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CENPA-EN-G-M (200-1c)

rewd
7-8-92

15 May 91

MEMORANDUM FOR CENPA-EN-MB-A

SUBJECT: Sampling Report, Underground Storage Tank Remediation,
Fort Richardson, AK

1. References:

- a. Verbal Request, CENPA-EN-MB-C, Williams/Thomas, dated 21 May 1990, subject: Cost Estimate/Capability for subject project.
- b. State of Work (Scope and Deliverables), undated, subject as above, hand carried at time of reference 1a.
- c. Work Plan, dated 18 July 1990, Part I: Sampling, Analysis for Underground Storage Tank Remediation, Fort Richardson, Alaska.
- d. State of Alaska Department of Environmental Conservation and the Board of Storage Tank Assistance, Underground Storage Tank Emergency Regulations, 18 AAC 78 Table D (enclosed).
- e. Federal Drinking Water Standards, 40 CFR 141.
- f. Alaska Drinking Water Standards, 18 AAC 80.050.
- g. Resource Conservation and Recovery Act (RCRA) Treatment Standards for Landfill Disposal.

2. GENERAL

- a. The objective of the project was to obtain data for closure of the UST sites in accordance with the requirements of Alaska Department of Environmental Conservation (ADEC). To close the sites, the ADEC has required soil borings to check for POL contamination and to determine if further excavation is required for clean up where underground storage tanks (UST) were removed.
- b. Data in this report was developed in response to the work plan dated 18 July 1990, Underground Storage Tank Remediation, Phase II, Fort Richardson, Alaska. The sampling (Work Plan) was developed by the US Army Corps of Engineers, Alaska District, to meet the objectives cited above.
- c. The exploration logs, enclosure 2, in this report were developed from data collected during field exploration. Soil classification was performed by CENPD-PE-GT-L on material collected using split spoons.
- d. Boring Location maps are included as enclosure 3.

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3. GENERAL SITE BACKGROUND INFORMATION

a. Location: Fort Richardson is located within the municipality of Anchorage, Alaska (Figure 1). The base occupies lowlands to the west of the Chugach Mountains. The lowlands consist of surface deposits of glacial till, outwash, and silt. The Elmendorf Moraine transects the installation in a northeast-southwest direction and consists of glacial deposits of unconsolidated till composed of poorly sorted boulders, gravel, sand and silt. The rocks and boulders often made drilling and drive sampling time consuming. When drill or drive refusal is encountered prior to obtaining the desired depth, the bore hole was off set a few feet and attempted again. The Bootlegger Cove clay underlies the alluvial deposits. (reference 1.4j of sampling plan.)

b. Surface Drainage: The primary surface drainage features are Eagle River and Ship Creek, which originate in the Chugach Mountains and flow westerly across the installation into Knik Arm of Cook Inlet. Eagle River is fed by turbid glacial melt waters with maximum runoff occurring in August. Eagle River is hydrologically upgradient from the main base facilities. Ship Creek and its tributaries are fed by snowmelt and rainwater run off, with maximum run off occurring in June. Ship Creek runs through the base near the southern boundary, and is hydrologically downgradient from the primary base facilities.

c. Groundwater under the areas occur primarily as a result of percolation from surface water. It occurs in aquifers to depths of 400 feet. Groundwater was found at buildings, 367012 and 35752. Although water was encountered at buildings 770, 702, 908 and 55804; none of the wells installed at the the latter locations produced enough water for sampling purposes.

4. Overview of Chemical Analysis and Standards:

a. Soil: Table D of ADEC guidelines for soil cleanup at underground storage tanks is enclosed. These guidelines require the use of a matrix involving several parameters such as soil type, receptors, proximity to groundwater, total quantity of contaminated soil and contaminant concentration. Exploration logs indicate soil types as required for development of the ADEC matrix to determine cleanup levels for USTs.

b. Although there are no regulatory cleanup levels for metals in soils, the presence of high lead levels could indicate the presence of leaded motor fuel. In addition, there are restrictions on soils that are to be placed in landfills. TCLP MCLs are included in Table I for comparison with landfill restrictions. Because of test methodology and reporting parameters, TCLP metal results cannot exceed limits unless total metals exceed 10 times TCLP limits. Enclosure 1 demonstrates the mathematical logic.

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c. Water: State of Alaska regulations have designated groundwater as potential drinking water. Table I shows soil and drinking water maximum contaminant levels (MLS) from reference 1d, e, f, and g. Analytic results of groundwater samples can be compared with drinking water MCLs from that table.

Water samples for BH-16 (AP-2986) were found to contain kerosene at less than quantifiable levels. Lead at 0.0077 mg/l exceeds drinking water standards of 0.005 mg/l.

5. SITE SPECIFIC INFORMATION

a. BUILDING 36012 (See Table "Building 36012" for Chemical Test Results)

Soil contaminant levels were below laboratory detection levels for fuels, kerosene, gasoline, diesel fuel #2, jet fuel (as jet A), and bunker oil. Volatile organics range from below laboratory detection limit to a numeric high level of 240 ug ethylbenzene per Kg of soil (ug/Kg) near the surface of BH-5 (AP-2974). Site observations indicated highest contamination levels were near the top of existing groundwater, 12-18 feet below ground surfaces.

b. BUILDING 770 (See Table "Building 770" for Chemical Test Results)

Three borings were made and one monitoring well installed. Soil sample concentrations were all below limits from reference 1d. A single monitoring well was installed in BH-6 (AP-2976).

c. BUILDING 702 (See Table "Building 702" for Chemical Test Results)

(1) Minor relocations of these holes were required because of numerous cobbles and boulders. Borehole 11a was abandoned at about 25 feet, and relocated as BH-11b. Boring Log AP-2981 is a composite of BH-11a and BH-11-b. Location of AP-2981 is shown on the map.

(2) Although minor water showed in BH-10 (AP-2980) and a well was installed, there was no water in the well on the following day. Sample analysis showed diesel fuel near the surface at AP-2980 and a small pocket of benzene, toluene, ethylbenzene and xylenes (BTEX). BTEX was found at 25 feet. However, the concentrations measured did not exceed maximum levels as outlined in reference 1d.

(3) There wasn't adequate groundwater for sample collection. Building 702 is an active fuel handling facility, consequently, the presence of surface fuel was caused by on-going site activities.

Rationle for total metals versus Toxic Characteristic Leaching Procedure (TCLP).

TCLP maximum contaminant levels (MCLs) are based on the fact that leachable metals are a greater environmental hazard than insoluable ones.

The test procedure requires leaching of 100 grams of soil into 1 liter of solution. The results for comparison with MCLs are reported in miligrams per liter. In fact, if all of the leachable material in the 100 gram aliquot is leachable, the result is equivalent to miligrams per 100 grams soil. Total metal results are reported in miligrams per kilograms which is ten times greater than 100 grams.

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d. BUILDING 35752 (See Table "Building 35752" for Chemical Test Results)

(1) Six holes, BH-12 (AP-2982) to BH-17 (AP-2987), were drilled and monitor wells were installed. Diesel fuel and BTEX contamination was found at the 10-foot level of borehole AP-2986. Levels of soil contamination greater than 30 mg/Kg diesel fuel, and BTEX 9.4 mg/Kg are marginal relative to cleanup levels cited in reference 1b.

(2) Groundwater at the site indicates that aromatics and fuel components are present. Kerosene was also present but at less than quantifiable levels. Weathering could cause misidentification of fuels.

e. BUILDING 908 South (See Table "Building 908 S" for Chemical Test Results)

Five holes, BH-18 (AP-2988) to BH-22 (AP-2992), were drilled to depths of 30 to 50 feet. No significant groundwater was encountered. However, contamination was found from near the surface to depths of 50 feet in several samples. Laboratory analysis reported diesel fuel as high as 5 grams/kilogram of soil. The highest cleanup level concentration of diesel fuel in soil is listed as 2 grams/Kg under very specific conditions. This same area had samples in excess of the listed maximum cleanup levels for benzene, toluene, ethylbenzene and xylenes (BTEX).

f. BUILDING 908 North (See Table "Building 908 N" for Chemical Test Results)

Five holes, BH-23 (AP-2903) to BH-27 (AP-2997), were drilled to depths as deep as 45 feet. Groundwater was not encountered at any depth, nor were there any monitoring wells installed. Analysis values ranged from below laboratory detection limits to near 1 gr/Kg for diesel fuel at 10 foot depths in BH-23 (AP-2993). BTEX compounds were also significant for the sample, although ADEC cleanup levels, reference 1b, were apparently not exceeded.

g. BUILDING 55804 (See Table "Building 55804" for Chemical Test Results)

