



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

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FAIRBANKS

February 23, 1999

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MAR 1 1999

DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Reply To:
Attn Of: ECL-115

Roy Ashenfelter, President
White Mountain Native Corporation
P.O. Box 81
White Mountain, Alaska 99784

Re: White Mountain National Guard Site Preliminary Assessment

Dear Mr. Ashenfelter:

The U.S. Environmental Protection Agency (EPA), through its contractor, Ecology & Environment, Inc., has completed the Preliminary Assessment of the White Mountain National Guard site. A copy of the report is enclosed.

Based on this Preliminary Assessment and other pertinent information, EPA does not anticipate further investigation under the Federal Superfund Program. However, you should be aware that this site may still be subject to compliance with any appropriate Alaska state regulations.

If you have any questions regarding this matter, you can contact me at (206) 553-3271.

Sincerely,

John Meyer
Site Assessment Manager

Enclosure

cc: Bob Chivvis U.S. Army Corps of Engineers
John Halverson, ADEC
Bill Janes, ADEC

BRUCE W. HARRIS

MAR 9 1988

CONSTITUTION
PREF
NEW YORK

R E C E I V E D

MAR 1 1999

TRIP REPORT

**DEPARTMENT OF
ENVIRONMENTAL CONSERVATION**

DATE: October 20, 1998
TO: John Meyer, Task Monitor, EPA, Mail Stop FCL-115
FROM: Len Marcus, Project Manager, E & E, Anchorage, AK
SUBJ: White Mountain National Guard Site
REF: TDD 97-02-0010

Place Visited:

White Mountain National Guard Site
White Mountain, Alaska 99784
Latitude/Longitude: 64°41' N 163°24' W
Legal Description: Section 26, Township 9 South, Range 24 West, Kateel River Meridian

Purpose of Trip:

The purpose of the trip was to conduct a Preliminary Assessment (PA) of the White Mountain National Guard site to determine the potential threat to public health or the environment posed by the site, the potential release of hazardous substances from the site, and potential placement of the site on the National Priorities List.

Persons Responding:

Len Marcus, Project Manager
Tim Mayers
E & E, Anchorage, Alaska (907) 257-5000

Site Owners:

White Mountain Native Corporation
P.O. Box 81
White Mountain, Alaska 99784
(907) 638-3651

Persons Contacted:

Roy Ashenfelter, President
White Mountain Native Corporation
P.O. Box 81
White Mountain, Alaska 99784
(907) 638-3651

Persons Contacted (cont'd):

Dan Harrelson, Mayor
Edith Lincoln, City Clerk
Ed Titus, Water Plant Operator
City of White Mountain
P.O. Box 130
(907) 638-3411-
White Mountain, Alaska 99784

Lucy Ione
Director's Assistant
White Mountain IRA Council
P.O. Box 84682
(907) 638-3657
White Mountain, Alaska 99784

Bob Chivvis: (907) 753-5782 (United States Army Engineer District, Alaska [USAED Alaska])
Colt Denfeld: (907) 753-5654 (USAED Alaska)
John Halverson: (907) 269-7545 (Alaska Department of Environmental Conservation [ADEC])

Date of Trip:

August 12, 1998

BACKGROUND

White Mountain (population 193) is located on the Seward Peninsula approximately 63 miles east of Nome, Alaska. The city is on the north bank of the Fish River, near the head of Golovin Lagoon in the north-central portion of Norton Sound (see Figure 1). The White Mountain National Guard site is located within a black spruce forest on the northwest edge of the city, between the airstrip and the city (see Figure 2).

The White Mountain National Guard site is named for a National Guard armory that operated in White Mountain from 1959 to 1968. The site, consisting of 0.44 acre, was obtained by the Department of the Army (DOA) under a use permit from the Council of the Native Village of White Mountain (USAED Alaska 1992). Improvements to the site consisted of a prefabricated scout armory building (USAED Alaska 1992). The site was transferred to the Bureau of Indian Affairs (BIA) in 1968 following relocation of the armory to Nulato, Alaska, and subsequently was conveyed to the White Mountain Native Corporation pursuant to the Alaska Native Claims Settlement Act of 1971 (USAED Alaska 1992). The site property is currently owned by the White Mountain Native Corporation (Ashenfelter 1998).

File information and historical knowledge about the White Mountain National Guard site is limited, and no information concerning specific activities conducted at the armory could be located. Armories can be used for various functions, including offices, training, ammunition storage, and community centers (Denfeld 1998). A DOA map (DOA 1960) and village residents interviewed by the Superfund Technical Assessment and Response Team (START) indicated that the armory building was within the city, but the exact location could not be determined during the START site visit. White Mountain residents believe that the armory building was not occupied regularly, but rather used periodically for National Guard functions.

Following National Guard use, the armory building reportedly was used as a school dormitory. There are conflicting reports regarding the building's eventual status, with some residents believing that the building was removed and others indicating that it had been renovated and expanded over time and may be in current use in the city. Hazardous substance usage at the armory likely included heating oil or fuel for building heating purposes, but building maintenance or armory activities may have involved the use of other hazardous materials.

The White Mountain National Guard site was identified as a potential Defense Environmental Restoration Program (DERP) project through USAED Alaska property holding records (USAED Alaska 1992). The site was listed because approximately 1,000 empty drums were found in White Mountain (see Figure 2). USAED Alaska investigated the White Mountain National Guard site in 1985 and 1986. During a 1986 site visit, USAED Alaska inspected the estimated 1,000 drums and collected two composite soil samples at the drum site (USAED Alaska 1987). The only contaminants detected were polynuclear aromatics (PNAs) at 5 parts per million. Approximately 20% of the drums (200) were checked and determined to be empty. Based on the checked drums and background information, all drums were assumed empty.

The drums, noted to bear military markings, first were thought to have been used by the military in White Mountain. However, according to USAED Alaska documents, the drums eventually were attributed to the BIA regional school that operated in White Mountain from 1948 to 1955 (USAED Alaska 1992). A USAED Alaska document states that fuel in drums for the BIA school and National Guard armory was delivered by the United States Department of Defense (DOD) from 1942 to 1950 (USAED Alaska 1987). While noting that the drums originally may have been produced by or for the military, the USAED Alaska documents mention that there is no evidence of military usage of the drums and acknowledge that National Guard activities could not have produced such a large number of drums. As the drums were used at the BIA school, they were moved empty to their present location. Because the BIA school was apparently the owner and generator of the drums, USAED Alaska concluded that there was no hazardous or toxic waste, ordnance, or unsafe debris at the site as a result of DOD activities and that the site did not qualify for cleanup or restoration under DERP (USAED Alaska 1992). Based on USAED file information, all of the drums at the site are believed to have contained fuel.

