KM5130:D0118

PROGRESS REPORT FOR THE CONFIRMATION OF FIRE TRAINING PITS AT FORT RICHARDSON, FORT WAINWRIGHT, AND FORT GREELY, ALASKA

Contract No.: DACA85-88-D-0014

Delivery Order No. 14

(Modification No. 1)

Date: February 12, 1992

Submitted To:

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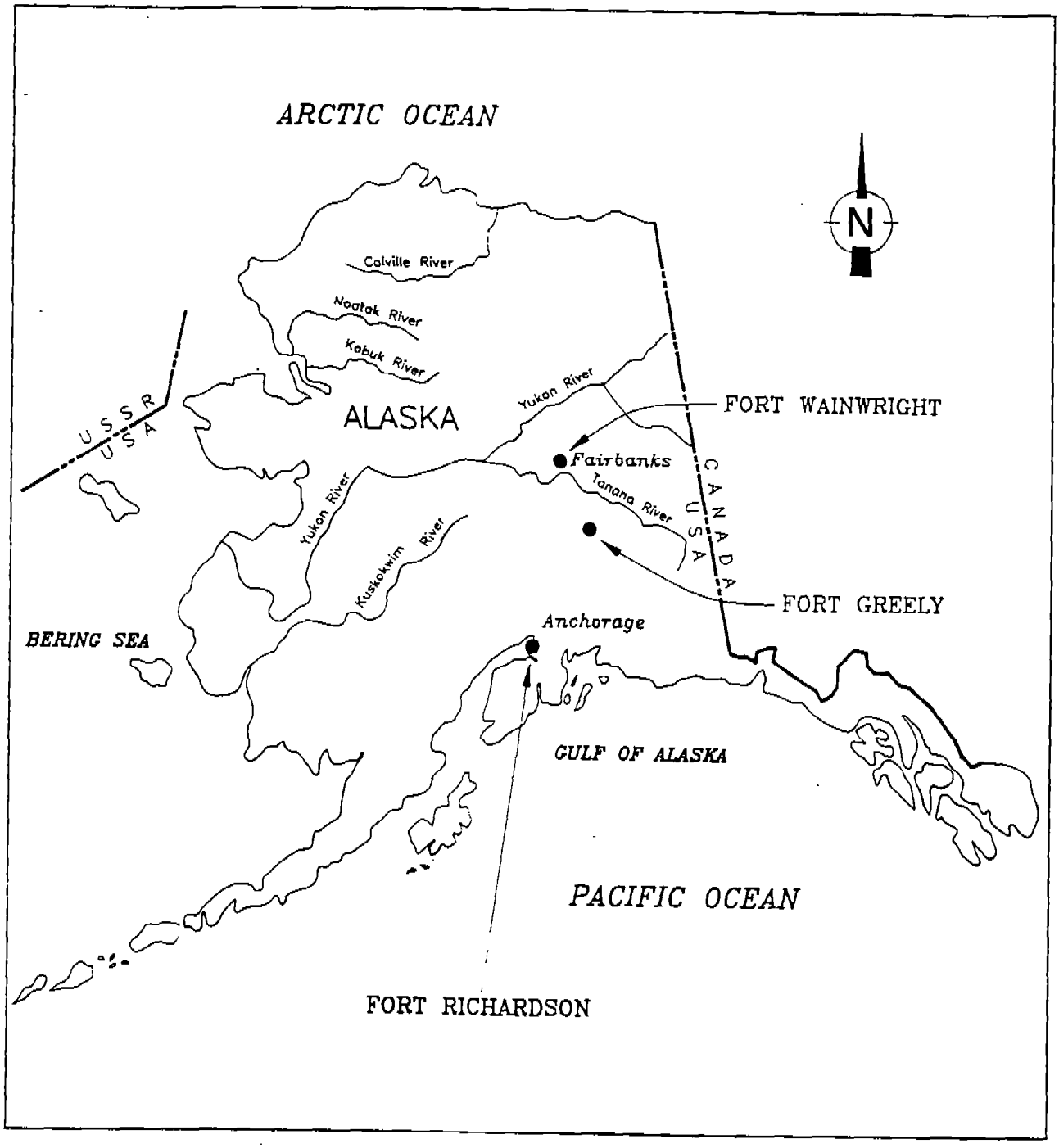
1. INTRODUCTION

The 6th Infantry Division (Light), Directorate of Engineering and Housing (DEH), tasked the United States Army Corps of Engineers (USACE), Alaska District to investigate two fire training pits (FTPs) at Fort Richardson, one FTP at Fort Wainwright, and one FTP at Fort Greely, Alaska (Figure 1-1). This project was authorized for funding under the Installation Restoration Program (IRP) of the Department of Defense (DOD). The IRP is the basis for response actions under the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, clarified by Executive Order 12316 for DOD facilities. The IRP is designed to identify, evaluate, and clean-up hazardous contamination and groundwater pollution at active DOD-operated installations. In 1989, the USACE assigned the project to Ecology and Environment, Inc. (E & E) for implementation under the terms of the Indefinite Architect-Engineer Services Contract: Contract DACA85-88-D-0014, Delivery Order No. 014.