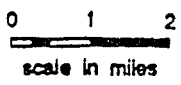
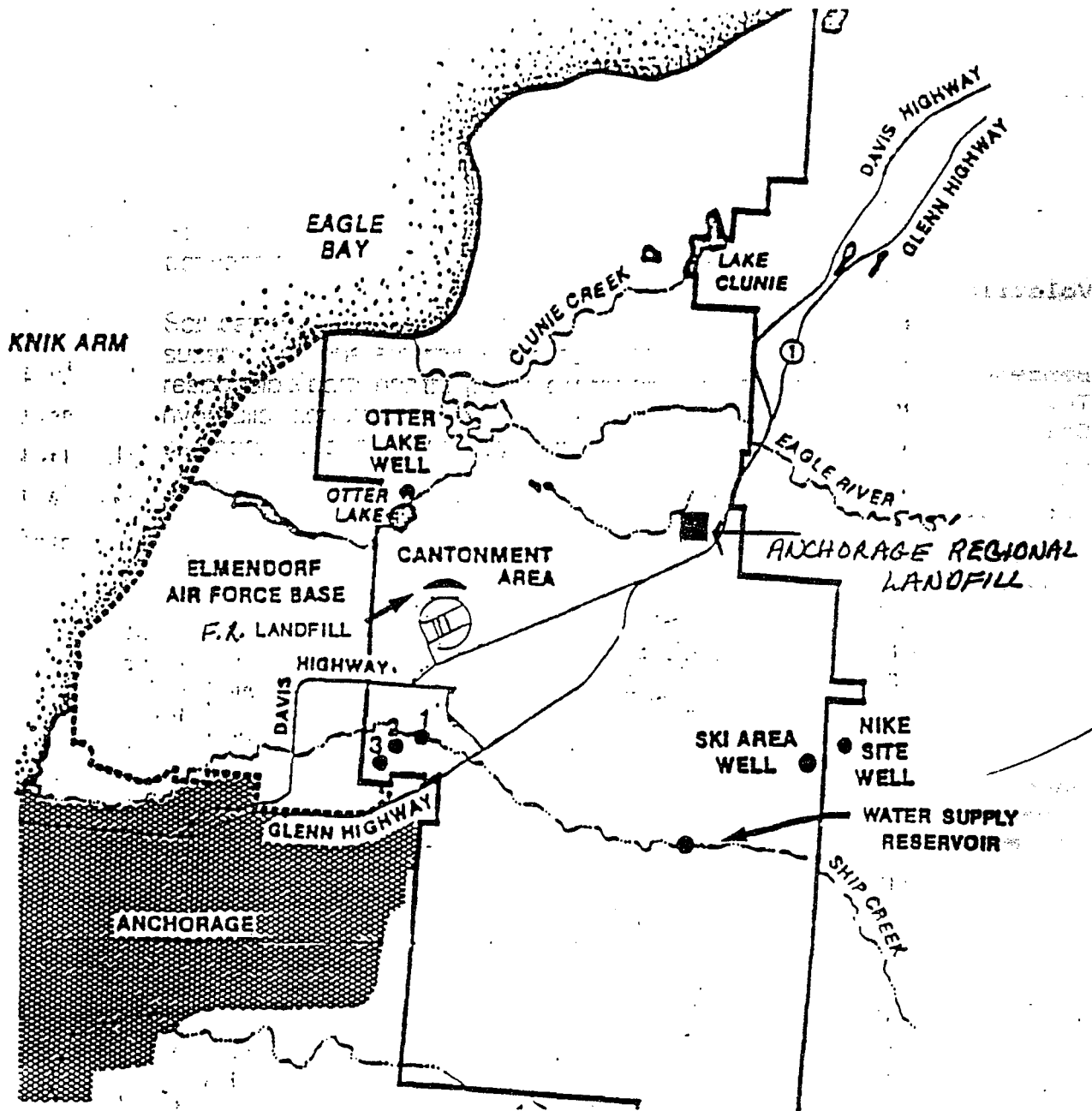
Six holes, BH-28 (AP-2998) to BH-33 (AP-3003), were drilled. Wells were not installed due to absence of groundwater. Diesel fuel and/or jet fuel reported at 10 feet depths. Diesel concentrations were reported as high as 610.0 mg/Kg. BTEX concentrations were also above laboratory detection limits at the same locations.

6. Questions should be addressed to Willard Ferrell, x-1292.

encls

Delwyn F. Thomas

DELWYN F. THOMAS
Chief, Geotechnical Branch



LEGEND

- Reservation boundary
- Highways
- Streams, creeks
- ▨ Towns, cities
- Well

ecology & environment, inc.	
Job: KN1040	FORT RICHARDSON
Drawn by: D. P.	Date: Dec. 14, 1989

Fig. 1: Fort Richardson Location map

TABLE I

Regulatory
Maximum contaminant
Limits (MCLs)

Volatile aromatics	soils		water	
	Alaska mg/kg	Federal mg/kg TCLP	Alaska mg/l	federal mg/l
Benzene	0.5	0.5	0.005	0.005
Toluene	...	...	...	2.0p
Chlorobenzene	...	100	...	0.1p
Ethylbenzene	...	...	...	0.7p
m-Xylene	...	...	...	...
o, p-Xylene	...	...	...	...
Total xylenes	...	...	...	10p
m-Dichlorobenzene	...	...	...	...
o-Dichlorobenzene	...	7.5	...	**
Total BTEXs	*	...	...	...
Petro Hydrocarbons	mg/kg		None det	
K-1 Kerosene	*	...		...
Gasoline	*	...		...
Diesel Fuel #2	*	...		...
Jet Fuel Jet A	*	...		...
Bunker Fuel #6D	*	...		...
Metals	mg/kg	mg/kg	mg/l	mg/kg
Arsenic		5.0	0.05	...
Barium		100	1.0	5.0p
Cadium		1.0	0.01	0.005p
Chromium		5.0	0.05	0.01p
lead		5.0	0.05	0.005p
Mercury		0.02	0.002	0.002p
Selenium		5.7	0.01	0.05p
Silver		5.0	0.05	...
Note * ADEC Matrix	Ref 1.1.2			
o proposed MCLs	ref 1.1.3			
** depends on	Isomer			
	cis	.....		0.070p
	TRans	.....		0.1p

Building 36012

Hole ID, log	BH-1	BH-1	BH-1	BH-1	BH-1
Hole ID survey	AP-2971	AP-2971	AP-2971	AP-2971	AP-2971
Sample ID 90FRUST	1 soil	4 soil	8 soil	10 soil	12 soil
Sample depth feet	surface	5-6.5	10-11.4	15-16.5	15.16.5
Hnu	<1	<1	<1	2	

Volatile Organics	ug/kg	ug/kg	ug/kg
EPA method 8020			
Benzene	<11	<11	<12
Toluene	<11	<11	14
Chlorobenzene	<11	<11	<12
Ethylbenzene	<11	<11	<12
m-Xylene	<11	<11	<12
o.p-Xylene	<11	<11	<12
m-Dichlorobenzene	<21	<21	<24
o,p-Dichlorobenzene	<21	<21	<24

Petrol Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg	mg/kg
EPA Method 8015 mod					
K-1 kerosene	<1800	<1800	<2000	<2100	<21000
gasoline	<1800	<1800	<2000	<2100	<21000
Diesel fuel (as #2)	<1800	<1800	<2000	190000	<21000
Jet fuel (jet A)	<1800	<1800	<2000	<2100	<21000
Bunker oil (as #6)	<8900	<9000	<10000	<11000	<100000

Sample log ID	BH-1
Survey Location ID	AP-2791
Sample # 90 FRUST	255 water

Volatile Organics	ug/l
EPA Method 602	
Benzene	4.8
Toluene	3.1
Chlorobenzene	<0.2
Ethylbenzene	0.51
m-Xylene	2.8
o.p-Xylene	1.6
m-Dichlorobenzene	<0.4
o,p-Dichlorobenzene	<0.4

Petrol Hydrocarbons	ug/l
EPA Method 8015 mod	
K-1 kerosene	<56
gasoline	<56
Diesel fuel (as #2)	<56
Jet fuel (jet A)	<56
Bunker oil (as #6)	<280

Metals	mg/l
EPA Method # 3050	
Lead	.0077

Building 36912

Building 36012

Hole ID log	BH-2	BH-2	BH-2	BH-2	BH-2
Hole ID survey	AP-2972	AP-2972	AP-2972	AP-2972	AP-2972
sample 90 FRUST	20sl	21sl	22sl	23sl	26sl
Sample depth feet	surface	5-6.5	10-11.5	10-11.5	15-16.5
Hnu	0	0	0	0	0

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8020					
Benzene	<11	<11	<11	<12	<11
Toluene	<11	<11	16	<12	<11
Chlorobenzene	<11	<11	<11	<12	<11
Ethylbenzene	<11	<11	<11	<12	24
m-Xylene	<11	<11	<11	<12	<11
o,p-Xylene	<11	<11	<11	<12	<11
m-Dichlorobenzene	<21	<22	<23	<24	<22
o,p-Dichlorobenzene	<21	<22	<23	<24	<22

Petrol Hydrocarbons					
EPA method 8015mod	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
K1 Kerosene	<1800	<1800	<2000	<2000	<1900
Gasoline	<1800	<1800	<2000	<2000	<1900
Diesel Fuel #2	<1800	<1800	<2000	<2000	<1900
Jet Fuel Jet A	<1800	<1800	<2000	<2000	<1900
Bunker fuel #6 D	<8900	<9100	<9800	<10000	<9400

Hole ID log	BH-2	BH-2
Hole ID survey	AP-2972	AP-2972
Sample 90 FRUST	24sl	25sl
Sample depth feet	15-16	15-16

Lead E P Tox	mg/kg	mg/kg
EPA method 7421	9.2	9.7

Building 36012

Hole ID log	BH-3	BH-3	BH-3
Hole ID survey	AP-2973	AP-2973	AP-2973
Sample 90frust	28 soil	29 soil	30 soil
Sample depth feet	Surface	5-6.5	10-11.5
Hnu readings	0	0	60