START ACTIONS

The START performed a site visit as part of a PA on August 12, 1998. Based on USAED Alaska file information, the PA focused on investigating the drum site. Before the site visit, the START reviewed USAED Alaska files and aerial photographs of the site. Access to the site was granted by Mr. Roy Ashenfelter, president of White Mountain Native Corporation (the landowner in White Mountain). The START met with city and Native council representatives while in White Mountain (see Persons Contacted section). Photo documentation of the START site visit is provided as Attachment A.

The START viewed the drum site. The approximately 1,000 55-gallon drums are located in multiple groups within an approximately 4-acre, lightly forested area. All of the drums are above ground, and no signs of buried drums were noted. The drum area is on the northeast edge of the city, approximately 800 feet from the Fish River (see Figure 2). The terrain of the drum area slopes gently southward toward the city. An all-terrain vehicle dirt road runs through the drum area, with approximately 25% of the drums on the west side of the road and the rest on the east side (see Figure 3). USAED Alaska file photographs and historic aerial photographs indicate that the drums originally existed in neat stacks at this location (AeroMap 1972). Over the years, the stacks have fallen or have been disturbed; as a result, the site now consists of smaller stacks or piles each typically with individual drums scattered loosely around. No other signs of hazardous substance sources or contamination were noted in the drum site vicinity.

The START inspected approximately 75% of the drums, and "sounded" them for contents by hitting a side or top. Virtually all checked drums appeared empty, though very few (approximately 10-20) contained a small amount (estimated to be an inch or two on the bottom) of liquid. All of the drums appeared to be bung-top types with the bungs still in place on most of the drums. No visible signs of leakage or contamination, including stressed vegetation, were observed coming from the drums or on the surrounding ground. Stamped markings noticed on some drums included (individually) *U.S. Navy, Aviation Oil, USAQMC*, and *Property Air Force U.S. Army*. No other markings indicating contents or origin were observed, and all of the drums appeared generally intact (not crushed or substantially dented), although many appeared rusty and some showed signs of rust holes. Because of missing bungs and rust holes, rainwater or snowmelt can be expected to have collected inside some drums, and this may have been the source of the small amounts of liquid detected by START in a few of the drums.

Eight locations among the drum piles were selected for individual surface soil sample collection (locations SS01 to SS08; see Figure 3). The sampling locations were considered representative of the grouping and size of the drum piles. Each drum pile where sampling occurred typically contained 10 to 75 drums. Sample collection was biased, where possible, toward a downgradient side of the drum group or from in front of a drum (or drums) that had missing bungs. Samples were collected from within 1 to 2 feet of a drum pile and from within the top 4 inches of soil. The surface soil in the drum site area was composed of fine or sandy dirt with a high percentage of organic matter (mainly roots) and occasional small rocks. Sampling location coordinates were determined with a Garmin GPS 45XL Personal Navigator Global Positioning System unit with a position accuracy of 49 feet (see Table 1 for coordinates).

To identify whether drum contaminants potentially had impacted the groundwater, the START collected a groundwater sample from the city's well. The START met with the city's water plant operator to gain access to the city's water treatment plant. The water treatment plant is in a room inside the city's washeteria building (see Figure 2). Water pumped from a well several hundred feet east and upgradient of the washeteria is piped to the treatment plant for chlorine and fluoride treatment, followed by distribution. Most of the city residents obtain their domestic-use water from the well; a few residences obtain their water from Fish River. The START was informed that the city well used to be located at the washeteria building but was abandoned because of fuel contamination in the water. The fuel contamination is believed to have resulted from fuel spills at the washeteria's above ground, 500-gallon diesel storage tank. The drum site lies approximately 1,800 feet northwest of the washeteria/well. The START collected water sample WA01 inside the water plant room from a valve in the pretreatment portion of the plant's plumbing. The water was allowed to run for several minutes prior to sample collection.

Drum site soil samples were analyzed for polynuclear aromatic hydrocarbons (PAHs; EPA Method 8270 short list), polychlorinated biphenyls (PCBs; EPA Method 8081), and total petroleum hydrocarbons (TPHs; EPA Method 418.1). The water sample was analyzed for these parameters as well as volatile organic compounds (VOCs; EPA Method 8240).

Substances that were detected and the reported concentrations are presented in Table 1. A list of all compounds analyzed for is presented in Attachment B. The only compound detected in drum site soil samples was TPHs, detected in six of the eight samples. PCBs and PAHs were not detected in any of the samples. The PNA detections obtained by USAED Alaska in their 1986 site visit were not detected in the PAH analysis, which includes many PNA compounds. The only compounds detected in the well water sample were two VOCs: bromoform and dibromochloromethane. The laboratory analytical report is in Attachment C. The analytical data have not been validated.

Following review of the sample results, the START contacted several parties to inquire more about the city's water treatment plant and sampling program. START learned that treated well water is tested for

total coliform bacteria monthly, VOCs annually, lead and copper every three years, and other organic and inorganic parameters on a varying basis. The same two VOCs detected in the START sample have been detected in annual VOC testing of treated water for at least the past two years, and at concentrations very similar to those found by START (Johnson 1998). Upon inquiring further into the water treatment plant design, START learned that backdraining of treated water in the system's piping could pass to a check valve or flow restrictor device located before the "pretreatment" valve from which the START obtained a sample, essentially allowing treated water (or a mixture of treated and untreated water) to occur at that valve. In a follow-up telephone call, the water plant operator noticed an apparent backdrain prevention device in-line before the valve that the START obtained a sample from, thus making it likely that the presumed pretreatment sample obtained by the START actually was a treated water sample.

The START discussed the water sampling results with an ADEC Drinking Water and Wastewater Program representative who is familiar with compiling and reviewing water test data from White Mountain and other villages. The ADEC representative is aware of these compounds in the White Mountain drinking water, acknowledged that the detected compounds are known to be generated by the water chlorination process (or may be an artifact of saltwater presence in the groundwater), and reported that the detected concentrations are below a level of concern (Johnson 1998). ADEC reported that untreated water sample results were not available for comparison to the START sample results (Johnson 1998).

EPA drinking water maximum contaminant levels (MCLs) have not been established for the two detected VOCs. The two VOCs are below a guidance threshold for total trihalomethanes (which includes the two detected compounds) followed by ADEC's Drinking Water and Waste Water Program (Johnson 1998).

CONCLUSION

Soil samples collected from the drum area revealed TPHs as the only detected contaminant. TPHs could be expected to be present if drum leakage had occurred, as the drums reportedly held fuels. However, no visual signs of spillage or contamination (soil discoloration, stressed vegetation, or evidence of leakage on the drums) was noted by the START. The detected concentrations are relatively low for a petroleum-impacted area, but could be considered representative of this type of contamination given the aged, degraded state of any spillage. Although not a conclusive indication, the detected TPHs concentrations are low enough such that the petroleum fractions regulated by the State of Alaska (gasoline range, diesel range, and residual range organics) may not be present at regulated concentrations (TPHs concentrations alone are not regulated). Certain organic matter (vegetation) can exhibit low concentrations of petroleum compounds under laboratory analysis, and this could be the source of the TPHs detections. No other sources of hazardous substance contamination or waste were noted in the drum area. Based on the PA results, EPA-regulated non-petroleum soil contamination does not appear to be present, although ADEC-regulated petroleum contamination possibly may be present.