In the process of developing work plans for the site investigation at the confirmed FTPs, E & E discovered additional FTPs on aerial photographs at both Fort Wainwright and Fort Greely. Their locations could not be confirmed during a site visit due to vegetation and snow cover. As a result, the USACE halted the development of the work plans and issued a modification to conduct a preliminary site investigation of these unconfirmed FTPs. E & E first developed a work plan and subsequently performed the fieldwork necessary to confirm these FTPs. The present progress report is presented to summarize the results of the



Source: Ecology & Environment, Inc. 1990

FIRE TRAINING PIT SITES Ft. Richardson, Ft. Greely, Ft. Wainwright, Alaska CONTRACT DACA85-88-D-0014	
TITLE: SITE LOCATION MAP Project No. KM5130	
ecology & environment, inc. ANCHORAGE, ALASKA	FIG. 1-1
Date: 09/91 Drawn by: RSM Scale: NTS	

preliminary site investigation of the FTPs. The results confirm the presence of an additional FTP at Fort Wainwright and two additional FTPs at Fort Greely. The objectives of the present report are to:

- o present sampling locations, borehole logs, and analytical results of the sampling investigation;
- o assess the hazards due to the FTPs; and
- o outline future work needed at the FTPs.

United States Environmental Protection Agency (EPA) forms 2070-12 and 2070-13 were prepared for each Fort and are presented in Appendices A and B, respectively. A final report will present the results of the entire investigation.

Although the preliminary investigation was conducted primarily to investigate the unconfirmed FTPs, it also included limited sampling at the previously confirmed FTPs. The FTP located on the Fort Richardson Landfill was eliminated from this project because it is being addressed in a separate IRP project specific to the landfill. Fort Wainwright was placed on the National Priorities List (NPL) in March 1990. Its inclusion on the NPL requires that the Fort Wainwright FTPs be deleted from this contract delivery order and require further investigation under an Inter-Agency Agreement. Hence, future investigations of the FTPs will not include the Fort Wainwright FTPs.

The investigation was directed by the USACE Engineering Project Management with analytical work performed by Southwest Laboratories, Broken Arrow, Oklahoma (SWOK) and by Columbia Analytical Services, Inc. (CAS) Kelso, Washington, under the supervision of the North Pacific Division's Quality Assurance Laboratory at Troutdale, Oregon. E & E monitored the fieldwork and obtained the analytical results from the USACE.

2. FIELD INVESTIGATION

This section describes the locations and present conditions of the FTPs and the sampling program conducted in 1991.

