND(), where noted, indicates none detected with the reporting limit in parentheses. Samples will be retained for thirty days unless otherwise notified.

CONTINENTAL ANALYTICAL SERVICES, INC.


Clifford J. Baker
Laboratory Director





C10

QUALITY CONTROL REPORT
METHOD BLANK DATA

Page: 1

Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586

Date Sample Reported: 12/22/97
Date Sample Received: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Lab Number: 971208BLK1

<u>Analysis</u>	<u>Concentration</u>	<u>Units</u>	<u>QC Batch</u>	<u>Book/Page</u>
Solids, Total	100.	% By Weight	971208-1	3575/57

Conclusion of Lab Number 971208BLK1

Lab Number: 971210BLK1

<u>Analysis</u>	<u>Concentration</u>	<u>Units</u>	<u>QC Batch</u>	<u>Book/Page</u>
EPA SW845-8151 Non Aqueous			971210-1	
2,4,5-T	ND(0.02)	mg/kg		3560/88
2,4,5-TP (Silvex)	ND(0.02)	mg/kg		3560/88
2,4-D	ND(0.02)	mg/kg		3560/88
2,4-DB	ND(0.02)	mg/kg		3560/88
Dalapon	ND(0.10)	mg/kg		3560/88
Dicamba	ND(0.10)	mg/kg		3560/88
Dichloroprop	ND(0.10)	mg/kg		3560/88
Dinoseb	ND(0.10)	mg/kg		3560/88
MCPA	ND(10)	mg/kg		3560/88
MCPP	ND(10)	mg/kg		3560/88

Conclusion of Lab Number 971210BLK1

Quality control analyses were performed on samples at time of analysis in accordance with procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA publication, SW-846, 3rd edition, Nov. 1986 and the latest promulgated update.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Clifford J. Baker
Laboratory Director

Kathleen A. Mitchell
Jacqueline Cairo
Quality Assurance Officer





C11

QUALITY CONTROL REPORT

LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE DATA

Page: 1

Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586

Date Sample Reported: 12/22/97
Date Sample Received: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Lab Number: 971208LCS1/971208LCSD1

Analysis	QC Batch	Spike Level Units	Accuracy Data (% Recovery)				Precision Data	
			LCS	LCSD	Avg.	Limits	RPD	Limit
Solids, Total	971208-1	80 % By	103	103	103	90-110	0.0	20

Conclusion of Lab Number: 971208LCS1/971208LCSD1

Lab Number: 971210LCS1/971210LCSD1

Analysis	QC Batch	Spike Level Units	Accuracy Data (% Recovery)				Precision Data	
			LCS	LCSD	Avg.	Limits	RPD	Limit
EPA SW846-8151 Non	971210-1							
2,4,5-T		0.04 mg/kg	97.0	94.9	96.0	50-150	2.2	40
2,4,5-TP (Silvex)		0.04 mg/kg	102	100	101	50-150	2.0	40
2,4-D		0.04 mg/kg	97.6	96.4	97.0	50-150	1.2	40
2,4-DB		0.04 mg/kg	120	118	119	50-150	1.7	40
Dalapon		0.04 mg/kg	80.5	87.8	84.2	50-150	8.7	40
Dicamba		0.04 mg/kg	101	103	102	50-150	2.0	40
Dichloroprop		0.04 mg/kg	92.4	91.4	91.9	50-150	1.1	40
Dinoseb		0.04 mg/kg	0.0K	0.0K	NA	2-150	**	40
MCPA		4.0 mg/kg	103	104	104	50-150	1.0	40
MCPP		4.0 mg/kg	85.1	87.7	86.4	50-150	3.0	40

K - This analysis did not meet quality control criteria.

** - Average and/or RPD cannot be calculated.

Conclusion of Lab Number: 971210LCS1/971210LCSD1

Quality control analyses were performed on samples at time of analysis in accordance with procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA publication, SW-846, 3rd edition, Nov. 1986 and the latest promulgated update.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Clifford J. Baker
Laboratory Director

Kathleen A. Mitchell
Jacqueline Cairo
Quality Assurance Officer





C12

QUALITY CONTROL REPORT
SAMPLE SURROGATE DATA

Page: 1

Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586

Date Sample Reported: 12/22/97
Date Sample Received: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Lab Number: 97120574
Sample Description: 971204-H025

<u>Surrogate</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>% Recovery</u>	<u>Spike Level</u>	<u>Units</u>	<u>Acceptable % Recovery Range</u>
EPA SW846 8151 Non-Aqueous (Herbicides)						
2,4-Dichlorophenylaceti	12/10/97	12/16/97	89.7	0.10	mg/kg	50.0 - 150

Lab Number: 97120575
Sample Description: 971204-H026

<u>Surrogate</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>% Recovery</u>	<u>Spike Level</u>	<u>Units</u>	<u>Acceptable % Recovery Range</u>
EPA SW846 8151 Non-Aqueous (Herbicides)						
2,4-Dichlorophenylaceti	12/10/97	12/16/97	70.0	0.10	mg/kg	50.0 - 150

Quality control analyses were performed on samples at time of analysis in accordance with procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA publication, SW-846, 3rd edition, Nov. 1986 and the latest promulgated update.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Clifford J. Baker
Laboratory Director