Based on the PA findings, the drums are considered to be nonhazardous debris. If drum handling or removal occurs, however, any residual amounts of fuel in the drums may have to be treated as a hazardous material. Representatives of White Mountain have stated to the START their desire to have the empty drums removed. As there was no documented release of hazardous constituents contained in the site files and EPA-regulated contaminants were not detected under the PA at the drum site, it appears that no further action for the drums under the Comprehensive Environmental Response, Compensation and Liability Act is warranted at this time.

The actual National Guard armory building or property could not be located to be inspected or sampled. Although very limited, information regarding the armory building or property does not indicate

the potential for a contamination problem.

As discussed above, the two detected VOCs are recognized as water treatment-related by-products, and have been detected regularly in treated White Mountain water samples and at the same approximate levels as those found in the START sample. ADEC is aware of these detections in the White Mountain water and has indicated that for now the detected VOCs are not considered a substantial health concern. ADEC is maintaining involvement in the drinking water issue at White Mountain, and further EPA involvement in this matter is not believed necessary at this time.

REFERENCES

- AeroMap U.S., June 12, 1972, White Mountain aerial photograph, exposure no.1-4, roll no. 72-10NP; Anchorage, Alaska.
- Alaska Department of Environmental Conservation, 1996, 18 AAC 70, *Water Quality Standards and 18 AAC 75, Oil and Hazardous Substances Pollution Control Regulations, Cleanup Standards, Public Review Draft, December 18, 1996*, Juneau, Alaska.
- Ashenfelter, Roy, August 5, 1998, President, White Mountain Native Corporation. Telephone conversation with Len Marcus, Ecology and Environment, Inc, Anchorage, Alaska, regarding the site property and history.
- Denfeld, Colt, September 22, 1998, U.S. Army Engineers District, Alaska, historian. Telephone conversation with Len Marcus, Ecology and Environment, Inc, Anchorage, Alaska, regarding National Guard armory functions.
- Department of the Army, July 28, 1960, Map Title: Real Estate, White Mountain National Guard Site, Military Reservation, Drawing No. A2-48-29. Office of the Alaska District Engineer, North Pacific Division.
- Johnson, Lee, October 7, 1998, Alaska Department of Environmental Conservation, Drinking Water and Wastewater Program, Fairbanks, Alaska. Telephone conversation with Len Marcus, Ecology and Environment, Inc., Anchorage, Alaska, regarding White Mountain water treatment system and water sampling program.
- United States Army Engineer District, Alaska (USAED Alaska), September 8, 1992, *Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS); Inventory Project Report (INPR) for Site No. F10AK027000, White Mountain National Guard Site, White Mountain, Alaska*, Department of the Army, North Pacific Division, Corps of Engineers, Portland, Oregon.
- _____, June 4, 1987 (date on Military Construction Project Data form), *Defense Environmental Restoration Program (DERP); White Mountain National Guard Site, Alaska, Project No. F10AK000270, Seward Peninsula, Alaska*, Department of the Army, North Pacific Division, Corps of Engineers, Portland, Oregon.

Table 1

**ANALYTICAL DATA SUMMARY
WHITE MOUNTAIN NATIONAL GUARD SITE
WHITE MOUNTAIN, ALASKA**

Sample Location:	SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08	WA01
Description:	Surface Soil Near Drums	Surface Soil Near Drums	Surface Soil Near Drums	Surface Soil Near Drums	Surface Soil Near Drums	Surface Soil Near Drums	Surface Soil Near Drums	Surface Soil Near Drums	City's Well Water
Global Positioning System Coordinates:	N64° 41.010 W163° 24.601	N64° 41.029 W163° 24.595	N64° 41.003 W163° 24.521	N64° 41.021 W163° 24.573	N64° 40.995 W163° 24.528	N64° 41.020 W163° 24.544	N64° 40.996 W163° 24.554	N64° 40.993 W163° 24.551	No reading taken
Total Petroleum Hydrocarbons (mg/kg)	33 U	80	550	69	83 U	72	63	120	0.5 mg/L U
Volatile Organic Compounds (µg/kg)									
Dibromolorm	NA	NA	NA	NA	NA	NA	NA	NA	7 µg/L
Dibromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	4 µg/L
Polynuclear Aromatic Hydrocarbons (µg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (µg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	ND

Note: The data have not been validated.

Bold entries – the analyte was detected.

Key

µg/kg = Micrograms per kilogram.

µg/L = Micrograms per liter.