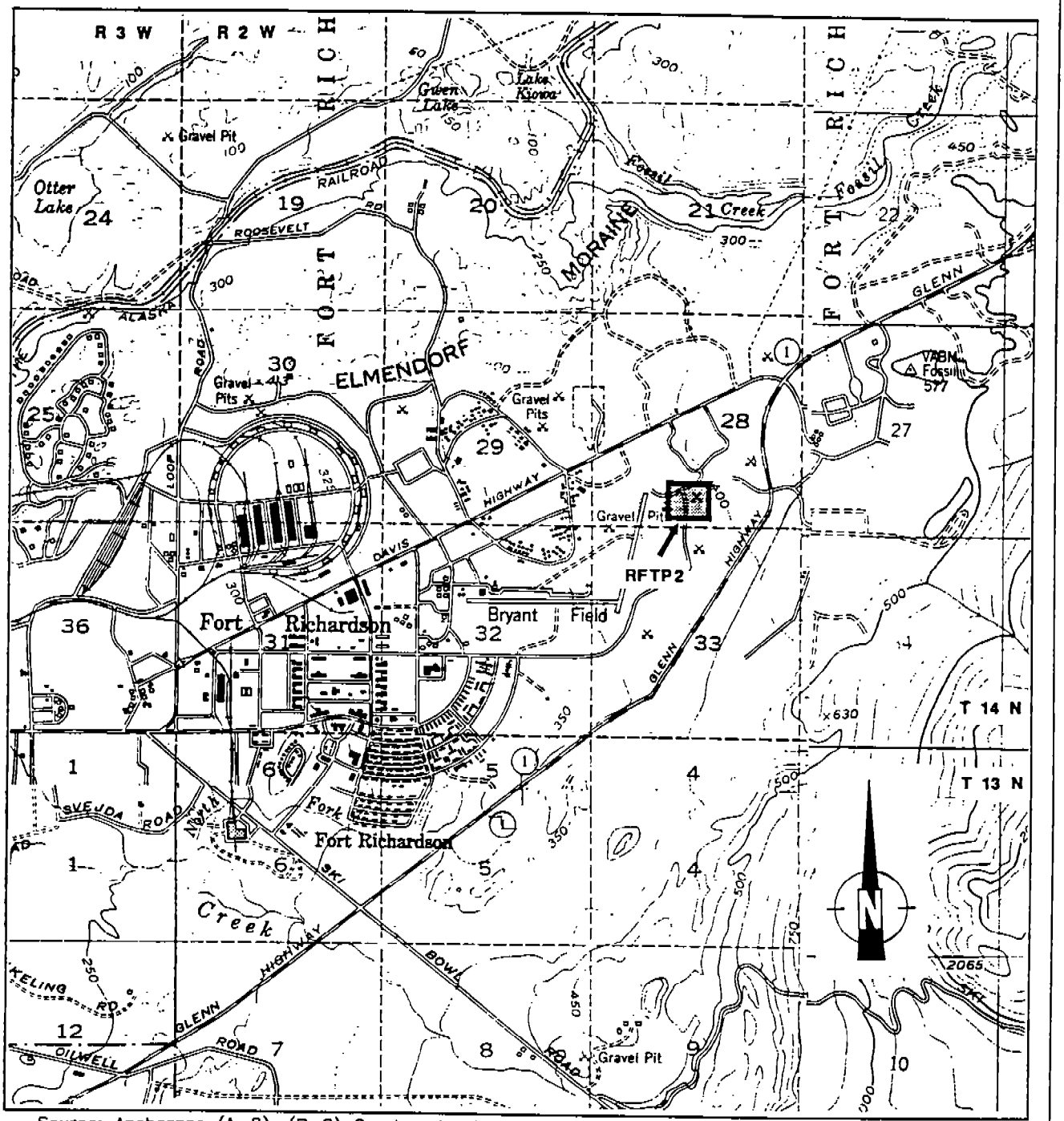
2.1 LOCATION OF THE FTPs

2.1.1 Location of Fort Richardson FTPs

Fort Richardson is bounded by the Municipality of Anchorage and Elmendorf Air Force Base (EAFB) to the west; Eagle Bay and Knik Arm to the north; and the Chugach Mountains and Chugach State Park along the southern and eastern boundaries. The Glenn Highway bisects Fort Richardson. The Fort Richardson fire training pit (RFTP-2) is located in the southwest 1/4 of Section 28, Township 14 North, Range 2 West of the Seward Meridian at an elevation of approximately 328 feet above mean sea level (MSL) within the installation boundaries of Fort Richardson (Figure 2-1).

2.1.2 Location of Forth Wainwright FTPs