Kathleen A. Mitchell
for
Jacqueline Cairo
Quality Assurance Officer





C13

QUALITY CONTROL REPORT
METHOD BLANK SURROGATE DATA

Page: 1

Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586

Date Sample Reported: 12/22/97
Date Sample Received: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Lab Number: 971210BLK1

<u>Surrogate</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>% Recovery</u>	<u>Spike Level</u>	<u>Units</u>	<u>Acceptable % Recovery Range</u>
EPA SW846 8151 Non-Aqueous (Herbicides) 2,4-Dichlorophenylaceti	12/10/97	12/16/97	95.2	0.10	mg/kg	50.0 - 150

Conclusion of Lab Number: 971210BLK1

Quality control analyses were performed on samples at time of analysis in accordance with procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA publication, SW-846, 3rd edition, Nov. 1986 and the latest promulgated update.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Clifford J. Baker
Laboratory Director

Kathleen A. Mitchell
for
Jacqueline Cairo
Quality Assurance Officer





C14

QUALITY CONTROL REPORT
LCS/LCSD SURROGATE DATA

Page: 1

Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586

Date Sample Reported: 12/22/97
Date Sample Received: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Lab Number: 971210LCS1/971210LCSD1

<u>Surrogate</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Units</u>	<u>Spike Level</u>	<u>% Recovery LCS</u>	<u>% Recovery LCSD</u>	<u>Acceptable % Recovery Range</u>
EPA SW846 8151 Non-Aqueous (Herbicides)							
2,4-Dichlorophenylaceti	12/10/97	12/16/97	mg/kg	0.10	95.4	99.2	50.0 - 150

Conclusion of Lab Number: 971210LCS1/971210LCSD1

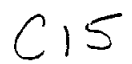
Quality control analyses were performed on samples at time of analysis in accordance with procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA publication, SW-846, 3rd edition, Nov. 1986 and the latest promulgated update.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Clifford J. Baker
Laboratory Director

Kathleen A. Mitchell
Jacqueline Cairo
Quality Assurance Officer





Page: 1

Date Sample Reported: 12/22/97
Date Sample Received: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844,WO #1355

1804 GLENDALE ROAD • SALINA, KANSAS 67401-6675
785-827-1273 • 800-535-3076 • FAX 785-823-7830



C16

QUALITY CONTROL REPORT
MATRIX SPIKE / MATRIX SPIKE DUPLICATE DATA

Page: 1

Client: US Army Corps of Engineers
Attn: Laura Percifield
420 South 18th Street
Omaha, NE 68102-2586Date Sample Reported: 12/22/97
Date Sample Received: 12/05/97
Continental File No: 5409
Continental Order No: 45970
Client P.O.: 4844, WO #1355

Matrix Spike/Matrix Spike Duplicate Data from Sample Batch:

Analysis	QC Batch	Spike Level Units	Accuracy Data (% Recovery)				Precision Data		Laboratory Number
			MS	MSD	Avg.	Limits	RPD	Limit	
EPA SW846-8151 Non Aq	971210-1								971205
2,4-D		0.04 mg/kg	90.5	F	**	50-150	**	40	
2,4-DB		0.04 mg/kg	109	F	**	50-150	**	40	
2,4,5-T		0.04 mg/kg	103	F	**	50-150	**	40	
2,4,5-TP (Silvex)		0.04 mg/kg	96.4	F	**	50-150	**	40	
Dalapon		0.04 mg/kg	75.7	F	**	50-150	**	40	
Dicamba		0.04 mg/kg	99.0	F	**	50-150	**	40	
Dichloroprop		0.04 mg/kg	87.1	F	**	50-150	**	40	
Dinoseb		0.04 mg/kg	16.8	F	**	2-150	**	40	
MCPA		4.0 mg/kg	123	F	**	50-150	**	40	
MCPP		4.0 mg/kg	99.1	F	**	50-150	**	40	
Solids, Total	971208-1	0.00 % By	91.0J	91.2J	91.1	#	0.2	#	971205

J - MS/MSD cannot be performed for this analysis. Value shown is the result of a duplicate analysis of the sample.

F - MS and/or MSD sample data are not available due to insufficient sample volume.


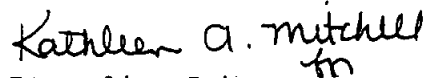
- Accuracy control limits are not applicable to duplicate analyses.

** - Average and/or RPD cannot be calculated.

+ - The MS/MSD sample analyses were performed on this sample from this Continental order number.

Quality control analyses were performed on samples at time of analysis in accordance with procedures published in Title 40 of the Code of Federal Regulations, Parts 136 or 141, or in EPA publication, SW-846, 3rd edition, Nov. 1986 and the latest promulgated update.

CONTINENTAL ANALYTICAL SERVICES, INC.