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

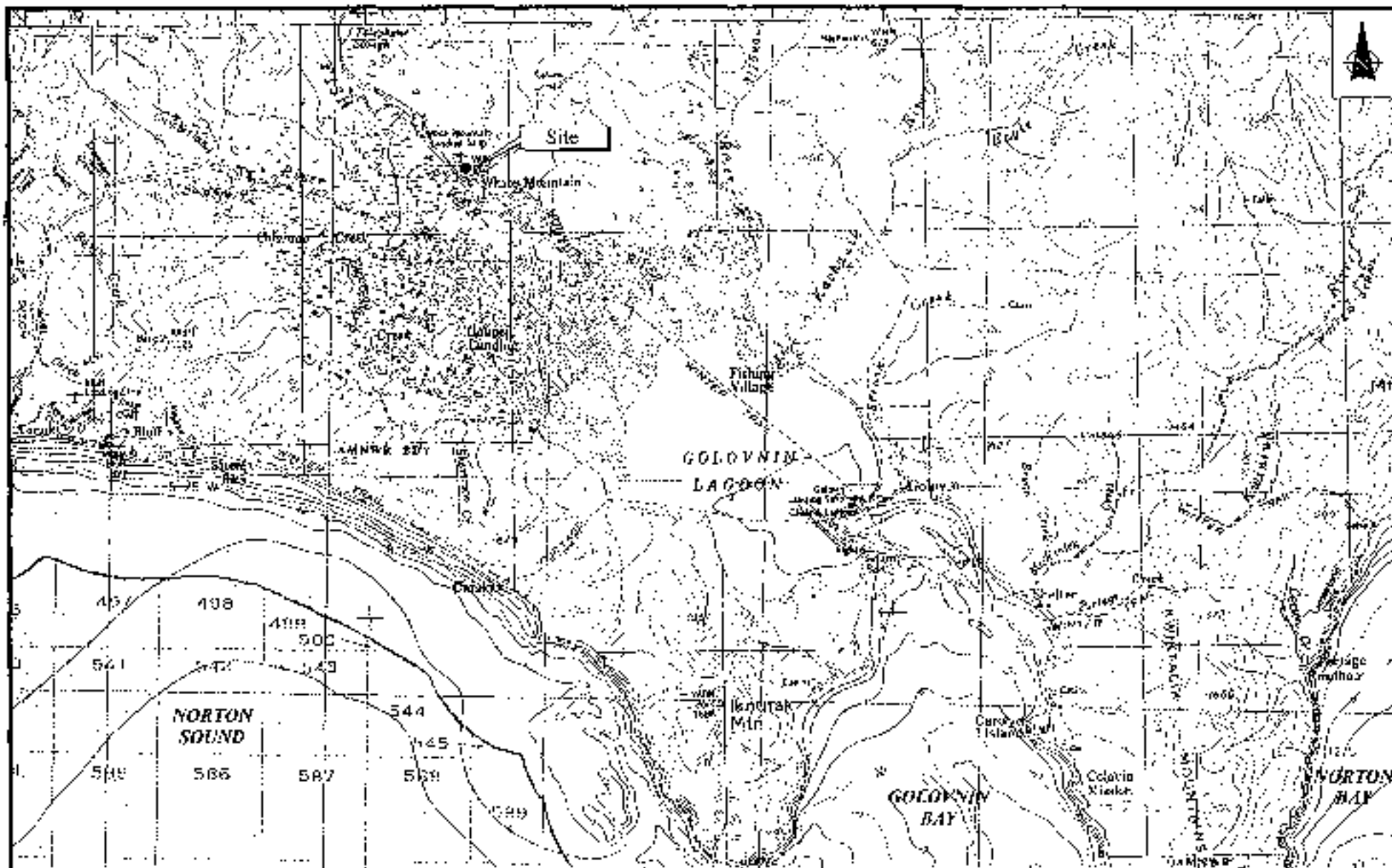
NA = Not analyzed.

ND = Not detected.

SS = Surface soil.

U = The material was analyzed for but not detected. The associated numerical value is the sample quantitation limit.

WA = Water.



ecology and environment, inc.
 International Specialists in the Environment
 Anchorage, Alaska

WHITE MOUNTAIN NATIONAL GUARD
 White Mountain, Alaska

BASE MAP REFERENCE:
 USGS, Solomon, Alaska, 1983

0 25 50
 Approximate Scale in Feet

Figure 1
 SITE LOCATION MAP

Drawn: AES
 Date: 10/12/88

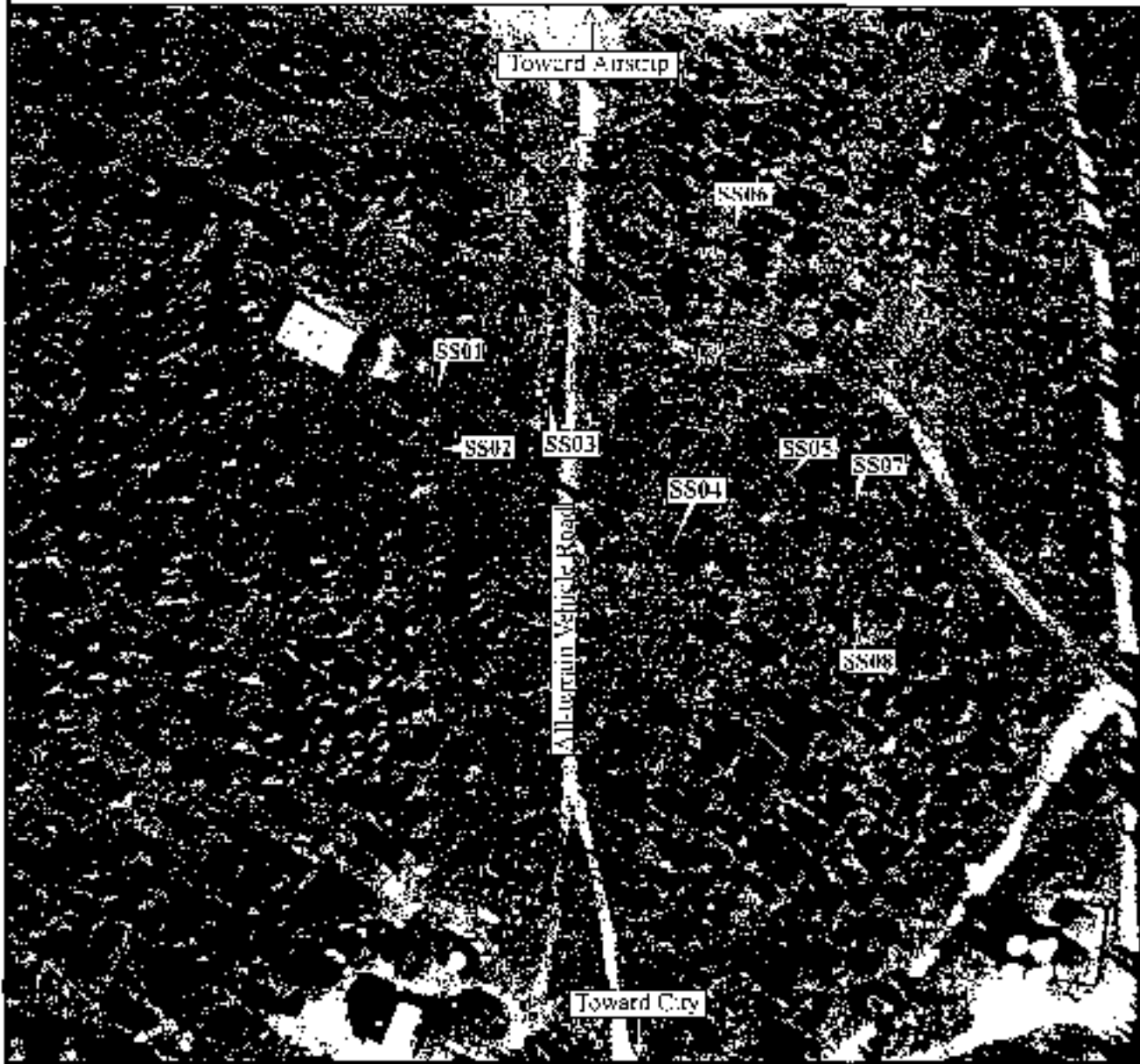
Job No.
 CG21SGSAT0

Dwg. No.
 CG21SGF4



Source: Aerialmap U.S. Inc., 6-18-98

KEY:
SS05 Surface Soil
Sampling Location



ecology and environment, inc.
International Specialists in the Environment
4000 Highway 100