Volatile Organics	ug/kg	ug/kg	ug.kg
EPA method 8020			
Benzene	<11	<11	<60
Toluene	20	<11	<60
Chlorobenzene	<11	<11	<60
Ethylbenzene	<11	<11	170
m-Xylene	<11	<11	110
o.p-Xylene	<11	<11	80
m-Dichlorobenzene	<21	<22	510
o,p-Dichlorobenzene	<21	<22	300

Petrol Hydrocarbons	ug/kg	ug/kg	ug/kg
EPA Method 8015mod			
K-1 Kerosene	<3600	<1900	<2000
Gasoline	<3600	<1900	<2000
Diesel Fuel #2D	<3600	<1900	<2000
Jet Fuel Jet A	<3600	<1900	<2000
Bunker Fuel #6D	<18000	<9500	<10000

Building 36012

Hole ID log	BH-4	BH-4	BH-4	BH-4
Hole ID survey	AP-2974	AP-2974	AP-2974	AP-2974
Sample # 90FRUST	31s	32s	33s	34s
Sample depth feet	Surface	5-5.5	10-11.5	15-16.5
Hnu	0	1	2	

Volatiles aromatics	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8020				
Benzene	<21	<47	<11	<12
Toluene	230	<47	38	120
Chlorobenzene	<21	<47	<11	120
Ethylbenzene	240	<47	<11	300
m-Xylene	<21	<47	<11	200
o,p-Xylene	<21	<47	<11	120
m-Dichlorobenzene	<42	<93	<22	180
o,p-Dichlorobenzene	<42	<93	<22	110

Petrol Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8015mod				
K-1 Kerosene	<3500	<2000	<1900	<2000
Gasoline	<3500	<2000	<1900	<2000
Diesel Fuel #2	<3500	<2000	<1900	<2000
Jet Fuel Jet A	<3500	<2000	<1900	<2000
Bunker Fuel #6d	<18000	<10000	<9500	<10000

Log ID BH #	4
Survey ID	Ap-2794
Sample # 90 FRUST	258 Water

Volatiles aromatics	ug/l	Metals	ug/k
EPA method 8020		EPA Method # 7421	
Benzene	0.65	Lead	.0026
Toluene	0.56		
Chlorobenzene	<0.2		
Ethylbenzene	<0.2		
m-Xylene	<0.2		
o,p-Xylene	<0.2		
m-Dichlorobenzene	<0.4		
o,p-Dichlorobenzene	<0.4		

Petrol Hydrocarbons	ug/l
EPA Method 8015mod	
K-1 Kerosene	<71
Gasoline	<71
Diesel Fuel #2	<71
Jet Fuel Jet A	<71
Bunker Fuel #6d	360

Building 770

	BH-5	BH-5	BH-5	BH-5
Hole ID log	AP-2975	AP-2975	AP-2975	AP-2975
Hole ID survey	36 soil	37 soil	38 soil	39 soil
Sample ID 90FRUST	5-6.5		15-16.5	20-21.5
Sample depth feet	0	0	0	0
Hnu				

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<11	<10	<11	<11
Toluene	12	<10	<11	<11
Chlorobenzene	<11	<10	<11	<11
Ethylbenzene	<11	<10	<11	<11
m-Xylene	<11	<10	<11	<11
o,p-Xylene	<11	<10	<11	<11
m-Dichlorobenzene	<22	<21	<21	<22
o,p-Dichlorobenzene	<22	<21	<21	<22

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<18000	<1800	<1800	<1900
Gasoline	<18000	<1800	<1800	<1900
Diesel Fuel #2	<18000	<1800	<1800	<1900
Jet Fuel Jet A	<18000	<1800	<1800	<1900
Bunker Fuel #6D	<90000	<9000	<8900	<9300

Arsenic	mg/kg	4.2
Barium	31	
Cadmium	0.48	
Chromium	9.4	
Lead	3.9	
Mercury	<0.074	
Selenium	<0.48	
silver	<0.97	
Total solids %	90	

Building 770

Hole ID log	BH-6	BH-6	BH-6	BH-6
Hole ID survey	AP-2976	AP-2976	AP-2976	AP-2976
Sample ID 90FRUST	43 soil	44 soil	46 soil	258 Water
Sample depth feet	10-11.5	15-16.5	20-21.5	
Hnu	0	0	0	

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/l
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EPA Method 8020

Benzene	<10	<11	<11	0.65
Toluene	<10	<11	13	0.56
Chlorobenzene	<10	<11	<11	<0.2
Ethylbenzene	<19	<11	<11	<0.2
m-Xylene	<10	<11	<11	<0.2
o,p-Xylene	<10	<11	<11	<0.2
m-Dichlorobenzene	<21	<22	<22	<0.4
o,p-Dichlorobenzene	<21	<22	<22	<0.4

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/l
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EPA method 8015mod

K-1 Kerosene	<1800	<1800	<1900	<71
Gasoline	<1800	<1800	<1900	<71
Diesel Fuel #2	<1800	<1800	<1900	<71
Jet Fuel Jet A	<1800	<1800	<1900	<71
Bunker Fuel #6D	<8900	<9200	<9500	<360

mg/kg

Arsenic	4.1
Barium	21
Cadmium	<0.5
Chromium	11
Lead	4.3
Mercury	<0.066
Selenium	<0.50
Silver	<1
Total solids %	98

Building 770

Hole ID log	BH-7	BH-7	BH-7	BH-7
Hole ID survey	AP-2977	AP-2977	AP-2977	AP-2977
Sample ID 90FRUST	48 soil	49 soil	50 soil	51 soil
Sample depth feet	5-6.5	10-11.5	15-16.5	20-21.5
Hnu	0	0	0.5	<0.5

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<13	<11	<11	<11
Toluene	<13	<11	<11	<11
Chlorobenzene	<13	<11	<11	<11
Ethylbenzene	<13	<11	<11	<11
m-Xylene	<13	<11	<11	<11
o,p-Xylene	<13	<11	<11	<11
m-Dichlorobenzene	<26	<21	<22	<22
o,p-Dichlorobenzene	<26	<21	<22	<22

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<2200	<1800	<1800	<1900
Gasoline	<2200	<1800	<1800	<1900
Diesel Fuel #2	<2200	<1800	<1800	<1900
Jet Fuel Jet A	<2200	<1800	<1800	<1900
Bunker Fuel #6D	<11000	<8900	<9100	<9300

	mg/kg
Arsenic	6.0
Barium	42
Cadmium	<0.52
Chromium	7.2
Lead	4.9
Mercury	<0.076
Selenium	<0.52
Silver	<1.0
Total Solids %	91

Building 702

Hole ID log	BH-8	BH-8	BH-8	BH-8
Hole ID survey	AP-2978	AP-2978	AP-2978	AP-2978
Sample ID 90FRUST	52 soil	54 soil	56 soil	57 soil
Sample depth feet	5-6.5	10-11.5	15-16.5	20-21.5
Hnu	0	0	0	0

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<11	<11	<11	<11
Toluene	<11	<11	<11	<11
Chlorobenzene	<11	<11	<11	<11
Ethylbenzene	<11	<11	<11	<11
m-Xylene	<11	<11	<11	<11
o.p-Xylene	<11	<11	<11	<11
m-Dichlorobenzene	<21	<22	<22	<21
o,p-Dichlorobenzene	<21	<22	<22	<21

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<1800	<1800	<1800	<1800
Gasoline	<1800	<1800	<1800	<1800
Diesel Fuel #2	<1800	<1800	<1800	<1800
Jet Fuel Jet A	<1800	<1800	<1800	<1800
Bunker Fuel #6D	<8900	<9100	<9100	<9000

Building 702 (cont)

Hole ID log	BH-8	BH-8
Hole ID survey	AP-2978	Ap-2978
Sample ID 90FRUST	59 soil	60 soil
Sample depth feet	25-26.5	>30
Hnu	0	0

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<11	<11
Toluene	<11	<11
Chlorobenzene	<11	<11
Ethylbenzene	<11	<11
m-Xylene	<11	<11
o.p-Xylene	<11	<11
m-Dichlorobenzene	<21	<22
o,p-Dichlorobenzene	<21	<22

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<1800	<1800
Gasoline	<1800	<1800
Diesel Fuel #2	<1800	<1800
Jet Fuel Jet A	<1800	<1800
Bunker Fuel #6D	<9000	<9100

Building 702

	BH-9	BH-9	BH-9	BH-9	BH-9
Hole ID log	AP-2979	AP-2979	AP-2979	AP-2979	AP-2979
Hole ID survey	62 soil	63 soil	65 soil	66 soil	67 soil
Sample ID 90FRUST	5-6.5	10-11.5	15-16.5	20-21.5	25-26.5
Sample depth feet	0	0	0	0	0
Hnu					

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene	<11	<11	<11	<11	<11
Toluene	<11	<11	<11	<11	<11
Chlorobenzene	<11	<11	<11	<11	<11
Ethylbenzene	<11	<11	<11	<11	<11
m-Xylene	<11	<11	<11	<11	<11
o.p-Xylene	<11	<11	<11	<11	<11
m-Dichlorobenzene	<21	<22	<21	<22	<21
o,p-Dichlorobenzene	<21	<22	<21	<22	<21