Fort Wainwright is located on the eastern boundary of the City of Fairbanks, Alaska. The Chena River bisects the installation approximately 2 miles to the north of the main part of the Fort, and the Tanana River is located approximately 3 miles to the south of the main part of the Fort. The Fort Wainwright FTPs (WFTPs) are located in the northwest 1/4 of Section 17, Township 1 South of the Fairbanks Base Line and Range 1 East of the Fairbanks Meridian (Figure 2-2).



Source: Anchorage (A-8), (B-8) Quadrangle, Alaska. USGS, 1965

0 1/2 1 MILE

LOCATION MAP

LEGEND

Site location

FTP Fire training pit

FIRE TRAINING PIT SITES
Fort Richardson, Anchorage, Alaska
CONTRACT DACA85-88-D-0014

TITLE:

SITE LOCATION MAP
Delivery Order No. 14

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FIG. 2-1

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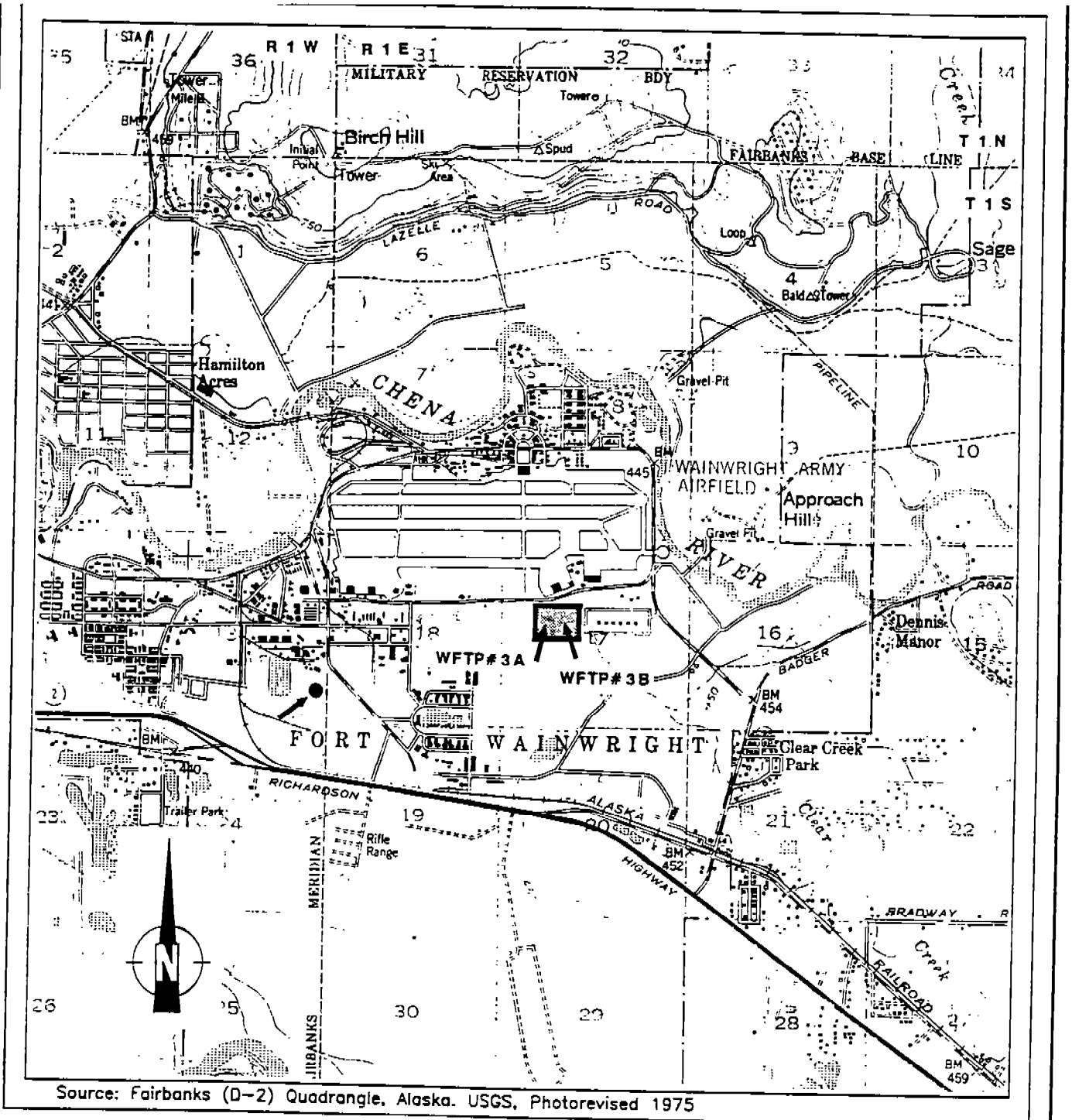