WHITE MOUNTAIN
NATIONAL GUARD
White Mountain, Alaska

0 60 120
Approximate Scale in Feet

Figure 3
SAMPLE LOCATION MAP

Drawn: DATE: JOB NO: Dwg. No.
AES 10/19/98 CG21SGSA10 CG21SCF

ATTACHMENT A

PHOTO DOCUMENTATION

PHOTOGRAPH IDENTIFICATION SHEET

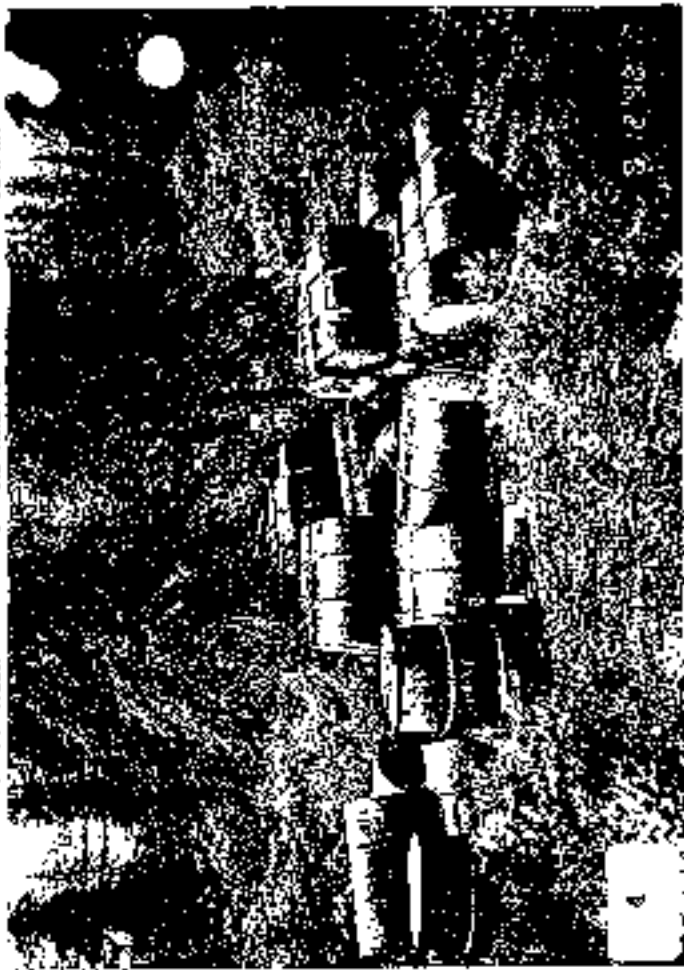
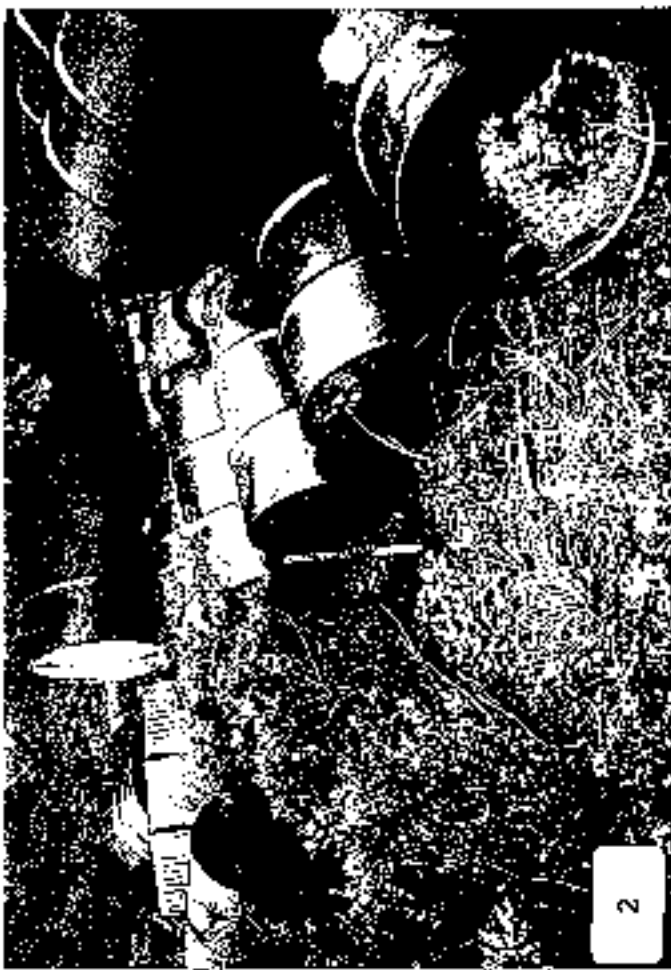
Camera Serial #: 52712087