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod					
K-1 Kerosene	<1800	<1800	<1800	<1800	<1800
Gasoline	<1800	<1800	<1800	<1800	<1800
Diesel Fuel #2	<1800	<1800	<1800	<1800	<1800
Jet Fuel Jet A	<1800	<1800	<1800	<1800	<1800
Bunker Fuel #6D	<9000	<9100	<9000	<9100	<9000

BH-9-cont	BH-9	BH-9	BH-9
Sample ID 90FRUST	AP-2979	AP-2979	AP-2979
Sample depth feet	69 soil	70 soil	70 soil
Hnu	30-31.5	35-36.5	35-36.5
	0	0	0

Volatile Organics	ug/kg	ug/kg	mg/kg
EPA Method 8020			
Benzene	<11	<11	Arsenic 5.1
Toluene	<11	<11	Barium 28
Chlorobenzene	<11	<11	Cadmium <0.50
Ethylbenzene	<11	<11	Chromium 7.0
m-Xylene	<11	<11	Lead 5.1
o.p-Xylene	<11	<11	Mercury 0.13
m-Dichlorobenzene	<21	<22	Selenium <0.50
o,p-Dichlorobenzene	<21	<22	Silver <1.0
			Solids 95 %

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<1800	<1900
Gasoline	<1800	<1900
Diesel Fuel #2	<1800	<1900
Jet Fuel Jet A	<1800	<1900
Bunker Fuel #6D	<9000	<5300

Building 702

Hole ID log	BH-10	BVH-10	BH-10	BH-10	BH-10
Hole ID survey	AP-7980	AP-7980	AP-2980	AP-2980	AP-2980
Sample ID 90FRUST	79soil	72 soil	73 soil	74 soil	74 soil
Sample depth feet	Surface	5-6.5	10-11.5	15-16.5	20-21.5
Hnu	35	14	<1	<1	<1

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene	<11	<11	<11	<11	<11
Toluene	<11	<11	<11	<11	<11
Chlorobenzene	<11	<11	<11	<11	<11
Ethylbenzene	<11	<11	<11	<11	<11
m-Xylene	55	<11	<11	<11	<11
o.p-Xylene	<1	<11	<11	<11	<11
m-Dichlorobenzene	200	<21	<21	<21	<22
o,p-Dichlorobenzene	<22	<21	<21	<21	<22

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod					
K-1 Kerosene	<19000	<1800	<1800	<18000	<1800
Gasoline	<19000	<1800	<1800	<18000	<1800
Diesel Fuel #2	420000*	72000	<1800	<18000	<1800
Jet Fuel Jet A	<1900	<1800	<1800	<18000	<1800
Bunker Fuel #6D	<9300	<90000	<9000	<90000	<9200

Hole ID log	BH-10
Hole ID survey	AP-2980
Sample ID 90FRUST	77 soil
Sample depth feet	25-26.5
Hnu	65

Volatile Organics	ug/kg
EPA Method 8020	
Benzene	220
Toluene	1500
Chlorobenzene	1400
Ethylbenzene	1300
m-Xylene	1900
o.p-Xylene	550
m-Dichlorobenzene	740
o,p-Dichlorobenzene	840

Petro Hydrocarbons	ug/kg
EPA method 8015mod	
K-1 Kerosene	<1900
Gasoline	<1900
Diesel Fuel #2	44000*
Jet Fuel Jet A	<1900
Bunker Fuel #6D	<9300

Note * Lab estimate

Building 702

Hole ID log	BH-11a	BH-11a	BH-11a	BH-11a	BH-11a
Hole ID survey	AP-2981	AP-2981	AP-2981	AP-2981	AP-2981
Sample ID 90FRUST		80 soil	81 soil	82 soil	84 soil
Sample depth feet	Surface	5-6.5	10-11.5	15-16.5	20-21.5
Hnu	65	<2	0	15	0

Volatile Organics		ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene		<10	<11	<11	<11
Toluene		<10	<11	<11	<11
Chlorobenzene		<10	<11	<11	<11
Ethylbenzene		<10	<11	<11	<11
m-Xylene		<10	<11	<11	<11
o.p-Xylene		<10	<11	<11	<11
m-Dichlorobenzene		<21	<21	<21	<21
o,p-Dichlorobenzene		<21	<21	<21	<21

Petro Hydrocarbons		ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod					
K-1 Kerosene		<1900	<1800	<1800	<1900
Gasoline		<1900	<1800	<1800	<1900
Diesel Fuel #2		<1900	<1800	<1800	<1900
Jet Fuel Jet A		<1900	<1800	<1800	<1900
Bunker Fuel #6D		<9300	<9000	<9000	<9400

Hole ID log	BH-11a
Hole ID survey	AP-2981
Sample ID 90FRUST	85 soil
Sample depth feet	25-26.5
Hnu	0

Volatile Organics	ug/kg
EPA Method 8020	
Benzene	<11
Toluene	60
Chlorobenzene	<11
Ethylbenzene	<11
m-Xylene	<11
o.p-Xylene	<11
m-Dichlorobenzene	<22
o,p-Dichlorobenzene	<22

Petro Hydrocarbons	ug/kg
EPA method 8015mod	
K-1 Kerosene	<1900
Gasoline	<1900
Diesel Fuel #2	<1900
Jet Fuel Jet A	<1900
Bunker Fuel #6D	<9400

Comment: Auger broke at 26.5 feet. Drilling continued at BH-11b
 Drill Log AP-2981 is a composite of BH-11a and BH-11b.

Building 702

Hole ID log	BH-11b	BH-11b	Bh-11b	BH-11b	Bh-11b
Hole ID survey	AP-2981	AP-2981	AP-2981	AP-2981	AP-2981
Sample ID 90FRUST			115 soil		116 soil
Sample depth feet	surface	10	15-16.5	20	30-31.5
Hnu	4	0	0	<1	0

Volatile Organics		ug/kg	ug/kg
EPA Method 8020			
Benzene		<11	<11
Toluene		15	14
Chlorobenzene		<11	<11
Ethylbenzene		<11	<11
m-Xylene		<11	12
o.p-Xylene		<11	<11
m-Dichlorobenzene		<21	<22
o,p-Dichlorobenzene		<21	<22

Petro Hydrocarbons		ug/kg	ug/kg
EPA method 8015mod			
K-1 Kerosene		<1800	<1800
Gasoline		<1800	<1800
Diesel Fuel #2		<1800	<1800
Jet Fuel Jet A		<1800	<1800
Bunker Fuel #6D		<9000	<9200

BH-11b cont		
Hole ID log	BH-11b	BH-11b
Hole ID survey	AP-2981	AP-2981
Sample ID 90FRUST	117 soil	118 soil
Sample depth feet	35-36.5	40-41.5
Hnu	0	0

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<11	<11
Toluene	<11	<11
Chlorobenzene	<11	<11
Ethylbenzene	<11	<11
m-Xylene	<11	<11
o.p-Xylene	<11	<11
m-Dichlorobenzene	<22	<22
o,p-Dichlorobenzene	<22	<22

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<1900	<1900
Gasoline	<1900	<1900
Diesel Fuel #2	<1900	<1900
Jet Fuel Jet A	<1900	<1900
Bunker Fuel #6D	<9300	<9400

Comment: Auger broke in BH-11a at 26.5 feet. Drilling continued in BH-11b.
 Drill Log AP-2981 is a composite of BH-11a and BH-11b.
 HNU readings are different.

Building 35752

Hole ID log	BH-12	BH-12	BH-12	BH-12
Hole ID survey	AP-2982	AP-2982	AP-2982	AP-2982
Sample ID 90FRUST	86 soil	87 soil	88 soil	89 soil
Sample depth feet	5-6.5	10-11.5	15-16.5	20-21.5
Hnu	<1	0	2	0

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<12	<10	<11	<11
Toluene	23	<10	<11	<11
Chlorobenzene	<12	<10	<11	<11
Ethylbenzene	<12	<10	<11	<11
m-Xylene	<12	<10	<11	<11
o,p-Xylene	<12	<10	<11	<11
m-Dichlorobenzene	<25	<21	<22	<23
o,p-Dichlorobenzene	<25	<21	<22	<23

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<2100	<1800	<1800	<18000
Gasoline	<2100	<1800	<1800	<18000
Diesel Fuel #2	<2100	<1800	<1800	<18000
Jet Fuel Jet A	<2100	<1800	<1800	<18000
Bunker Fuel #6D	<10000	<8900	<9100	<92000

Building 35752

Hole ID log	BH-12
Hole ID survey	AP-2982
Sample ID 90FRUST	266 wa

Volatile Organics	ug/l
EPA Method 8020	
Benzene	620
Toluene	1300
Chlorobenzene	<0.40
Ethylbenzene	370
m-Xylene	610
o,p-Xylene	300
m-Dichlorobenzene	<0.808
o,p-Dichlorobenzene	100

Petro Hydrocarbons	ug/l
EPA method 8015mod	
K-1 Kerosene	<280
Gasoline	<280
Diesel Fuel #2	<280
Jet Fuel Jet A	<280
Bunker Fuel #6D	<1400

Building 35752

	BH-13	BH-13	BH-13	BH-13	BH-13
Hole ID log	BH-13	BH-13	BH-13	BH-13	BH-13
Hole ID survey	AP-2983	AP-2983	AP-2983	AP-2983	AP-2983
Sample ID 90FRUST		90 soil	91 soil	93 soil	96 soil
Sample depth feet	Surface	5-5.5	10-11.5	15-16.5	20-21.5
Hnu	0	0	0	0	7