Clifford J. Baker
Laboratory Director
Kathleen A. Mitchell
Jacqueline Cairo
Quality Assurance Officer

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Explosives

FAMIS No: 4844

Project: Ravenna AAP - Env Investigation at 5 Sites

Customer Sample No: OD1077

MRD Lab Sample No: 971204-H024

Date Sample Taken: 19 Nov 97	Sample Description: Soil
Date Sample Received: 25 Nov 97	Sample Container: 2-4 oz glass
Date Dried: 04 Dec 97	Dilution Factor: 1.0
Date Extracted: 10 Dec 97	Concentration Units: mg/kg
Date Analyzed: 11 Dec 97	

Analysis Method: EPA Method 8330
Analyst: S. Schnitker

Batch: 9712111122
Sequence: 9712111122A

CAS Number	Compound Name	Result	Reporting Limits
2691-41-0	HMX	u	2.20
121-82-4	RDX	u	1.00
99-35-4	1,3,5-TNB	u	0.25
99-65-0	1,3-DNB	u	0.25
479-45-8	Tetryl	1.88	0.65
118-96-7	2,4,6-TNT	0.16 J	0.25
121-14-2	2,4-DNT	u	0.25
606-20-2	2,6-DNT	u	0.26
355-72-78-2	2-Am-4,6-DNT	0.20 J	0.25
1946-51-0	4-Am-2,6-DNT	0.17 J	0.26
618-87-1	3,5-Dinitroaniline	u	0.65
98-95-3	Nitrobenzene	u	0.26
88-72-2	2-Nitrotoluene	u	0.25
99-08-1	3-Nitrotoluene	u	0.25
99-99-0	4-Nitrotoluene	u	0.25

u: Below Reporting Limit

J: Estimated level was below the detection limit.

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	92	75-125	1.25

Laboratory Comments:

Unless marked by "C," positive results were confirmed on a secondary column.

Approved By: Douglas B. Jaggar Date: 12-30-97
S.S.

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Explosives

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Method Blank

Sample Description: Soil
Method: EPA Method 8330
Analyst: S. Schnitker

Date Extracted: 10 Dec 97
Date Analyzed: 11 Dec 97
Batch: 9712111122
Sequence: 9712111122A

RESULTS (mg/kg)

CAS Number	Compound Name	Result	Det Limit
2591-41-0	PMX	u	2.20
121-82-4	RDX	u	1.00
99-35-4	1,3,5-TNB	u	0.25
99-65-0	1,3-DNB	u	0.25
479-45-8	Tetryl	u	0.65
118-96-7	2,4,6-TNT	u	0.25
121-14-2	2,4-DNT	u	0.25
606-20-2	2,6-DNT	u	0.26
355-72-78-2	2-Am-4,6-DNT	u	0.25
1946-51-0	4-Am-2,6-DNT	u	0.26
618-87-1	3,5-Dinitroaniline	u	0.65
98-95-3	Nitrobenzene	u	0.26
88-72-2	2-Nitrotoluene	u	0.25
99-08-1	3-Nitrotoluene	u	0.25
99-99-0	4-Nitrotoluene	u	0.25

u: Below Detection Limit

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	93	75-125	1.25

Laboratory Comments:

Approved By:

Douglas B. Jaggart

Date: 12-30-97

C19

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Explosives

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

QC Identifier: Laboratory Matrix Duplicate

Sample Description: Soil

MRD Lab Sample No.: 971204-H024

Client Sample No.: OD1077

Method: EPA Method 8330

Analyst: S. Schnitker

Date Dried: 04 Dec 97

Date Extracted: 10 Dec 97

Date Analyzed: 11 Dec 97

Batch: 9712111122

Sequence: 9712111122A

RESULTS (mg/kg)

Analyte	Run #1	Run #2	RPD (*)	Acceptable RPD	Detection Limit
HMX	u	u		25	2.20
RDX	u	u		25	1.00
TNB	u	u		25	0.25
DNB	u	u		25	0.25
Tetryl	1.88	1.26	40E	25	0.65
TNT	0.16 J	0.14 J	12	25	0.25
2,4-DNT	u	u		25	0.25
2,6-DNT	u	u		25	0.26
2-Am-4,6-DNT	0.2 J	0.17 J	13	25	0.25
4-Am-2,6-DNT	0.17 J	0.16 J	4	25	0.26
3,5-DNAniline	u	u		25	0.65

u: Below Detection Limit

*: Relative Percent Difference calculated from both sample and duplicate sample results. When a result is below the detection limit, RPD is not reported.

J: Estimated level was below the detection limit.

Surrogate Standard	Recovery (%)		Acceptable	Spike (mg/kg)
	Run #1	Run #2		
3,4-Dinitrotoluene	92	92	75-125	1.25

Laboratory Comments:

Unless marked by "C," positive results were confirmed on a secondary column

E: RPD was above the acceptance limits for tetryl due to a matrix interference.

Approved By:

Douglas B. Jaggart

Date:

12-30-97

S.S.

C20

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Explosives

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Matrix Spike, Matrix Spike Duplicate

Sample Description: Soil
MRD Lab Sample No.: 971204-H024
Client Sample No.: OD1077
Method: EPA Method 8330
Analyst: S. Schnitker
Date Dried: 04 Dec 97
Date Extracted: 10 Dec 97
Date Analyzed: 11 Dec 97
Batch: 9712111122
Sequence: 9712111122A

RESULTS (mg/kg)

Analyte	Sample Result	Spike Added	Conc MS	%Rec MS	QC Limits	Conc MSD	%Rec MSD	RPD	QC Limit
HMX	u	2.50	2.25	90	75-125	2.20	88	2	25
RDX	u	2.50	2.17	87	75-125	2.12	85	3	25
TNB	u	1.25	1.21	97	75-125	1.19	95	2	25
DNB	u	1.25	1.19	95	75-125	1.17	93	2	25
Tetryl	1.88	2.50	3.85	78	60-110	3.08	48*	22	25
TNT	0.16 J	1.25	1.27	89	75-125	1.22	84	4	25
2,4-DNT	u	1.25	1.19	95	75-125	1.16	93	3	25

u: Below Detection Limit
MS: Matrix Spike
MSD: Matrix Spike Duplicate
%Rec: Percent of the spike recovered from the matrix
*: Recovery percentage out of acceptable quality control limits.