TDD #: 97-02-0010

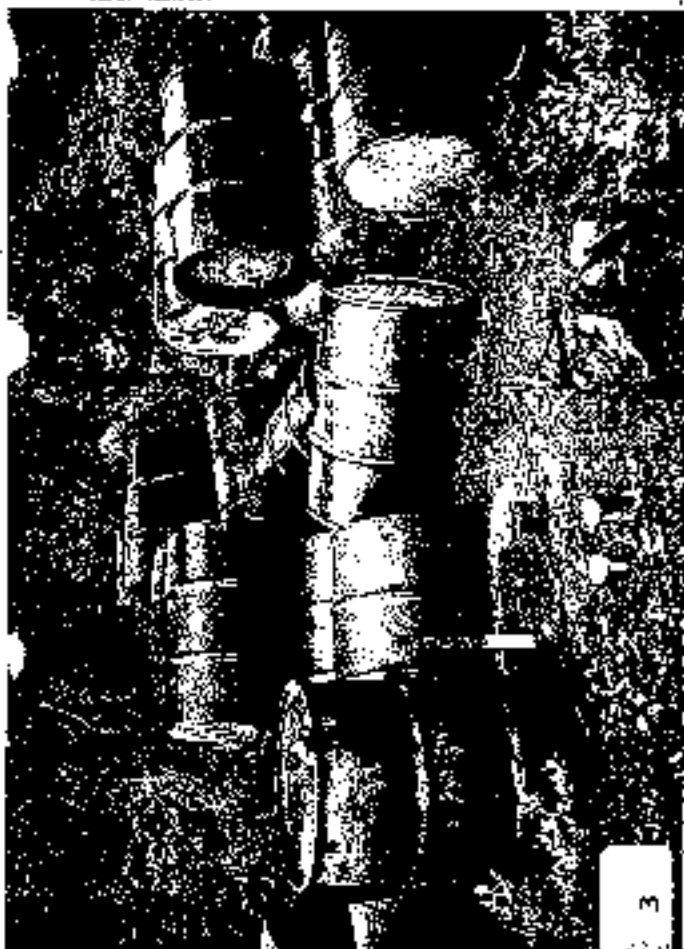
Lens Type: 38-140 mm

Site Name: White Mountain National Guard Site

Photo No.	Date	Time	By	Description and Orientation
1	8-12-98	1207	LM	Sample SS01 location, facing west. Old pump house is in background.
2	8-12-98	1208	LM	Sample SS01 location, facing southwest.
3	8-12-98	1215	LM	Sample SS02 location, facing south.
4	8-12-98	1218	LM	Sample SS02 location, facing south.
5	8-12-98	1225	LM	Drum group from where sample SS03 was collected (at (or left), facing south.
6	8-12-98	1228	LM	Drums in group from where sample SS03 was collected, facing west.
7	8-12-98	1230	LM	Sample SS03 location, facing west.
8	8-12-98	1235	LM	Sample SS04 material.
9	8-12-98	1240	LM	Markings on a drum near sample SS04 location.
10	8-12-98	1245	LM	Sample location SS04 (red stake at corner), facing southwest.
11	8-12-98	1246	LM	Drums on east side of all-terrain vehicle road, facing north.
12	8-12-98	1247	LM	Sample SS05 being collected, facing north
13	8-12-98	1255	LM	Sample SS05 location, facing west.
14	8-12-98	1259	LM	Collecting sample SS05, facing south.
15	8-12-98	1305	LM	Sample SS06 location, facing west.
16	8-12-98	1310	LM	Sample SS07 being collected.
17	8-12-98	1320	LM	Various drum groups, facing west
18	8-12-98	1322	LM	Drum group from where sample SS07 was collected (on near side), facing west.
19	8-12-98	1323	LM	Sample location SS07, facing east.
20	8-12-98	1325	LM	Sample location SS08.
21	8-12-98	1337	LM	Drums scattered to north from sample location SS08, facing north.
22	8-12-98	1340	LM	Drums scattered to the north from near sample location SS08, facing north
23	8-12-98	1345	LM	Drums scattered to north from sample location SS08, facing north.
24	8-12-98	1346	LM	Drums scattered to west from sample location SS08, facing west
25	8-12-98	1350	LM	Drums on west side of the all-terrain vehicle road, facing northwest



White Mountain National Guard 2A (1 of 4)











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11

Willo Mombau National Guard RA (2 of 4)

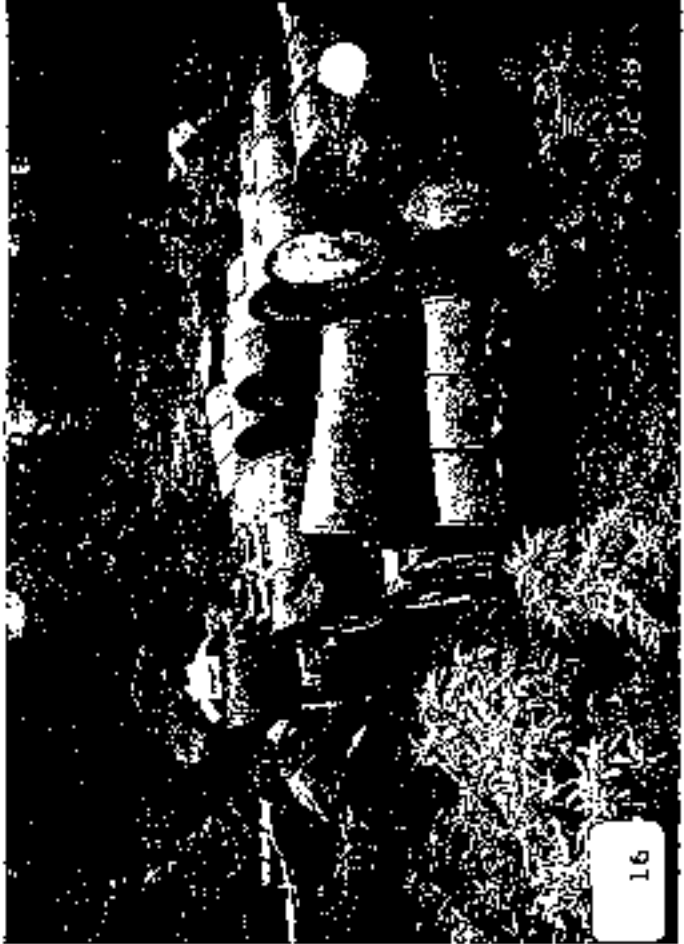


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12









White Mountain National Guard EA (3 of 4)









White Mountain National, Grand PA (4 of 4)



ATTACHMENT B

LIST OF COMPOUNDS ANALYZED

Polynuclear Aromatic Hydrocarbons (PAHs)

2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Benzo[a]anthracene
Benzo[a]pyrene
Benzo[b]fluoranthene
Benzo[g,h,i]perylene
Benzo[k]fluoranthene
Chrysene
Dibenz[a,h]anthracene
Fluoranthene
Fluorene
Indeno[1,2,3-cd]pyrene
Naphthalene
Phenanthrene
Pyrene

Polychlorinated Biphenyls (PCBs)

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260

Total Petroleum Hydrocarbons (TPHs)**Volatile Organic Compounds (VOCs)**

Dichlorodifluoromethane
Chloromethane
Vinyl Chloride
Bromomethane
Chloroethane
Trichlorofluoromethane
1,1-dichloroethene
Methylene chloride
(trans)1,2-dichloroethene
1,1-dichloroethane
2,2-dichloropropane
(cis)1,2-dichloroethene
Chloroform
1,1,1-Trichloroethane
Carbon Tetrachloride
1,1-dichloropropene
Benzene

VOCs, continued

1,2-dichloroethane
Trichloroethene
1,2-dichloropropane
Dibromomethane
Bromodichloromethane
(cis)1,3-dichloropropene
Toluene
(trans)1,3-dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
1,3-dichloropropane
Dibromochloromethane
1,2-dibromomethane
Chlorobenzene
1,1,1,2-Tetrachloroethane
Ethylbenzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Isopropylbenzene
Bromobenzene
1,1,2,2-Tetrachloroethane
1,2,3-Trichloropropane
n-propylbenzene
2-chlorotoluene
4-chlorotoluene
1,3,5-trimethylbenzene
tert-butylbenzene
1,2,4-trimethylbenzene
sec-butylbenzene
1,3-dichlorobenzene
p-isopropyltoluene
1,4-dichlorobenzene
1,2-dichlorobenzene
n-butylbenzene
1,2-dibromo-3-chloropropane
1,2,4-trichlorobenzene
Hexachlorobutadiene
Naphthalene
1,2,3-trichlorobenzene