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<11	<11	<11	<11
Toluene	19	<11	<11	<11
Chlorobenzene	<11	<11	<11	<11
Ethylbenzene	<11	<11	<11	<11
m-Xylene	<11	<11	<11	<11
o.p-Xylene	<11	<11	<11	<11
m-Dichlorobenzene	<22	<21	<21	<22
o,p-Dichlorobenzene	<22	<21	<21	<22

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	>18000	<1800	<1800	<1900
Gasoline	<18000	<1800	<1800	<1900
Diesel Fuel #2	<18000	<1800	<1800	<1900
Jet Fuel Jet A	<18000	<1800	<1800	<1900
Bunker Fuel #6D	<92000	<9000	<9000	<9300

Log ID BH-13
 Survey ID AP-2983
 Sample # 90FRUST 259 water

Volatile Organics	ug/l
EPA Method 602	
Benzene	0.61
Toluene	0.74
Chlorobenzene	<.2
Ethylbenzene	<.2
m-Xylene	<.2
o.p-Xylene	<.2
m-Dichlorobenzene	<.4
o,p-Dichlorobenzene	<.4

Petro Hydrocarbons	ug/l
EPA method 8015mod	
K-1 Kerosene	<56
Gasoline	<56
Diesel Fuel #2	<56
Jet Fuel Jet A	<56
Bunker Fuel #6D	<280

Building 35752

Hole ID log	BH-14	BH-14	BH-14	BH-14
Hole ID survey	AP-2984	AP-2984	AP-2984	AP-2984
Sample ID 90FRUST		97 soil	98 soil	99 soil
Sample depth feet	surface	5-6.5	10-11.5	15-16.5
Hnu	0	1	0	0

Volatile Organics	ug/kg	ug/kg	ug/kg
EPA Method 8020			
Benzene	<12	<11	<11
Toluene	<12	<11	<11
Chlorobenzene	<12	<11	<11
Ethylbenzene	<12	<11	<11
m-Xylene	<12	<11	<11
o,p-Xylene	<12	<11	<11
m-Dichlorobenzene	<24	<22	<22
o,p-Dichlorobenzene	<24	<22	<22

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg
EPA method 8015mod			
K-1 Kerosene	<2000	<1800	<1900
Gasoline	<2000	<1800	<1900
Diesel Fuel #2	<2000	<1800	<1900
Jet Fuel Jet A	<2000	<1800	<1900
Bunker Fuel #6D	<10000	<9100	<9300

Hole ID log	BH-14
Hole ID survey	AP-2984
Sample ID 90FRUST	260wa

Volatile Organics	ug/l
EPA Method # 602	
Benzene	0.9
Toluene	0.83
Chlorobenzene	<0.2
Ethylbenzene	<0.2
m-Xylene	<0.2
o,p-Xylene	<0.2
m-Dichlorobenzene	<0.4
o,p-Dichlorobenzene	<0.4

Petro Hydrocarbons	ug/l
EPA method 8015mod	
K-1 Kerosene	<56
Gasoline	<56
Diesel Fuel #2	<56
Jet Fuel Jet A	<56
Bunker Fuel #6D	<280

Building 35752

Hole ID log	BH-15	BH-15	BH-15
Hole ID survey	AP-2985	AP-2985	AP-2985
Sample ID 90FRUST		100 soil	101 soil
Sample depth feet	2	5-6.5	10-11.5
Hnu	0	0	0

Volatile Organics		ug/kg	ug/kg
EPA Method 8020			
Benzene		<10	<11
Toluene		23	<11
Chlorobenzene		<10	<11
Ethylbenzene		<10	<11
m-Xylene		<10	<11
o,p-Xylene		<10	<11
m-Dichlorobenzene		<21	<22
o,p-Dichlorobenzene		<21	<22

Petro Hydrocarbons		ug/kg	ug/kg
EPA method 8015mod			
K-1 Kerosene		<1800	<1800
Gasoline		<1800	<1800
Diesel Fuel #2		<1800	<1800
Jet Fuel Jet A		<1800	<1800
Bunker Fuel #6D		<8900	<9200

Hole ID log	BH-15
Hole ID survey	AP-2985
Sample ID 90FRUST	261 water

Volatile Organics	ug/l
EPA Methos 602	
Benzene	<0.2
Toluene	0.44
Chlorobenzene	<0.2
Ethylbenzene	<0.2
m-Xylene	<0.2
o,p-Xylene	<0.2
m-Dichlorobenzene	<0.4
o,p-Dichlorobenzene	<0.4

Building 35752

Hole ID log	BH-16	BH-16	BH-16	BH-16
Hole ID survey	AP-2986	AP-2986	AP-2986	AP-2986
Sample ID 90FRUST		102 soil	103 soil	104 soil
Sample depth feet	Surface	5-6.5	10-11.5	15-16.5
Hnu	0	0	200	0

	ug/kg	ug/kg	ug/kg
Volatile Organics			
EPA Method 8020			
Benzene	<10	<500	<11
Toluene	<10	770	<11
Chlorobenzene	<10	500	<11
Ethylbenzene	<10	300*	<11
m-Xylene	<10	1600	<11
o,p-Xylene	<10	230*	<11
m-Dichlorobenzene	<21	980*	<22
o,p-Dichlorobenzene	<21	5000	<22

	ug/kg	ug/kg	ug/kg
Petro Hydrocarbons			
EPA method 8015mod			
K-1 Kerosene	<1800	<18000	<1800
Gasoline	<1800	<18000	<1800
Diesel Fuel #2	<1800	730000*	<1800
Jet Fuel Jet A	<1800	<18000	<1800
Bunker Fuel #6D	<8900	<92000	<9100

Hole ID Log	BH-16	BH-16
Hole ID Survey	AP-2986	AP-2986
Sample ID 90 FRUST	262 WATER	264 WATER

	ug/l	ug/l
Volatile Organics		
EPA Method 602		
Benzene	0.57	<0.2
Toluene	1.6	2.5
Chlorobenzene	4.7	11
Ethylbenzene	<0.2	5.1
m-Xylene	7.9	<0.2
o,p-Xylene	1.8	12
m-Dichlorobenzene	6.3	7.1
o,p-Dichlorobenzene	<0.4	9.7

	ug/l	ug/l
Petro Hydrocarbons		
EPA method 8015mod		
K-1 Kerosene	1700 *	1100 *
Gasoline	<56	<56
Diesel Fuel #2	<56	<56
Jet Fuel Jet A	<56	<56
Bunker Fuel #6D	<280	<280

Note * Lab Estimate

Building 35752

Hole ID log	BH-17	BH-17	BH-17	BH-17
Hole ID survey	AP-2987	AP-2987	AP-2987	AP-2987
Sample ID 90FRUST		105 soil	106 soil	109 soil
Sample depth feet	2	5-6.5	10-11.5	15-16.5
Hnu	0	0	0	0

Volatile Organics		ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene		<11	<11	<11
Toluene		<11	<11	<11
Chlorobenzene		<11	<11	<11
Ethylbenzene		<11	<11	<11
m-Xylene		<11	<11	<11
o,p-Xylene		<11	<11	<11
m-Dichlorobenzene		<22	<22	<22
o,p-Dichlorobenzene		<22	<22	<22

Petro Hydrocarbons		ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene		<1800	<1800	<1900
Gasoline		<1800	<1800	<1900
Diesel Fuel #2		<1800	<1800	<1900
Jet Fuel Jet A		<1800	<1800	<1900
Bunker Fuel #6D		<9200	<9100	<9600

Hole ID log	BH-17
Hole ID Survey	AP-2987
Sample # 90 FRUST	265 water

Volatile Organics	ug/l
EPA Method 602	
Benzene	420
Toluene	1300
Chlorobenzene	<0.4
Ethylbenzene	120
m-Xylene	460
o,p-Xylene	250
m-Dichlorobenzene	<0.8
o,p-Dichlorobenzene	120

Petro Hydrocarbons	ug/l
EPA method 8015mod	
K-1 Kerosene	<560
Gasoline	<560
Diesel Fuel #2	<560
Jet Fuel Jet A	<560
Bunker Fuel #6D	<2800

Building 908 S

	BH-18	BH-18	BH-18	BH-18	BH-18
Hole ID log	Ap-8988	Ap-8988	Ap-8988	Ap-8988	Ap-8988
Hole ID survey	120 soil	121 soil	122 soil	123 soil	
Sample ID 90FRUST	5-6.5	10-11.5	15-16.5	20-21.5	30
Sample depth feet	0	0	0	80	150
Hnu					

Volatiles Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<11	<11	<11	<140
Toluene	<11	<11	<11	<140
Chlorobenzene	<11	<11	<11	<140
Ethylbenzene	<11	<11	<11	<140
m-Xylene	<11	<11	<11	380
o,p-Xylene	<11	<11	<11	<140
m-Dichlorobenzene	<21	<22	<21	850
o,p-Dichlorobenzene	<21	<22	<21	<280

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<1800	<1900	<1800	<2400
Gasoline	<1800	<1900	<1800	<2400
Diesel Fuel #2	<1800	<1900	<1800	17000
Jet Fuel Jet A	<1800	<1900	<1800	<2400
Bunker Fuel #6D	<9000	<9300	<8900	<12000