RPD: Relative Percent Difference;

$$RPD = ((|MS - MSD|) / ((MS + MSD) / 2)) \times 100$$

J: Estimated level was below the detection limit.

Surrogate Standard	Recovery (%) MS MSD	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	93 92	75-125	1.25

Laboratory Comments:

Approved By: Douglas B. Jaggart
ll

Date: 12-30-97

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Explosives

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Laboratory Control Sample (LCS)

Sample Description: Soil
Method: EPA Method 8330
Analyst: S. Schnitker

Date Extracted: 10 Dec 97
Date Analyzed: 11 Dec 97
Batch: 9712111122
Sequence: 9712111122A

RESULTS (mg/kg)

Analyte	True Value	Result	%Rec LCS	QC Limits
HMX	2.50	2.19	88	60-110
RDX	2.50	2.04	82	60-110
TNB	1.25	1.17	94	60-110
DNB	1.25	1.16	93	60-110
Tetryl	2.50	2.41	96	60-110
TNT	1.25	1.09	87	60-110
2,4-DNT	1.25	1.17	94	60-110

LCS: Laboratory Control Sample

%Rec: Percent of the spike recovered from the matrix

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	90	75-125	1.25

Laboratory Comments:

Approved By:

Douglas B. Jaggart

Date: 12-30-97

S.S.

C22

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

Date Sample Taken: 19 Nov 97

Customer Sample No: OD1077

Date Sample Recieved: 25 Nov 97

Lab Sample No: 971204-H024

Sample Container Used: 1-4 oz. glass

Date Extracted: 22 Dec 97

Date Analyzed: 29 Dec 97

Extraction Method: Sonication

Analysis Procedure: HPLC-UV

Analyst: S. Schnitker

Batch Number: NGQ29DEC

Analysis	Sample Result	Detection Limit
Nitroglycerine	u	0.50
Nitroguanidine	u	2.50
Units	mg/kg	mg/kg

Surrogate Recovery
RDX

% Recovery
98

Spike Level
5.04 mg/kg

u = Below Detection Limits

Approved By:

Douglas B. Jaggart
S.S.

Date:

1-8-98

C23

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Method Blank

Date Extracted: 22 Dec 97
Extraction Method: Sonication
Analyst: S. Schnitker

Date Analyzed: 29 Dec 97
Analysis Procedure: HPLC-UV
Batch Number: NGQ29DEC

Analysis	Blank Result	Detection Limit
Nitroglycerine	u	0.50
Nitroguanidine	u	2.50
Units	mg/kg	mg/kg

Surrogate Recovery
RDX

% Recovery
95

Spike Level
5.04 mg/kg

u = Below Detection Limits

Approved By: Douglas B. Jaggart
S.S.

Date: 1-8-98

C24

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Laboratory Duplicate

Sample Description: Soil
Date Sample Taken: 19 Nov 97
Date Sample Recieved: 25 Nov 97
Sample Container Used: 1-4 oz. glass

Customer Sample No: OD1077
Lab Sample No: 971204-H024

Date Extracted: 22 Dec 97
Extraction Method: Sonication
Analyst: S. Schnitker

Date Analyzed: 29 Dec 97
Analysis Procedure: HPLC-UV
Batch Number: NGQ29DEC

Analysis	Sample Results		RPD	Acceptable RPD	Detection Limit
	Run # 1	Run # 2			
Nitroglycerine	u	u	NC	25	0.50
Nitroguanidine	u	u	NC	25	2.50
Units	mg/kg	mg/kg	%	%	mg/kg

Surrogate Recovery	Run # 1	% Recovery	Spike Level
RDX	98	98	5.04 mg/kg

NC = Not Calculated
RPD = Relative Percent Difference
RPD = $[(\text{Run 1} - \text{Run 2}) \times 100 / ((\text{Run 1} + \text{Run 2}) / 2)]$
u = Below Detection Limits

Approved By: Douglas B. Jaggart
S.S.

Date: 1-8-98

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Matrix Spike/Matrix Spike Duplicate

Sample Description: Soil
Date Sample Taken: 19 Nov 97
Date Sample Recieved: 25 Nov 97
Sample Container Used: 1-4 oz. glass

Customer Sample No: OD1077
Lab Sample No: 971204-H024

Date Extracted: 22 Dec 97
Extraction Method: Sonication
Analyst: S. Schnitker

Date Analyzed: 29 Dec 97
Analysis Procedure: HPLC-UV
Batch Number: NGQ29DEC

Analysis	Sample Result	Spike Added	Conc MS	Rec MS	Conc MSD	Rec MSD	RPD	QC Limits	
								%Rec	RPD
Nitroglycerine	u	10.27	9.36	91	9.53	93	2	75-125	25
Nitroguanidine	u	8.05	7.88	98	9.05	112	14	75-125	25
Units		mg/kg	mg/kg	%	mg/kg	%	%	%	

Surrogate Recovery

RDX

Run # 1
98

% Recovery
Run # 2
99

Spike Level
5.04 mg/kg

Rec = Recovery
u = Below Detection Limits

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
RPD = $[(MS - MSD) \times 100] / [(MS + MSD) / 2]$

Approved By:

Douglas B. Jaggart
S.S.