Source: Fairbanks (D-2) Quadrangle, Alaska. USGS, Photorevised 1975

0 1/2 1 MILE

LOCATION MAP

LEGEND

- Site location
- FTP Fire training pit
- Contaminated soil stockpiles

FIRE TRAINING PIT SITES
Fort Wainwright, Fairbanks, Alaska
CONTRACT DACA85-88-D-0014

TITLE:

SITE LOCATION MAP
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FIG. 2-2

Date: 09/91 Drawn by: RSM Scale:

2.1.3 Location of Fort Greely FTPs

Fort Greely is located approximately 1 mile south of Delta Junction on the Richardson highway. The northern section of Fort Greely is situated at the convergence of the Delta River and Jarvis Creek.

The Delta River, Jarvis Creek, and the Richardson Highway bisect the installation in a north/south direction. The Fort Greely FTPs (GFTPs) are located in the northern section of the Fort, in the southwest 1/4 of Section 1, Township 11 South of the Fairbanks Base Line and Range 10 East of the Fairbanks Meridian (Figure 2-3).

2.2 DESCRIPTION OF THE FTPs

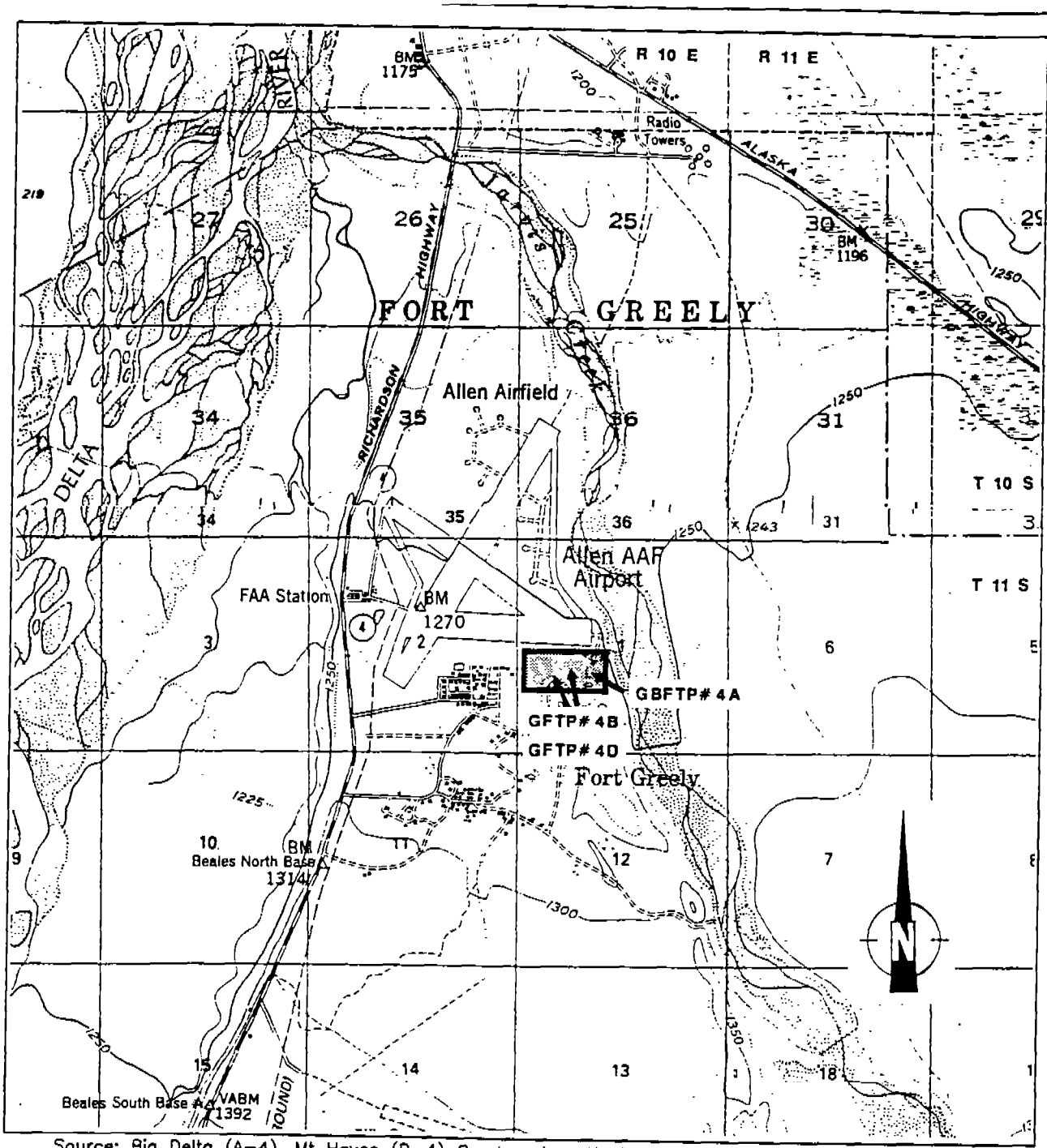
2.2.1 Description of RFTP-2

There is only one FTP at Fort Richardson (RFTP-2) that was included in the preliminary field investigation. RFTP-2 was identified on aerial photographs taken in 1977. RFTP-2 is situated among gravel pits east of Bryant Airfield, south of the Davis Highway and west of the Glenn Highway. RFTP-2 consists of a circular area, 50 feet in diameter, of soil that is stained gray, black, and white (Figure 2-4). The soil is very hard and dry, and a strong fuel odor emanates from it. E & E inspected the area surrounding the FTP to determine the total acreage, including drum storage and debris locations, that have been affected by fire training activities. Surface soil surrounding RFTP-2 has been cleared away, most likely due to gravel pit activities; therefore, the exact acreage affected by RFTP-2 is unknown.

During the May site reconnaissance, E & E observed a charred drum, cable, metal cans, and wood in RFTP-2. At the time of the investigation in June, the road bordering the west side of RFTP-2 had been removed, and the stained surface soils of RFTP-2 had been removed and deposited beside the new road.

2.2.2 Description of the WFTPs

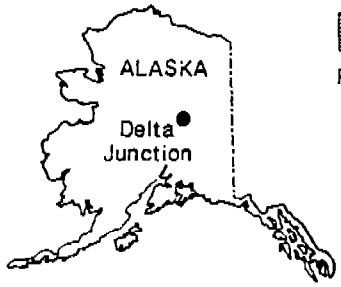
There are two FTPs at Fort Wainwright, WFTP-3A and WFTP-3B. The WFTPs are situated along a curved, dirt access road that stretches for 0.5 miles from Montgomery Road (southeast of the airfield and several



Source: Big Delta (A-4), Mt Hayes (D-4) Quadrangles, Alaska. USGS, Photorevised 1975

0 1/2 1 MILE

LOCATION MAP



LEGEND

Site location

FTP Fire training pit

FIRE TRAINING PIT SITES
Fort Greely, Delta Junction, Alaska
CONTRACT DACA85-88-D-0014

TITLE:

SITE LOCATION MAP
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Project No. KM5130