BH-18 cont	BH-18	BH-18	BH-18	BH-18
Hole ID log	AP-2988	AP-2988	AP-2988	AP-2988
Hole ID survey	126 soil	127 soil	130 soil	131 soil
Sample ID 90FRUST	35-36.5	40-41.5	45-46.5	>50
Sample depth feet	100	170	20	8
Hnu				

Volatiles Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<540	<560	<54	<470
Toluene	<540	4100	<54	2100
Chlorobenzene	1400	6700	220	1100
Ethylbenzene	<540	<560	<54	<570
m-Xylene	4300	10000	720	1800
o,p-Xylene	<540	<2500	<54	1300
m-Dichlorobenzene	8400	5900	490	1300
o,p-Dichlorobenzene	11,000	8800	3000	6700

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<180000	<19000	18000	<1900
Gasoline	<180000	<19000	<18000	<1900
Diesel Fuel #2	<180000	<19000	1900000*	160000*
Jet Fuel Jet A	1200000	460000	<18000	<1900
Bunker Fuel #6D	<920000	94000	<92000	<9700

Building 908 S

Hole ID log	BH-19	BH-19	BH-19	BH-19	BH-19
Hole ID survey	AP-2989	AP-2989	AP-2989	AP-2989	AP-2989
Sample ID 90FRUST		132 soil			137 soil
Sample depth feet	surface	5-6.5	10	15	25-26.5
Hnu	Not Read	80	40	15	120

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<630	110
Toluene	2100	390
Chlorobenzene	2700	529
Ethylbenzene	750	120
m-Xylene	11000	1400
o.p-Xylene	18000	260
m-Dichlorobenzene	11000	2100
o,p-Dichlorobenzene	51000	9300

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<89000	<190000
Gasoline	<89000	<190000
Diesel Fuel #2	5,300,000*	1,800,000*
Jet Fuel Jet A	<89000	<190000
Bunker Fuel #6D	<450000	<930000

Hole ID log	BH-19	BH-19	BH-19	BH-19
Hole ID survey	AP-2989	AP-2989	AP-2989	AP-2989
Sample ID 90FRUST	138 soil	139 soil	141 soil	142 soil
Sample depth feet	30-30.5	35-36.5	45-46.5	>50
Hnu	50	<5	4	0

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<54	<11	<12	<11
Toluene	<54	<11	<12	<11
Chlorobenzene	45	<11	<12	<11
Ethylbenzene	<54	<11	<12	<11
m-Xylene	100	46	<12	<11
o.p-Xylene	54	13	<12	<11
m-Dichlorobenzene	210	120	<23	<22
o,p-Dichlorobenzene	1200	480	<23	<22

Petro Hydrocarbons	ug/kg	ug.kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<18000	<18000	<2000	<1900
Gasoline	<18000	<18000	<2000	<1900
Diesel Fuel #2	370000*	43000*	<2000	<1900
Jet Fuel Jet A	<18000	<18000	<2000	<1900
Bunker Fuel #6D	<91000	<92000	<9900	<9300

Note * Lab Estimate

Building 908 S

Hole ID log	BH-20	BH-20	BH-20	BH-20	BH20
Hole ID survey	AP-2990	AP-2990	AP-2990	AP-2990	AP-2990
Sample ID 90FRUST		143 soil	146 soil	147 soil	148 soil
Sample depth feet	Surface	5-6.5	10-11.5	15-16.5	20 21.5
Hnu	10	10	0	0	0

Volatile Organics	Not Read				
EPA Method 8020	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Benzene	<11	<11	<12	<11	
Toluene	<11	<11	<12	<11	
Chlorobenzene	<11	<11	<12	<11	
Ethylbenzene	<11	<11	<12	<11	
m-Xylene	<11	<11	<12	<11	
o.p-Xylene	<11	<11	<12	<11	
m-Dichlorobenzene	<21	<21	<24	<21	
o,p-Dichlorobenzene	<21	<21	<24	<21	

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<1800	<1800	<2000	<1800
Gasoline	<1800	<1800	<2000	<1800
Diesel Fuel #2	<1800	<1800	<2000	<1800
Jet Fuel Jet A	74000*	<1800	<2000	<1800
Bunker Fuel #6D	<8900	<9000	<10000	<9000

Hole ID log	BH20	BH20	BH20	BH-20
Hole ID survey	AP-2990	AP-2990	AP-2990	AP-8990
Sample ID 90FRUST	149 soil	150 soil	151 soil	152 soil
Sample depth feet	25-26.5	30-31.5	35-36.5	>40
Hnu	0	<1	0	0

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene	<12	<11	<11	<111
Toluene	<12	11	11	11
Chlorobenzene	<12	<11	<11	<11
Ethylbenzene	<12	<11	<11	<11
m-Xylene	<12	<11	<11	<11
o.p-Xylene	<12	<11	<11	<11
m-Dichlorobenzene	<24	<22	<22	<22
o,p-Dichlorobenzene	<24	<22	<22	<22

Petro Hydrocarbons	ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene	<2000	<1800	<1800	<1800
Gasoline	<2000	<1800	<1800	<1800
Diesel Fuel #2	<2000	<1800	<1800	<1800
Jet Fuel Jet A	<2000	<1800	<1800	<1800
Bunker Fuel #6D	<10000	<9100	<9100	<9100

Note lab estimate

Building 908 S

Hole ID log	BH-21	BH-21	BH-21	BH-21
Hole ID survey	AP-2991	AP-2991	AP-2991	AP-2991
Sample ID 90FRUST	153 soil		154 soil	156 soil
Sample depth feet	10	15	20-21.5	30-31.5
Hnu	0	0	0	0
Volatile Organics	na	na	ug/kg	ug/kg
EPA Method 8020				
Benzene			<11	<11
Toluene			12	11
Chlorobenzene			<11	<11
Ethylbenzene			<11	<11
m-Xylene			<11	<11
o,p-Xylene			<11	<11
m-Dichlorobenzene			<22	<22
o,p-Dichlorobenzene			<22	<22
Petro Hydrocarbons	na	na	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene			<1800	<1800
Gasoline			<1800	<1800
Diesel Fuel #2			<1800	<1800
Jet Fuel Jet A			<1800	<1800
Bunker Fuel #6D			<9100	<9200

Building 908 S

Hole ID log	BH-22	BH-22	BH-22	BH-22	BH-22
Hole ID survey	AP-2992	AP-2992	AP-2992	AP-2992	AP-2992
Sample ID 90FRUST		157 soil			160 soil
Sample depth feet	Surface	5-6.4	10	15	20-21.5
Hnu	0	0	0	0	0

Volatile Organics EPA Method 8020	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Benzene	na	<10	na	na	<11
Toluene		22			16
Chlorobenzene		<10			<11
Ethylbenzene		<10			<11
m-Xylene		<10			<11
o.p-Xylene		<10			<11
m-Dichlorobenzene		<21			<22
o,p-Dichlorobenzene		<21			<22

Petro Hydrocarbons EPA method 8015mod	na	ug/kg	na	na	ug/kg
K-1 Kerosene		<1800			<1800
Gasoline		<1800			<1800
Diesel Fuel #2		<1800			<1800
Jet Fuel Jet A		<1800			<1800
Bunker Fuel #6D		<8800			<9100

Hole ID log	BH-22	BH-22	BH-22	BH-22	BH-22
Hole ID survey	AP-2992	AP-2992	AP-2992	AP-2992	AP-2992
Sample ID 90FRUST			163 soil		165 soil
Sample depth feet	25	30	35-36.5	40,	45-46.5
Hnu	0	0	0	0	0

Volatile Organics EPA Method 8020	na	na	ug/kg	na	ug/kg
Benzene			<11		<11
Toluene			13		11
Chlorobenzene			<11		<11
Ethylbenzene			<11		<11
m-Xylene			<11		<11
o.p-Xylene			<11		<11
m-Dichlorobenzene			<22		<22
o,p-Dichlorobenzene			<22		<22

Petro Hydrocarbons EPA method 8015mod	na	na	ug/kg	na	ug/kg
K-1 Kerosene			<1800		<1800
Gasoline			<1800		<1800
Diesel Fuel #2			<1800		<1800
Jet Fuel Jet A			<1800		<1800
Bunker Fuel #6D			<9100		<9200

Building 908 N

Hole ID log	BH-23	BH-23	BH-23	BH-23	BH-23
Hole ID survey	AP-2993	AP-2993	AP-2993	AP-2993	AP-2993
Sample ID 90FRUST		166 soil	167 soil		170 soil
Sample depth feet	0-2	5-6.5	10-11.5	15	20-21.5
Hnu	3	10	150	100	20

Volatile Organics	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene		<12	<560		<11
Toluene		<12	<560		<11
Chlorobenzene		<12	<560		<11
Ethylbenzene		<12	<560		<11
m-Xylene		15	750		<11
o.p-Xylene		<12	<560		<11
m-Dichlorobenzene		52	1800		<22
o,p-Dichlorobenzene		<24	<100		<22

Petro Hydrocarbons		ug/kg	ug/kg		ug/kg
EPA method 8015mod					
K-1 Kerosene		<20000	<190000		<18000
Gasoline		<20000	<190000		<18000
Diesel Fuel #2		260000*	890000*		<18000
Jet Fuel Jet A		<20000	190000		<18000
Bunker Fuel #6D		<100000	190000		<91000