Date:

1-8-98

C26

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Laboratory Control Sample
Sample Description: Soil

Date Extracted: 22 Dec 97
Extraction Method: Sonication
Analyst: S. Schnitker

Date Analyzed: 29 Dec 97
Analysis Procedure: HPLC-UV
Batch Number: NGQ29DEC

Anal	Blank Res	Spike Added	Conc LCS	Rec LCS	QC Limits %Rec
	-----	-----	-----	-----	-----
Nitroglycerine	u	10.27	9.35	91	75-125
Nitroguanidine	u	8.05	8.50	106	75-125
Units	mg/kg	mg/kg	mg/kg	%	%

Surrogate Recovery
RDX

% Recovery
93

Spike Level
5.04 mg/kg

Anal = Analysis
Res = Result
Rec = Recovery
u = Below Detection Limits

Approved By:

Douglas B. Jaggart

Date:

1-8-98

S.S.

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Nitrocellulose

FAMIS No: 4844

Project: Ravenna AAP - Env Investigation at 5 Sites

Customer Sample No.: OD1077

MRD Lab Sample No.: 971204-H024

Date Sample Taken: 19 Nov 97 Sample Description: Soil
Date Sample Received: 25 Nov 97 Sample Container: 2-4 oz glass
Date Dried: 04 Dec 97 Dilution Factor: 1.0
Date Extracted: 10 Dec 97 Concentration Units: mg/kg
Date Analyzed: 07 Jan 98 Sample weight: 10.00g

Analysis Method: Hydrolysis/Ion Chromatography Batch: N'C29Dec
Analyst: S. Schnitker Sequence: N'C07Jan

=====

RESULTS (mg/kg)

Analysis for -----	Result -----	Detection Limits -----
Nitrocellulose	1.4 B	0.5

B: Nitrocellulose was detected at 0.8 mg/kg in the method blank associated with this sample.

=====

Approved By:

J.J.

Douglas B. Jaggart

Date:

1-21-98

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Nitrocellulose

FAMIS No: 4844
Project: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Method Blank

Sample Description: Soil
Sample analyzed for: Nitrocellulose
Method: Hydrolysis/Ion Chromatography
Analyst: S. Schnitker

Date Extracted: 29 Dec 97 Batch: N'C29Dec
Date Analyzed: 07 Jan 98 Sequence: N'C07Jan

=====

RESULTS (mg/kg)

Analysis for -----	Result -----	Detection Limits -----
Nitrocellulose	0.8	0.5

u: Below Detection Limit

=====

Approved By:

Douglas B. Jaggart

Date:

1-21-98

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska
Nitrocellulose

LIMS#: 4844
Project: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Sample Duplicate

Customer Sample No.: OD1077
MRD Lab Sample No.: 971204-H024

Date Sample Taken:	19 Nov 97	Sample Description:	Soil
Date Sample Received:	25 Nov 97	Sample Container:	2-4 oz glass
Date Dried:	04 Dec 97	Dilution Factor:	1.0
Date Extracted:	10 Dec 97	Concentration Units:	mg/kg
Date Analyzed:	07 Jan 98	Sample weight:	10.00g

Analysis Method: Hydrolysis/Ion Chromatography Batch: N'C29Dec
Analyst: S. Schnitker Sequence: N'C07Jan

Analysis	Anal Res #1	Anal Res #2	RPD	QC Limit RPD
Nitrocellulose	1.4	1.0	33 *	25
Units	mg/kg	mg/kg	%	%

* Both results are very near the detection limit causing a high RPD.

Anal = Analysis
Res = Result
u = Below Detection Limits
Detection limits may have been affected by low recoveries.

Approved By: Douglas B. Jaggart
S.B.

Date: 1-21-98

C30

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska
Nitrocellulose

LIMS#: 4844
Project: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Matrix Spike/Matrix Spike Duplicate

Customer Sample No.: OD1077
MRD Lab Sample No.: 971204-H024

Date Sample Taken:	19 Nov 97	Sample Description:	Soil
Date Sample Received:	25 Nov 97	Sample Container:	2-4 oz glass
Date Dried:	04 Dec 97	Dilution Factor:	1.0
Date Extracted:	10 Dec 97	Concentration Units:	mg/kg
Date Analyzed:	07 Jan 98	Sample weight:	10.00g

Date Extracted:	29 Dec 97	Date Analyzed:	07 Jan 98
Extraction Method:	SW-846 Method 8330M	Analysis Procedure:	HPLC-UV
Analyst:	S. Schnitker	Batch No.:	NGA23JAN

Analysis	Sample Result	Spike Added	Conc MS	Rec MS	Conc MSD	Rec MSD	RPD	QC Limits %Rec	RPD
Nitrocellulose	1.40	3.08	2.90	50	3.03	53	4	50-120	25
Units	mg/kg	mg/kg	mg/kg	%	mg/kg	%	%	%	%

Anal = Analysis
Res = Result
Rec = Recovery
u = Below Detection Limits
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Approved By: Douglas B. Jaggart Date: 1-21-98
S.L.