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FIG. 2-3

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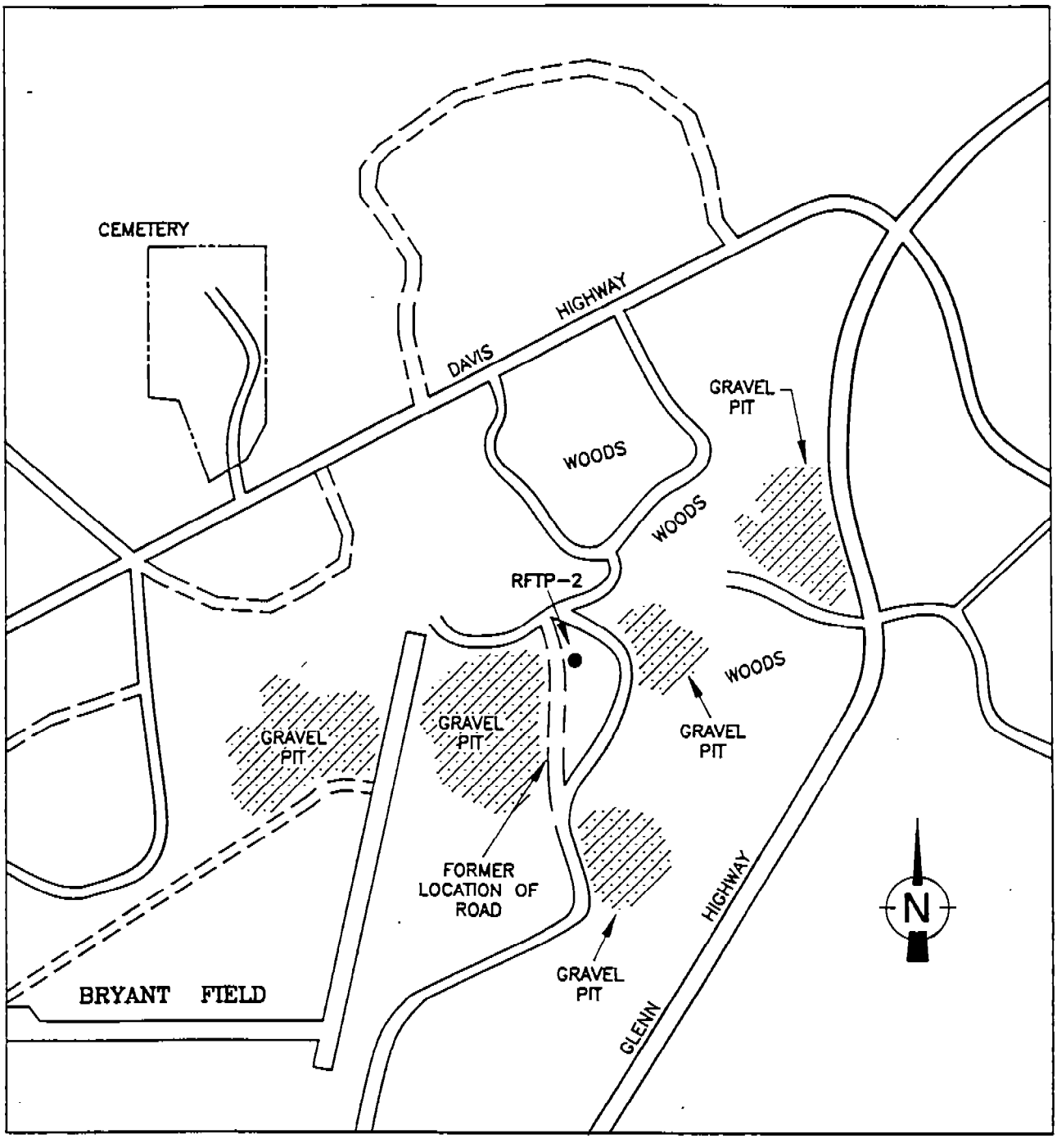

0 1000 2000 3000 4000 FEET

LOCATION MAP

FIRE TRAINING PIT SITES
Fort Richardson, Anchorage, Alaska
CONTRACT DACA85-88-D-0014

TITLE:

SITE FEATURES MAP
Delivery Order No. 14

Project No. KM5130

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FIG. 2-4

Date: 09/91 Drawn by: RSM Scale:

hangars) to a berm surrounding the ammunition storage area. WFTP-3A consists of a large, square grassy area surrounded by trees (Figure 2-5). A gate at the northeastern corner of WFTP-3A restricts vehicular entrance. A large circular area of black-stained soil, approximately 50 feet in diameter, is located in the southern portion of WFTP-3A. A very strong petroleum odor was detected within 20 feet of the stained soil.