BH-23 continued					
Hole ID log	BH-23	BH-23	BH-23	BH-23	BH-23
Hole ID survey	AP-2993	AP-2993	AP-2993	AP-2993	AP-2993
Sample ID 90FRUST		172 soil	173 soil	174 soil	175 soil
Sample depth feet	25-26-5	30-31.5	35-36.5	40-41.5	45-46.5
Hnu	40	5	15	0	0

Volatile Organics		ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene		<11	<11	<11	<11
Toluene		<11	<11	<11	<11
Chlorobenzene		<11	<11	<11	<11
Ethylbenzene		<11	<11	<11	<11
m-Xylene		<11	<11	<11	<11
o.p-Xylene		<11	<11	<11	<11
m-Dichlorobenzene		<21	<22	<22	<21
o,p-Dichlorobenzene		<21	<22	<22	<21

Petro Hydrocarbons		ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod					
K-1 Kerosene		<1900	<1800	<1800	<1800
Gasoline		<1900	<1800	<1800	<1800
Diesel Fuel #2		<1900	<1800	<1800	<1800
Jet Fuel Jet A		<1900	<1800	<1800	<1800
Bunker Fuel #6D		<8900	<9200	<8900	<8900

Note * Lab Estimate

Building 908 N

Hole ID log	BH-24	BH-24	BH-24	BH-24	BH-24
Hole ID survey	AP-2994	AP-2994	AP-2994	AP-2994	AP-2994
Sample ID 90FRUST		176 soil		179 soil	180 soil
Sample depth feet	surface	5-6.5	10	15-16.5	20-21.5
Hnu	0	0	0	0	0

Volatile Organics		ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene		<10		<10	<11
Toluene		22		<10	<11
Chlorobenzene		<10		<10	<11
Ethylbenzene		<10		<10	<11
m-Xylene		<10		<10	<11
o.p-Xylene		<10		<10	<11
m-Dichlorobenzene		<21		<21	<21
o,p-Dichlorobenzene		<21		<21	<21

Petro Hydrocarbons		ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene		<1800		<1800
Gasoline		<1800		<1800
Diesel Fuel #2		<1800		<1800
Jet Fuel Jet A		<1800		<1800
Bunker Fuel #6D		<8700		<8900

BH-24 continued					
Hole ID log	BH-24	BH-24	BH-24		
Hole ID survey	AP-2994	AP-2994	AP-2994		
Sample ID 90FRUST		181 soil		183 soil	
Sample depth feet	25-26.5	30-31.5	35-36.5		
Hnu	0	0	0		

Volatile Organics		ug/kg	ug/kg
EPA Method 8020			
Benzene	NA		<11
Toluene			<11
Chlorobenzene			<11
Ethylbenzene			<11
m-Xylene			<11
o.p-Xylene			<11
m-Dichlorobenzene			<21
o,p-Dichlorobenzene			<21

Petro Hydrocarbons		ug/kg
EPA method 8015mod		
K-1 Kerosene		<1900
Gasoline		<1900
Diesel Fuel #2		<1900
Jet Fuel Jet A		<1900
Bunker Fuel #6D		<9400

Building 908 N

Hole ID log	BH-25	BH-25	BH-25	BH-25	BH-25
Hole ID survey	AP-2995	AP-2995	AP-2995	AP-2995	AP-2995
Sample ID 90FRUST	184 soil		186 soil	187 soil	188 soil
Sample depth feet	5-10.5	10	20-21.5	25-26.5	30-31.5
Hnu	20	50	10	2	0

Volatile Organics	ug/kg	na	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene	<10		<10	<10	<11
Toluene	<10		<10	<10	<11
Chlorobenzene	<10		<10	<10	<11
Ethylbenzene	<110		<10	<10	<11
m-Xylene	22		<10	<10	<11
o.p-Xylene	<10		<10	<10	<11
m-Dichlorobenzene	45		<21	<21	<21
o,p-Dichlorobenzene	<21		<21	<21	<21

Petro Hydrocarbons	ug/kg	na	na	ug/kg	uf/kg
EPA method 8015mod					
K-1 Kerosene	<18000			<1899	<11800
Gasoline	<18000			<1800	<1800
Diesel Fuel #2	180,000*			2700*	<1800
Jet Fuel Jet A	<18000			<1800	<1800
Bunker Fuel #6D	<898000			<8900	<9000

Hole ID log	BH-25	BH-25
Hole ID survey	AP-2995	AP-2995
Sample ID 90FRUST	190 soil	191 soil
Sample depth feet	35-36.5	>40
Hnu	0	0

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<11	<11
Toluene	<11	<11
Chlorobenzene	<11	<11
Ethylbenzene	<11	<11
m-Xylene	<11	<11
o.p-Xylene	<11	<11
m-Dichlorobenzene	<22	<21
o,p-Dichlorobenzene	<22	<21

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<1800	<1800
Gasoline	<1800	<1800
Diesel Fuel #2	<1800	<1800
Jet Fuel Jet A	<1800	<1800
Bunker Fuel #6D	<9100	<9000

Building 908 N

	BH-26	BH-26	BH-26	BH-26	BH-26
Hole ID log	BH-26	BH-26	BH-26	BH-26	BH-26
Hole ID survey	AP-2996	AP-2996	AP-2996	AP-2996	AP-2996
Sample ID 90FRUST		192 soil	193 soil	195 soil	196 soil
Sample depth feet	surface	5-6.5	10-11.5	15	20
Hnu	10	0	0	0	0

Volatile Organics EPA Method 8020	ug/kg	ug/kg	ug/kg	ug/kg
Benzene	<10	<11		<11
Toluene	<10	<11		<11
Chlorobenzene	<10	<11		<11
Ethylbenzene	<10	<11		<11
m-Xylene	<10	<11		<11
o.p-Xylene	<10	<11		<11
m-Dichlorobenzene	<21	<22		<23
o,p-Dichlorobenzene	<21	<22		<23

Petro Hydrocarbons EPA method 8015mod	ug/kg	ug/kg	ug/kg	ug/kg
K-1 Kerosene	<1800	<1800		<1900
Gasoline	<1800	<1800		<1900
Diesel Fuel #2	<1800	<1800		<1900
Jet Fuel Jet A	<1800	<1800		<1900
Bunker Fuel #6D	<8800	<9100		<10000

BH-26 continued

	BH-26	BH-26	BH-26
Hole ID log	BH-26	BH-26	BH-26
Hole ID survey	AP-2996	AP-2996	AP-2996
Sample ID 90FRUST	199 soil	201 soil	202 soil
Sample depth feet	35-36.5	40-41.5	45-46.5
Hnu	10	0	0

Volatile Organics EPA Method 8020	ug/kg	ug/kg	ug/kg
Benzene	<11	<11	<11
Toluene	<11	15	<11
Chlorobenzene	<11	<11	<11
Ethylbenzene	<11	<11	<11
m-Xylene	<11	<11	<11
o.p-Xylene	<11	<11	<11
m-Dichlorobenzene	<22	<22	<22
o,p-Dichlorobenzene	<22	<22	<22

Petro Hydrocarbons EPA method 8015mod	ug/kg	ug/kg	ug/kg
K-1 Kerosene	<1900	<1800	<1800
Gasoline	<1900	<1800	<1800
Diesel Fuel #2	<1900	<1800	<1800
Jet Fuel Jet A	<1900	<1800	<1800
Bunker Fuel #6D	<9300	<9200	<9200

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Hole ID log	BH-27	BH-27	BH-27	BH-27
Hole ID survey	AP-2997	AP-2997	AP-2997	AP-2997
Sample ID 90FRUST		203 soil		207 soil
Sample depth feet	surface	5-6.5	10-25	30-31.5
Hnu	0	0	0	0

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<11	<11
Toluene	<11	<11
Chlorobenzene	<11	<11
Ethylbenzene	<11	<11
m-Xylene	<11	<11
o.p-Xylene	<11	<11
m-Dichlorobenzene	<22	<22
o,p-Dichlorobenzene	<22	<22

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<18000	<1800
Gasoline	<18000	<1800
Diesel Fuel #2	<18000	<1800
Jet Fuel Jet A	<18000	<1800
Bunker Fuel #6D	<92000	<9100

Buiding 55804

Hole ID log	BH-28	BH-28	BH-28	BH-28	BH-28
Hole ID survey	AP-2998	AP-2998	AP-2998	AP-2998	AP-2998
Sample ID 90FRUST			209 soil		210 soil
Sample depth feet	surface	5-6.5	10.1.5	15	20-21.5
Hnu	0	0	0	0	0

Volatile Organics

EPA Method 8020

Benzene

Toluene

Chlorobenzene

Ethylbenzene

m-Xylene

o.p-Xylene

m-Dichlorobenzene

o,p-Dichlorobenzene

ug /kg

ug/kg

<11

<12

<11

13

<11

[<12

<11

<12

<11

<12

<11

<12

<23

<23

<23

<23

Petro Hydrocarbons

EPA method 8015mod

K-1 Kerosene

Gasoline

Diesel Fuel #2

Jet Fuel Jet A

Bunker Fuel #6D

ug/kg

ug/kg

<1900

<2000

<1900

<2000

<1900

<2000

<1900

<2000

<9700

<9900

BH-28 continued

Hole ID log

Hole ID survey

Sample ID 90FRUST

Sample depth feet

Hnu

BH-28

AP-2998

211 soil

25-26.5

0

Volatile Organics

EPA Method 8020

Benzene

Toluene

Chlorobenzene

Ethylbenzene

m-Xylene

o.p-Xylene

m-Dichlorobenzene

o,p-Dichlorobenzene

ug/kg

<12

19

<12

<12

<12

<12

<24

<24

Petro Hydrocarbons

EPA method 8015mod

K-1 Kerosene

Gasoline

Diesel Fuel #2

Jet Fuel Jet A

Bunker Fuel #6D

ug/kg

<2000

<2000

<2000

<2000

<10000

BUILDING 55804

Hole ID log	BH-29	BH-29	BH-29	BH-29
Hole ID survey	AP-2999	AP-2999	AP-2999	AP-2999
Sample ID 90FRUST		214 soil	215 soil	216 soil
Sample depth feet	5	9-10.5	14-15.5	19-20.5
Hnu	0	30	0	0