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Nitrocellulose

FAMIS No: 4844

Project: Ravenna AAP - Env Investigation at 5 Sites

QC Identifier: Laboratory Control Sample

Sample Description: Soil

Sample analyzed for: Nitrocellulose

Method: Hydrolysis/Ion Chromatography

Analyst: S. Schnitker

Date Extracted: 29 Dec 97

Batch: N'C29Dec

Date Analyzed: 07 Jan 98

Sequence: N'C07Jan

Analyte	Spike Added	Conc MBS	%Rec MBS	QC Limits
Nitrocellulose	3.07 mg/kg	2.89 mg/kg	94 %	50-120 %

MBS: Method Blank Spike

%Rec: Percent of the spike recovered from the method blank

Approved By:

S.S.

Douglas B. Jaggart

Date:

1-21-98

C32

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H027

Client Sample No.: OD1141

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 20 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	10700	4	20
Sb	u	0.6	3.0
As	16.4	0.6	3.0
Ba	53.1	0.06	0.30
Be	0.61	0.06	0.30
Cd	u	0.08	0.40
Ca	4280	20	100
Cr	15.7	0.4	2.0
Co	10.3	0.6	3.0
Cu	57.4	0.4	2.0
Fe	28100	8	40
Pb	16.9	0.4	2.0
Mg	3400	8	40
Mn	376.0	0.06	0.30
Ni	23.2	0.4	2.0
K	1580	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	57 J	20	100
Tl	u	1	5
V	18.5	0.8	4.0
Zn	92.3	0.4	2.0

Percent Solids: 86.3

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By:

JRB

Date: 1/13/98

C33

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	20 Nov 97
MPD Lab Sample No.:	971204-H027	Date Sample Received:	25 Nov 97
Client Sample No.:	OD1141	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	1.0
		Batch:	9712191139E

RESULTS (mg/kg)

Analyte	Result	Rep Limit
Hg	0.12	0.01

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

Pern. v. Arora

Date: *1-8-98*

DESA

C34

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H028

Client Sample No.: OD1069

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 20 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	12900	4	20
Sb	u	0.6	3.0
As	18.9	0.6	3.0
Ba	71.0	0.06	0.30
Be	0.72	0.06	0.30
Cd	u	0.08	0.40
Ca	4040	20	100
Cr	19.7	0.4	2.0
Co	12.3	0.6	3.0
Cu	47.6	0.4	2.0
Fe	31900	8	40
Pb	16.4	0.4	2.0
Mg	4490	8	40
Mn	363.0	0.06	0.30
Ni	31.1	0.4	2.0
K	1910	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	70 J	20	100
Tl	u	1	5
V	20.3	0.8	4.0
Zn	78.3	0.4	2.0

Percent Solids: 85.8

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By:

JRB

Ted Shannon

Date: 1/13/98

C35

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	20 Nov 97
MRD Lab Sample No.:	971204-H028	Date Sample Received:	25 Nov 97
Client Sample No.:	OD1069	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	1.0
		Batch:	9712191139B

RESULTS (mg/kg)

Analyte	Result	Rep Limit
Hg	0.03	0.01

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

Prem. N. Am...

Date:

1.8.98

DESA

C36

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H029

Client Sample No.: OD1105

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 20 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	9670	4	20
Sb	u	0.6	3.0
As	15.2	0.6	3.0
Ba	59.7	0.06	0.30
Be	0.54	0.06	0.30
Cd	2.25	0.08	0.40
Ca	8120	20	100
Cr	14.8	0.4	2.0
Co	10.1	0.6	3.0
Cu	98.7	0.4	2.0
Fe	26200	8	40
Pb	25.4	0.4	2.0
Mg	4570	8	40
Mn	401.0	0.06	0.30
Ni	23.8	0.4	2.0
K	1510	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	75 J	20	100
Tl	u	1	5
V	15.4	0.8	4.0
Zn	171.0	0.4	2.0

Percent Solids: 88.0

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By:

SLB

Ted Shannon

Date:

1/13/98

C37

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	20 Nov 97
MRD Lab Sample No.:	971204-H029	Date Sample Received:	25 Nov 97
Client Sample No.:	OD1105	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	2.0
		Batch:	9712191139B

RESULTS (mg/kg)

Analyte	Result	Rep Limit
Hg	1.08	0.02

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

Pem. n. Arre

Date:

1.8.98

DESA

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H030

Client Sample No.: OD1127

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 20 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	5330	4	20
Sb	u	0.6	3.0
As	15.7	0.6	3.0
Ba	30.6	0.06	0.30
Be	0.26 J	0.06	0.30
Cd	u	0.08	0.40
Ca	3740	20	100
Cr	10.5	0.4	2.0
Co	6.8	0.6	3.0
Cu	387.0	0.4	2.0
Fe	19000	8	40
Pb	20.6	0.4	2.0
Mg	2550	8	40
Mn	258.0	0.06	0.30
Ni	16.7	0.4	2.0
K	957	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	42 J	20	100
Tl	u	1	5
V	9.9	0.8	4.0
Zn	114.0	0.4	2.0

Percent Solids: 89.7

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By: Ted Shannon
JRB

Date: 4/13/98

C39

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	20 Nov 97
MRD Lab Sample No.:	971204-H030	Date Sample Received:	25 Nov 97
Client Sample No.:	OD1127	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	1.0
		Batch:	9712191139B

RESULTS (mg/kg)

<u>Analyte</u>	<u>Result</u>	<u>Rep Limit</u>
Hg	0.02	0.01

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

Pern. N. Arr.