ATTACHMENT C

LABORATORY ANALYTICAL DATA

98080001

Lab Name: CNSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: 08-075

Matrix: (soil/water) SOIL

Lab Sample ID: 08-075-1

Sample wt/vol: 20.0 (g/mL) mL

Date Received: 8/14/98

% Moisture: 36 decanted: (Y/N): N

Date Extracted: 8/17/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/18/98

Dilution Factor: 1.0

Compound	Concentration Units		Q
	(mg/L or mg/Kg)	mg/Kg	
Total Petroleum Hydrocarbons		39	U

98060002

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: 08-075

Matrix: (soil/water) SOIL

Lab Sample ID: 08-075-2

Sample wt/vol: 20.0 (g/mL) mL

Date Received: 8/14/98

% Moisture: 29 decanted: (Y/N): N

Date Extracted: 8/17/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/18/98

Dilution Factor: 1.0

Compound	Concentration Units:		Q
	(mg/L or mg/Kg)	mg/Kg	
Total Petroleum Hydrocarbons		80	

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

99080003

Project No.: KJ0103

Group: 08-C75

Matrix: (soil/water) SOIL

Lab Sample ID: 08-075-3

Sample wt/Vol: 20.0 (g/mL) mL

Date Received: 8/14/95

% Moisture: 50

decanted: (Y/N): N

Date Extracted: 8/17/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/18/98

Dilution Factor: 1.0

Compound	Concentration Units:	
	(mg/L or mg/Kg)	mg/Kg
Total Petroleum Hydrocarbons	550	Q

98080004

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: 58E

Project No.: KJ0103

Group: 08-075

Matrix: (soil/water) SOIL

Lab Sample ID: 08-075-4

Sample wt/vol: 20.0 (g/mL) mL

Date Received: 8/14/98

% Moisture: 49 decanted: (Y/N): N

Date Extracted: 8/17/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/18/98

Dilution Factor: 1.0

Compound	Concentration Units:	
	(mg/L or mg/Kg)	mg/Kg
Total Petroleum Hydrocarbons	69	0

98080065

Lab Name: ONSITE ENVIRONMENTAL INC

Contract: E&E

Project No.: KJC103

Group: 08-075

Matrix: (soil/water) SCIL

Lab Sample ID: 08-075-5

Sample wt/vol: 20.0 (g/mL) mL

Date Received: 8/14/98

% Moisture: 70 decanted: (Y/N): N

Date Extracted: 8/17/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/18/98

Dilution Factor: 1.0

Compound	Concentration Units:		Q
	(mg/L or mg/Kg)	mg/Kg	
Total Petroleum Hydrocarbons		63	U

TOTAL PETROLEUM HYDROCARBONS ANALYSIS DATA SHEET

Lab Name: ONSITE ENVIRONMENTAL INC.Contract: E&E

98080006

Project No.: KJ0103Group: 08-075Matrix (soil/water): SOILLab Sample ID: 08-075-6Sample wt/vol: 20.0 (g/mL) mLDate Received: 8/14/98% Moisture: 56decanted: (Y/N): NDate Extracted: 8/17/98Concentrated Extract Volume: 100 (mL)Date Analyzed: 8/18/98Dilution Factor: 1.0

Compound	Concentration Units:		Q
	(mg/L or mg/Kg)	mg/Kg	
Total Petroleum Hydrocarbons		72	

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TOTAL PETROLEUM HYDROCARBONS ANALYSIS DATA SHEET

SAMPLE NO.

98080007

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: C8-075

Matrix: (soil/water) SOIL

Lab Sample ID: 08-075-7

Sample wt/vol: 20.0 (g/mL) no.

Date Received: 8/14/98

% Moisture: 38

decanted: (Y/N): N

Date Extracted: 8/17/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/18/98

Dilution Factor: 1.0

Compound	Concentration Units	
	(mg/L or mg/Kg)	mg/Kg
Total Petroleum Hydrocarbons	63	C

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

98080008

Project No.: KJ0109

Group: 08-075

Matrix: (soil/water) SOIL

Lab Sample ID: 08-075-3

Sample wt/vol: 20.0 (g/mL) mL

Date Received: 8/14/98

% Moisture: 54 decanted: (Y/N): N

Date Extracted: 8/17/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/18/98

Dilution Factor: 1.0

Compound	Concentration Units:		Q
	(mg/L or mg/Kg)	mg/Kg	
Total Petroleum hydrocarbons		120	

98060009

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: 08-075

Matrix: (soil/water) SOIL

Lab Sample ID: 08-075-9

Sample wt/vol: 1000 g (g/mL) mL

Date Received: 8/14/98

% Moisture: nda deaerated: (Y/N): N

Date Extracted: 9/19/98

Concentrated Extract Volume: 100 (mL)

Date Analyzed: 8/19/98

Dilution Factor: 1.0

Compound	Concentration Units:		D
	(mg/L or mg/kg)	mg/L	
Total Petroleum Hydrocarbons		0.5	U

98080009V

Lab Name: ONSITE ENVIRONMENTAL INC. Contract: E&E

Project No.: KJ0103 Site: _____ Client: _____

Group: OSE08-075

Matrix: (soil/water) WATER Lab Sample ID: 075-9

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 0817014.D

Level: (low/med) _____ Date Received: 8/10/98

% Moisture: not det. Date Analyzed: 8/17/98

GC Column: DB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
75-71-8	Dichlorodifluoromethane	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-35-4	1,1-Dichloroethene	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	(trans) 1,2-Dichloroethene	1	U
78-34-3	1,1-Dichloroethane	1	U
584-20-7	2,2-Dichloropropane	1	U
156-59-2	(cis) 1,2-Dichloroethene	1	U
67-88-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
58-23-5	Carbon Tetrachloride	5	U
10061-01-6	1,1-Dichloropropane	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
75-01-6	Trichloroethene	1	U
78-87-6	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	(cis) 1,3-Dichloropropane	1	U
108-88-3	Toluene	1	U
10061-02-6	(trans) 1,3-Dichloropropane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
142-25-9	1,3-Dichloropropane	1	U
124-48-1	Dibromochloromethane	4	U
108-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	1	U

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99080001

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: OB-0755

Matrix: (soil/water) SOIL

Lab Sample ID: 07-075-01

Sample wt/vol: 20 (g/mL) g

Lab File ID: 0822_032.D

Level: (low/med) LOW

Date Received: 8/14/98

% Moisture: 38 decanted: (Y/N): N

Date Extracted: 8/19/98

Concentrate Extract Volume: 20000 (uL)

Date Analyzed: 8/22/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

Compound	Concentration Units:		
	(ug/L or ug/Kg)	ug/Kg	U
Aroclor 1016		78	U
Aroclor 1221		78	U
Aroclor 1232		78	U
Aroclor 1242		78	U
Aroclor 1248		78	U
Aroclor 1254		78	U
Aroclor 1260		78	U

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08080002

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: 08-075S

Matrix: (soil/water) SOIL

Lab Sample ID: 07-075-02

Sample wt/vol: 20 (g/mL) g

Lab File ID: 0822 035.D

Level: (low/med) LOW

Date Received: 8/14/98

% Moisture: 29 decanted: (Y/N): N

Date Extracted: 8/19/98

Concentrated Extract Volume: 20000 (uL)

Date Analyzed: 8/22/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

Concentration Units:

Compound	Concentration Units:		
	(ug/L or ug/Kg)	ug/Kg	Q
Aroclor 1016		70	U
Aroclor 1221		70	U
Aroclor 1232		70	U
Aroclor 1242		70	U
Aroclor 1248		70	U
Aroclor 1254		70	U
Aroclor 1260		70	U

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PCB ANALYSIS DATA SHEET

SAMPLE NO.