Volatile Organics		ug/kg	ug/kg	ug/kg
EPA Method 8020				
Benzene		680	<12	<12
Toluene		700	<12	<12
Chlorobenzene		400	<12	<12
Ethylbenzene		500	<12	<12
m-Xylene		1300	<12	16
o,p-Xylene		540	<12	<12
m-Dichlorobenzene		1300	<23	<23
o,p-Dichlorobenzene		<230	<23	<23

Petro Hydrocarbons		ug/kg	ug/kg	ug/kg
EPA method 8015mod				
K-1 Kerosene		<19000	<2000	<1800
Gasoline		<19000	<2000	<1800
Diesel Fuel #2		<19000	<2000	<1800
Jet Fuel Jet A		430000*	<2000	<1800
Bunker Fuel #6D		<97000	<9900	<9100

BH-29 continued			
Hole ID log	BH-29	BH-29	
Hole ID survey	AP-2999	AP-2999	
Sample ID 90FRUST	217 soil	218 soil	
Sample depth feet	24-25.4	29-30.5	
Hnu	0	0	

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<11	<11
Toluene	<11	<11
Chlorobenzene	<11	<11
Ethylbenzene	<11	<11
m-Xylene	<11	<11
o,p-Xylene	<11	<11
m-Dichlorobenzene	<22	<22
o,p-Dichlorobenzene	<22	<22

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<1800	<1800
Gasoline	<1800	<1800
Diesel Fuel #2	<1800	<1800
Jet Fuel Jet A	<1800	<1800
Bunker Fuel #6D	<9100	<9300

Note * Lab Estimate

Building 55804

Hole ID log	BH-30	BH-30	BH-30	BH-30	BH-30
Hole ID survey	AP-3000	AP-3000	AP-3000	AP-3000	AP-3000
Sample ID 90FRUST	220 soil	221 soil	222 soil	224 soil	225 soil
Sample depth feet	4-5.5	9-10.5	9-10.5	14-15.5	19-20.5
Hnu	0	15	15	0	16

Volatile Organics	NA	ug/kg	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene		52*	<590	<11	<12
Toluene		22*	110*	<11	<12
Chlorobenzene		<120	200*	<11	<12
Ethylbenzene		190	210*	<11	<12
m-Xylene		230	1100	<11	<12
o,p-Xylene		180	150*	<11	<12
m-Dichlorobenzene		<240	<1200	<23	<23
o,p-Dichlorobenzene		<240	<1200	<23	<23

Petro Hydrocarbons		ug/kg	ug/kg	ug/kg	ug/kg
EPA method 8015mod					
K-1 Kerosene		<20000	<20000	<1900	<2000
Gasoline		<20000	<20000	<1900	<2000
Diesel Fuel #2		<20000	<20000	<1900	<2000
Jet Fuel Jet A		610000*	400000*	<1900	<2000
Bunker Fuel #6D		<10000	<1000	<9700	<9800

Hole ID log	BH-30	BH-30
Hole ID survey	AP-3000	AP-3000
Sample ID 90FRUST	226 soil	27soil
Sample depth feet	24-25.5	29-30.5
Hnu	0	0

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<11	<11
Toluene	<11	<11
Chlorobenzene	<11	<11
Ethylbenzene	<11	<11
m-Xylene	<11	<11
o,p-Xylene	<11	<11
m-Dichlorobenzene	<22	<22
o,p-Dichlorobenzene	<22	<22

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<1800	<1900
Gasoline	<1800	<1900
Diesel Fuel #2	<1800	<1900
Jet Fuel Jet A	<1800	<1900
Bunker Fuel #6D	<9200	<9600

Note * Lab Estimate

Building 55804

Hole ID log	BH-31	BH-31	BH-31	BH-31	BH-31
Hole ID survey	AP-3001	AP-3001	AP-3001	AP-3001	AP-3001
Sample ID 90FRUST		230 soil	231 soil	232 soil	233 soil
Sample depth feet	surface	4-5.5	9-10.5	14-15.5	19-20.5
Hnu	0	0	35	3	0

Volatile Organics	na	na	ug/kg	ug/kg	ug/kg
EPA Method 8020					
Benzene			<12	<12	<12
Toluene			<12	<12	17
Chlorobenzene			<12	<12	<12
Ethylbenzene			<12	<12	<12
m-Xylene			<12	<12	<12
o.p-Xylene			<12	<12	<12
m-Dichlorobenzene			<23	<23	<23
o,p-Dichlorobenzene			<23	<23	<23

Petro Hydrocarbons			ug/kg	ug/kg	ug/kg
EPA method 8015mod					
K-1 Kerosene			<2000	<2000	<2000
Gasoline			<2000	<2000	<2000
Diesel Fuel #2			<2000	<2000	<2000
Jet Fuel Jet A			<2000	<2000	<2000
Bunker Fuel #6D			<9900	<9900	<9900

BH-31 continued

Hole ID log	BH-31	BH-31
Hole ID survey	AP-3001	AP-3001
Sample ID 90FRUST	234 soil	235 soil
Sample depth feet	24-25.5	29-30.5
Hnu	0	0

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<12	<12
Toluene	28	15
Chlorobenzene	<12	<12
Ethylbenzene	<12	<12
m-Xylene	15	<12
o.p-Xylene	<12	<12
m-Dichlorobenzene	<24	<24
o,p-Dichlorobenzene	<24	<24

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<2100	<1900
Gasoline	<2100	<1900
Diesel Fuel #2	<2100	<1900
Jet Fuel Jet A	<2100	<1900
Bunker Fuel #6D	<10000	<9700

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Hole ID log	BH-32	BH-32	BH-32	BH-32
Hole ID survey	AP-3002	AP-3002	AP-3002	AP-3002
Sample ID 90FRUST		237 soil	238 soil	240 soil
Sample depth feet	surface	4-5.5	9-10.5	14-15.5
Hnu	0	10	250	3

Volatile Organics		ug/kg	ug/kg
EPA Method 8020			
Benzene		<23	<12
Toluene		87	13
Chlorobenzene		490	<12
Ethylbenzene		940	<12
m-Xylene		2800	<12
o.p-Xylene		790	<12
m-Dichlorobenzene		940	<24
o,p-Dichlorobenzene		2000	<24

Petro Hydrocarbons		ug/kg	ug/kg
EPA method 8015mod			
K-1 Kerosene		<2000	<2000
Gasoline		<2000	<2000
Diesel Fuel #2		<2000	<2000
Jet Fuel Jet A		1400*	<2000
Bunker Fuel #6D		<9900	<10000

BH-32 continued				
Hole ID log	BH-32	BH-32	BH-32	
Hole ID survey	AP-3002	AP-3002	AP-3002	
Sample ID 90FRUST		242 soil	243 soil	244 soil
Sample depth feet	19-20.5	24-25.5	29.30.5	
Hnu	0	0	0	

Volatile Organics	ug/kg	ug/kg
EPA Method 8020		
Benzene	<11	<11
Toluene	37	<11
Chlorobenzene	<11	<11
Ethylbenzene	<11	<11
m-Xylene	24	<11
o.p-Xylene	<11	<11
m-Dichlorobenzene	<23	<23
o,p-Dichlorobenzene	<23	<23

Petro Hydrocarbons	ug/kg	ug/kg
EPA method 8015mod		
K-1 Kerosene	<2000	<1900
Gasoline	<2000	<1900
Diesel Fuel #2	<2000	<1900
Jet Fuel Jet A	<2000	<1900
Bunker Fuel #6D	<9800	<9700

Note * Lab Estimate

Building 55804

Hole ID log	BH-33	BH-33	BH-33	BH-33
Hole ID survey	AP-3003	AP-3003	AP-3003	AP-3003
Sample ID 90FRUST		245 soil	246 soil	248 soil
Sample depth feet	surface	4-5.5	9-10.5	14-15.5
Hnu	0	0	0	0

Volatile Organics		ug/kg	ug/kg
EPA Method 8020			
Benzene		<11	<11
Toluene		42	<11
Chlorobenzene		<11	<11
Ethylbenzene		<11	<11
m-Xylene		32	<11
o,p-Xylene		16	<11
m-Dichlorobenzene		<23	<23
o,p-Dichlorobenzene		<23	<23

Petro Hydrocarbons		ug/kg	ug/kg
EPA method 8015mod			
K-1 Kerosene		<2000	<2000
Gasoline		<2000	<2000
Diesel Fuel #2		<2000	<2000
Jet Fuel Jet A		<2000	<2000
Bunker Fuel #6D		<9800	<9800