Date:

1.8.98

DES

C40

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H031

Client Sample No.: OD1147

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 20 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	7890	4	20
Sb	u	0.6	3.0
As	14.2	0.6	3.0
Ba	48.3	0.06	0.30
Be	0.43	0.06	0.30
Cd	5.82	0.08	0.40
Ca	6470	20	100
Cr	12.8	0.4	2.0
Co	8.7	0.6	3.0
Cu	54.8	0.4	2.0
Fe	23400	8	40
Pb	22.8	0.4	2.0
Mg	3560	8	40
Mn	384.0	0.06	0.30
Ni	20.1	0.4	2.0
K	1330	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	63 J	20	100
Tl	u	1	5
V	13.4	0.8	4.0
Zn	142.0	0.4	2.0

Percent Solids: 88.4

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By:

JRB

Ted Shannon

Date:

1/13/98

C41

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	20 Nov 97
MRD Lab Sample No.:	971204-H031	Date Sample Received:	25 Nov 97
Client Sample No.:	OD1147	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	1.0
		Batch:	9712191139B

RESULTS (mg/kg)

Analyte	Result	Rep Limit
Hg	0.05	0.01

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

Prem. n. Arr-

Date:

1.8.98

DESA

C42

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H032

Client Sample No.: OD1049

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 20 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	15300	4	20
Sb	u	0.6	3.0
As	20.9	0.6	3.0
Ba	95.9	0.06	0.30
Be	0.94	0.06	0.30
Cd	u	0.08	0.40
Ca	4040	20	100
Cr	22.1	0.4	2.0
Co	18.2	0.6	3.0
Cu	23.4	0.4	2.0
Fe	37400	8	40
Pb	14.5	0.4	2.0
Mg	4680	8	40
Mn	391.0	0.06	0.30
Ni	36.2	0.4	2.0
K	1770	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	60 J	20	100
Tl	u	1	5
V	23.4	0.8	4.0
Zn	74.7	0.4	2.0

Percent Solids: 82.9

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By:

JRB

Date: 4/13/98

C43

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	20 Nov 97
MRD Lab Sample No.:	971204-H032	Date Sample Received:	25 Nov 97
Client Sample No.:	OD1049	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	1.0
		Batch:	9712191139B

RESULTS (mg/kg)

Analyte	Result	Rep Limit
Hg	0.01	0.01

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

Prem. v. Arre

Date: 1.8.98

DESD

C41

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H033

Client Sample No.: OD1125

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 20 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	11100	4	20
Sb	u	0.6	3.0
As	15.8	0.6	3.0
Ba	100.0	0.06	0.30
Be	0.59	0.06	0.30
Cd	1.53	0.08	0.40
Ca	5660	20	100
Cr	16.7	0.4	2.0
Co	10.2	0.6	3.0
Cu	195.0	0.4	2.0
Fe	26900	8	40
Pb	31.1	0.4	2.0
Mg	4130	8	40
Mn	374.0	0.06	0.30
Ni	23.8	0.4	2.0
K	1590	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	82 J	20	100
Tl	u	1	5
V	17.0	0.8	4.0
Zn	206.0	0.4	2.0

Percent Solids: 86.5

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By: T. Shannon
JRS

Date: 1/13/98

C45

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	20 Nov 97
MRD Lab Sample No.:	971204-H033	Date Sample Received:	25 Nov 97
Client Sample No.:	OD1125	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	1.0
		Batch:	9712191139B

RESULTS (mg/kg)

Analyte	Result	Rep Limit
Hg	0.26	0.01

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

P. M. N. Arr.

DESA

Date:

1-8-98

C46

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description: Soil

MRD Lab Sample No.: 971204-H034

Client Sample No.: DF1151

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 24 Nov 97

Date Sample Received: 25 Nov 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg) Dry Weight

Analyte	Result	Method Det Limit	Laboratory Reporting Limit
Al	15300	4	20
Sb	u	0.6	3.0
As	11.3	0.6	3.0
Ba	146.0	0.06	0.30
Be	1.68	0.06	0.30
Cd	1.91	0.08	0.40
Ca	37200	20	100
Cr	16.2	0.4	2.0
Co	9.4	0.6	3.0
Cu	53.7	0.4	2.0
Fe	23600	8	40
Pb	36.3	0.4	2.0
Mg	9490	8	40
Mn	801.0	0.06	0.30
Ni	22.9	0.4	2.0
K	2050	20	100
Se	u	0.6	3.0
Ag	u	0.4	2.0
Na	274	20	100
Tl	u	1	5
V	17.9	0.8	4.0
Zn	181.0	0.4	2.0

Percent Solids: 84.8

u: Below Method Detection Limit (MDL)

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By:

JRB

Ted Shannon

Date:

4/13/98

C47

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Mercury by AACV

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

Sample Description:	Soil	Date Sample Taken:	24 Nov 97
MRD Lab Sample No.:	971204-H034	Date Sample Received:	25 Nov 97
Client Sample No.:	DF1151	Date Digested:	18 Dec 97
Method:	EPA Method 7471	Date Analyzed:	19 Dec 97
Analyst:	D. Sanders	Dilution Factor:	1.0
		Batch:	9712191139B

RESULTS (mg/kg)