98080003

Lab Name: ONSITE ENVIRONMENTAL INC. Contract: E&E
 Project No.: KJ0103 Group: 08-0755
 Matrix: (soil/water) SOIL Lab Sample ID: 07-075-03
 Sample wt/vol: 20 (g/mL) g Lab File ID: 0822 036.D
 Level: (low/med) LOW Date Received: 8/14/98
 % Moisture: 50 decanted: (Y/N): N Date Extracted: 8/19/98
 Concentrated Extract Volume: 20000 (uL) Date Analyzed: 8/22/98
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N

Compound	Concentration Units:		D
	(ug/L or ug/Kg)	ug/Kg	
Aroclor 1016		100	U
Aroclor 1221		100	U
Aroclor 1232		100	U
Aroclor 1242		100	U
Aroclor 1248		100	U
Aroclor 1254		100	U
Aroclor 1260		100	U

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98090004

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: 08-0755

Matrix: (soil/water) SOIL

Lab Sample ID: 07-075-04

Sample wt/vol: 20 g/mL g

Lab File ID: 0822_037.D

Level: (low/med) LOW

Date Received: 8/14/98

% Moisture: 49 decanted: (Y/N): N

Date Extracted: 8/19/98

Concentrated Extract Volume: 20000 (uL)

Date Analyzed: 8/22/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

Compound	Concentration Units:		
	(ug/L or ug/Kg)	ug/Kg	Q
Aroclor 1016		98	U
Aroclor 1221		98	U
Aroclor 1232		98	U
Aroclor 1242		98	U
Aroclor 1248		98	U
Aroclor 1254		98	U
Aroclor 1260		98	U

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PCB ANALYSIS DATA SHEET

SAMPLE NO.

98080005

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: 08-075S

Matrix: (soil/water) SOIL

Lab Sample ID: 07-075-05

Sample wt/vol: 20 (g/mL) g

Lab File ID: 0822 038.D

Level: (low/med) LOW

Date Received: 8/14/98

% Moisture: 70 decanted: (Y/N): N

Date Extracted: 8/19/98

Concentrated Extract Volume: 20000 (uL)

Date Analyzed: 8/22/98

Injection Volume: 1.0 (uL)

Division Factor: 1.0

GPC Cleanup: (Y/N) N

Concentration Units:

Compound	(ug/L or ug/Kg)	ug/Kg	C
Aroclor 1018		170	U
Aroclor 1221		170	U
Aroclor 1232		170	U
Aroclor 1242		170	U
Aroclor 1243		170	U
Aroclor 1254		170	U
Aroclor 1260		170	U

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Lab Name: ONSITE ENVIRONMENTAL INC. Contract: E&E
 Project No.: KJ0103 Group: 08-0755
 Matrix: (soil/water) SOIL Lab Sample ID: 07-075-06
 Sample wt/vol: 20 (g/ml) g Lab File #D: 0822 039.D
 Level: (low/med) LOW Date Received: 8/14/98
 % Moisture: 56 decanted: (Y/N): N Date Extracted: 8/19/98
 Concentrated Extract Volume: 20000 (ul) Date Analyzed: 8/22/98
 Injection Volume: 1.0 (ul) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N

Compound	Concentration Units:		Q
	(ug/L or ug/Kg)	ug/Kg	
Aroclor 1016		110	U
Aroclor 1221		110	U
Aroclor 1232		110	U
Aroclor 1242		110	U
Aroclor 1248		110	U
Aroclor 1254		110	U
Aroclor 1260		110	U

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98080007

Lab Name: ONSITE ENVIRONMENTAL INC.

Contract: E&E

Project No.: KJ0103

Group: 08-0755

Matrix: (soil/water) SOIL

Lab Sample ID: 07-075-07

Sample wt/vol: 20 (g/mL) g

Lab File ID: 0822 040.D

Level: (low/med) LDW

Date Received: 8/14/98

% Moisture: 38 decanted: (Y/N): N

Date Extracted: 8/19/98

Concentrated Extract Volume: 20000 (uL)

Date Analyzed: 8/22/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

Compound	Concentration Units:		Q
	(ug/L or ug/Kg)	ug/Kg	
Aroclor 1016		81	U
Aroclor 1221		81	U
Aroclor 1232		81	U
Aroclor 1242		81	U
Aroclor 1248		81	U
Aroclor 1254		81	U
Aroclor 1260		81	U

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Lab Name: ONSITE ENVIRONMENTAL INC. Contract: E&E
 Project No.: KJ0103 Group: DS-0755
 Matrix: (soil/water) SOIL Lab Sample ID: 07-075-08
 Sample wt/vol: 20 (g/mL) g Lab File ID: Q822 041,0
 Level: (low/med) LOW Date Received: 8/14/98
 % Moisture: 54 decont: (Y/N): N Date Extracted: 8/19/98
 Concentrated Extract Volume: 20000 (uL) Date Analyzed: 8/22/98
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N

Compound	Concentration Units		U
	(ug/L or ug/Kg)	ug/Kg	
Aroclor 1018		110	U
Aroclor 1221		110	U
Aroclor 1232		110	U
Aroclor 1242		110	U
Aroclor 1248		110	U
Aroclor 1254		110	U
Aroclor 1260		110	U

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PCB ANALYSIS DATA SHEET

SAMPLE NO.

88080009

Lab Name: CNSITE ENVIRONMENTAL INC. Contract: S&E

Project No.: KJ0103 Group: 08-075W

Matrix: (soil/water) WATER Lab Sample ID: 07-075-09

Sample wt/vol: 1000 (g/mL) ml Lab File ID: 0822 042.D

Level: (low/med) LOW Date Received: 8/14/98

% Moisture: 0 decontad: (Y/N): N Date Extracted: 8/19/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/22/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

Concentration Units:

Compound	ug/L or ug/Kg	ug/L	Q
Aroclor 1016		0.050	U
Aroclor 1221		0.050	U
Aroclor 1232		0.050	U
Aroclor 1242		0.050	U
Aroclor 1248		0.050	U
Aroclor 1254		0.050	U
Aroclor 1280		0.050	U

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