Analyte	Result	Rep Limit
Hg	u	0.01

u: Below Detection Limit

Laboratory Comments: Method Detection Limit = 0.01 ug/L or 0.002 mg/kg

Approved By:

Prem. N. Arice

Date:

1. 8. 98

DES

C48

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Method Blank

Sample Description: Soil
Method: EPA Method 3050/6010
Analyst: T. Shannon

Date Analyzed: 06 Jan 98
Batch: 9801060826
Sequence: 9801061432

RESULTS (mg/kg)

Analyte	Result	Det Limit
Al	5 J	4
Sb	u	0.6
As	u	0.6
Ba	u	0.06
Be	u	0.06
Cd	u	0.08
Ca	u	20
Cr	u	0.4
Co	u	0.6
Cu	u	0.4
Fe	u	8
Pb	u	0.4
Mg	u	8
Mn	u	0.06
Ni	u	0.4
K	u	20
Se	u	0.6
Ag	u	0.4
Na	u	20
Tl	u	1
V	u	0.8
Zn	u	0.4

u: Below Detection Limit

J: Estimated value, concentration is below limit of quantitation

Laboratory Comments:

Approved By:
JR8

T. Shannon

Date: *1/13/98*

C49

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844

Project Name: Ravenna AAP - Env Investigation at 5 Sites

QC Identifier: Laboratory Matrix Duplicate

Sample Description: Soil

MRD Lab Sample No.: 971203-H002

Client Sample No.: Batch Specific

Method: EPA Method 3050/6010

Analyst: T. Shannon

Date Sample Taken: 02 Dec 97

Date Sample Received: 03 Dec 97

Date Digested: 17 Dec 97

Date Analyzed: 06 Jan 98

Batch: 9801060826

Sequence: 9801061432

RESULTS (mg/kg)

Analyte	Sample Result	Duplicate Result	RPD	Method Detection Limit
Al	12700	13500	6.1	4
Sb	u	u	NC	0.6
As	5.0	5.4	7.7	0.6
Ba	57.1	62.2	8.5	0.06
Be	0.52	0.55	5.6	0.06
Cd	u	u	NC	0.08
Ca	877	988	11.9	20
Cr	14.0	16.1	13.9	0.4
Co	7.2	7.5	4.4	0.6
Cu	24.7	24.2	2.0	0.4
Fe	25300	26500	4.6	8
Pb	23.3	29.5	23.5	0.4
Mg	2970	2900	2.4	8
Mn	1350	1460	7.8	0.06
Ni	15.0	15.0	0.0	0.4
K	888	990	10.9	20
Se	u	u	NC	0.6
Ag	u	u	NC	0.4
Na	24.3	26.8	9.8	20
Tl	u	u	NC	1
V	22.3	24.6	9.8	0.8
Zn	79.9	83.5	4.4	0.4

u: Below Method Detection Limit (MDL)

NC: Not Calculable

RPD Control Limit: $\pm 20\%$ (RPD could be higher if the sample results are low)

Laboratory Comments:

Approved By:

JRB

Ted Shannon

Date:

1/13/98

C 50

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

FAMIS Number: 4844
Project Name: Ravenna AAP - Env Investigation at 5 Sites
QC Identifier: Matrix Spike, Matrix Spike Duplicate

Sample Description: Soil	Date Sample Taken: 02 Dec 97
MRD Lab Sample No.: 971203-H002	Date Sample Received: 03 Dec 97
Client Sample No.: Batch Specific	Date Digested: 17 Dec 97
Method: EPA Method 3050/6010	Date Analyzed: 06 Jan 98
Analyst: T. Shannon	Batch: 9801060826
	Sequence: 9801061432

RESULTS (mg/kg)

Analyte	Sample Result	Spike Added	Conc MS	%Rec MS	Conc MSD	%Rec MSD	RPD
Al	12700	600	15900	NC	16700	NC	4.9
Sb	u	100	37	37*	37	37*	0.0
As	5.0	100	99	94	98	93	1.0
Ba	57.1	100	161	104	161	104	0.0
Be	0.52	40	38	93	38	93	0.0
Cd	u	50	47	94	46	92	2.2
Ca	877	1500	2410	102	2460	106	2.1
Cr	14.0	100	115	101	116	102	0.9
Co	7.2	100	104	97	105	98	1.0
Cu	24.7	100	125	100	129	104	3.1
Fe	25300	600	27200	NC	30400	NC	11.1
Pb	23.3	100	122	99	121	98	0.8
Mg	2970	1500	4660	113	5180	147*	10.6
Mn	1350	100	1460	NC	1420	NC	2.8
Ni	15.0	100	112	97	115	100	2.6
K	888	1000	2110	122*	2140	125*	1.4
Se	u	100	89	89	89	89	0.0
Ag	u	20	19	95	19	95	0.0
Na	24.3	1500	1530	100	1530	100	0.0
Tl	u	100	94	94	94	94	0.0
V	22.3	100	122	100	123	101	0.8
Zn	79.9	100	185	105	190	110	2.7

NC: Not calculable (inherent >4X spike)

u: Below Method Detection Limit (MDL)

%Rec Control Limit: 80-120

RPD Control Limit: $\pm 20\%$ (RPD could be higher if the sample results are low)

Laboratory Comments: *Recoveries outside of control limits may be due to a matrix problem/interference.

Approved By: JRB

Ted Shannon

Date: 4/13/98