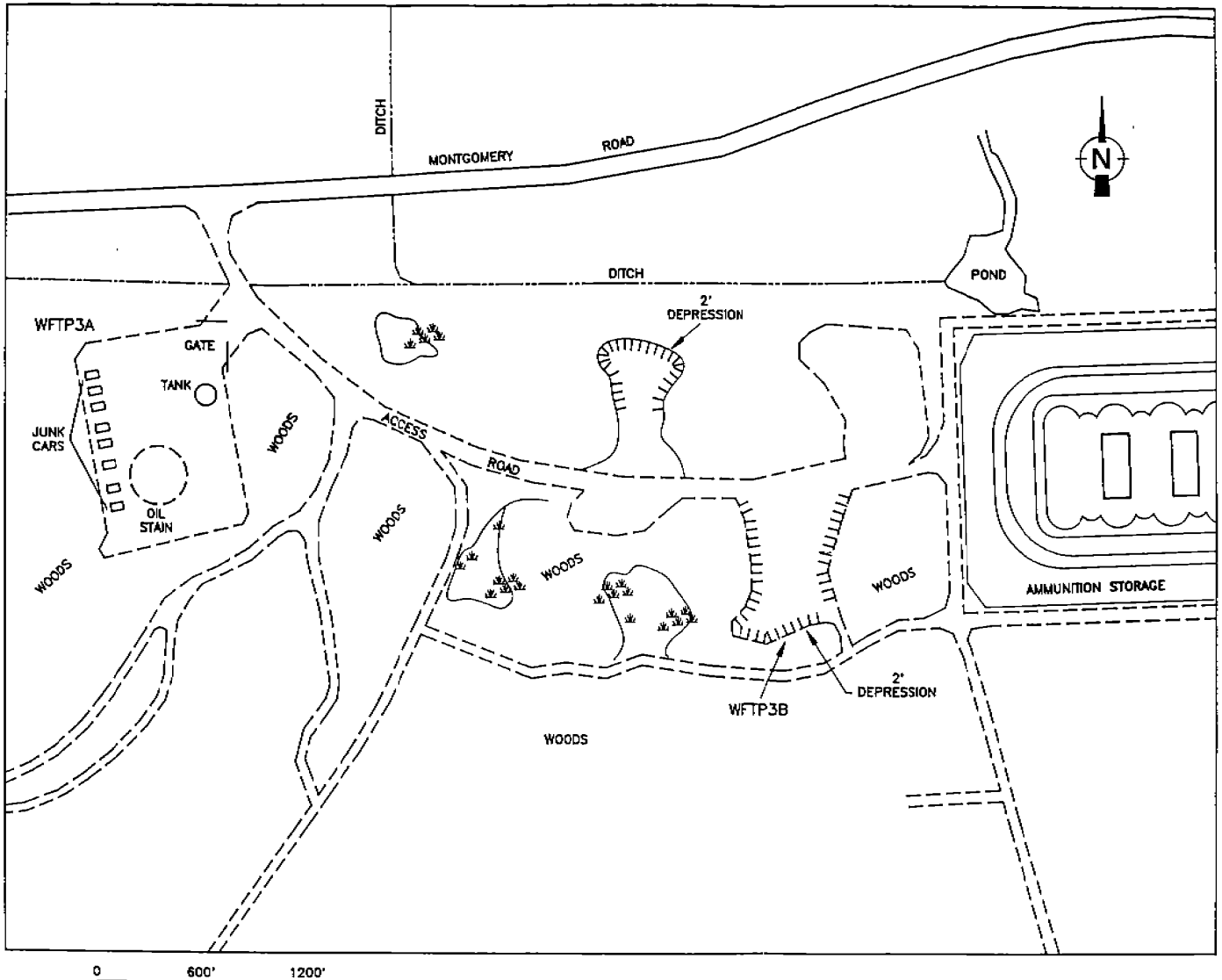
Along the western boundary of WFTP-3A is a row of charred junk cars, trucks, and a bus. Aerial photographs indicated that in the past (1987) tanker trucks and drums were present on site.

WFTP-3B consists of a 7.5-acre area that is 1 to 3 feet lower than the surrounding forest. The southern third of the WFTP-3B is vegetated with saplings and grass. The northern two-thirds of the FTP is covered with gravel and recently trimmed grass. Cobbles of Birch Creek Schist were protruding from the ground, indicating that the WFTP-3B contains fill. In the southwestern quarter of the FTP was a depression approximately 18 inches deep with a diameter of 3 to 5 feet. The depression was vegetated with grass. In the center of the FTP is a circular-shaped area, 5 feet in diameter, that is filled with gravel and small pieces of concrete. According to a 1983 aerial photograph, this central feature was a pit approximately 10 feet in diameter.

2.2.3 Description of the Fort Greely FTPs

There are three GFTPs at Fort Greely: GFTP-4A, GFTP-4B, and GFTP-4D. GFTP-4A is situated alongside Sixth Avenue in Fort Greely, adjacent to the Fort Greely airfield. It consists of approximately 4.5 acres of bare ground covered with gravel and encircled by trees (Figure 2-6). According to aerial photographs, the center of this area included a rectangular pit, and drums were stored on the western edge of the FTP. These features are no longer present.

GFTP-4B is located north of GFTP-4A and is situated within the confines of the airfield boundaries, north of a taxiway. It is an approximate 10-foot depression and is well-vegetated with grass and alfalfa. A small, vegetated access road on the south side to the depression provides entrance to the GFTP from the taxiway. According to



FIRE TRAINING PIT SITES
Fort Wainwright, Fairbanks, Alas
CONTRACT DACA85-88-D-0014

TITLE:

SITE FEATURES MAP
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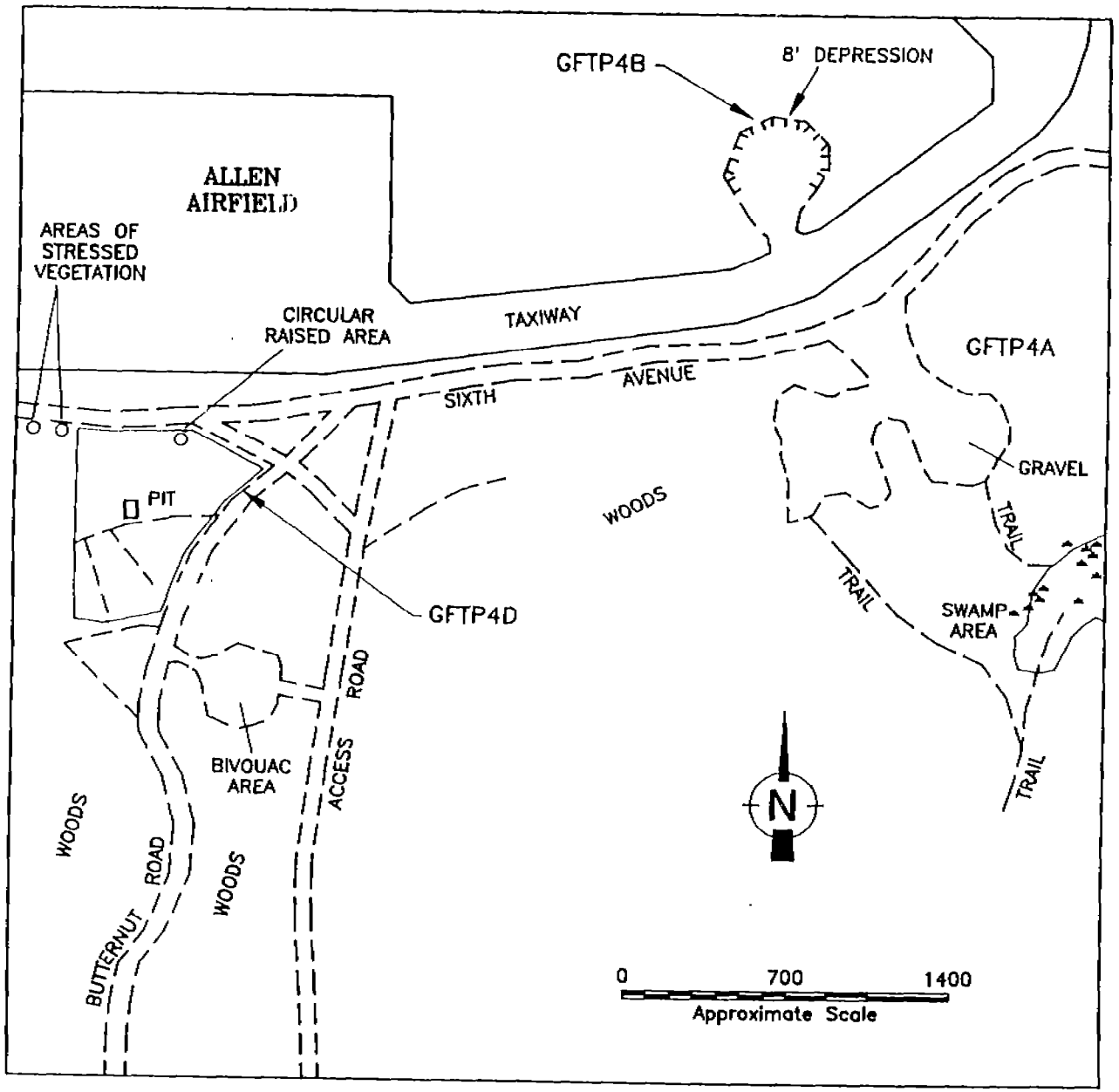

LEGEND

Access road

Overgrown access road

FIRE TRAINING PIT SITES Fort Greely, Delta Junction, Alaska CONTRACT DACA85-88-D-0014	
TITLE: SITE FEATURES MAP Delivery Order No. 14	
Project No. KM5130	
ecology & environment, inc. ANCHORAGE, ALASKA	FIG. 2-6
Date: 09/91 Drawn by: RSM Scale:	

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1968 and 1969 aerial photographs, a rectangular pit was present in the center of the depression, and drums were stored on the southwest side of the pit.

The location of GFTP-4D is west of Butternut Road, west of GFTP-4A and GFTP-4B. GFTP-4D consists of several distinct parts. The general GFTP-4D area includes a grassy field, an area lacking vegetation but containing concrete fill, and a portion is located in a forest. The features include a raised circular area approximately 6 inches high and 5 feet in diameter and a pit which is approximately 20 feet by 30 feet and 6 feet deep. The pit is filled with grass and small trees. The sides of the pit are almost vertical, and the bottom of the pit is very moist, although standing water was not observed. All these features are clearly visible on historic aerial photographs and are recognizable in the field.

2.3 SAMPLING PROGRAM

On May 20, 1991, the E & E field team conducted a site reconnaissance of the Fort Richardson FTP (RFTP-2). On June 11, 1991, the E & E field team began the field investigation program at Fort Wainwright as outlined in the 1991 work plan. The E & E field team implemented the investigation in conjunction with the USACE drilling crew. Boreholes were drilled on June 16 and 17, 1991 at Fort Wainwright WFTP-3A and WFTP-3B.

On June 24, 1991 E & E field team drilled boreholes in RFTP-2 at Fort Richardson. On July 17, 1991 the team continued the field investigation at Fort Greely. Boreholes for Fort Greely FTPs GFTP-4A, GFTP-4B, and GFTP-4D, were completed on July 21, 1991.

Aerial photographs of GFTP-4C and WFTP-3C did not reveal any clear evidence of FTP activity but were flagged potential future FTP locations based on certain features such as of vegetation and terrain characteristics. Field reconnaissance at Fort Wainwright and Fort Greely and screening of the soil with a photoionization detector (PID) did not

result in any corroborating evidence of FTPs existing at these locations. Therefore, according to a provision in the work plan, WFTP-3C and GFTP-4C were not included in the field investigation.

GFTP-4C was according to army personnel, used as a bivouac for the winter training of soldiers. There are numerous similar areas that were cleared of vegetation in the general area which are also used for winter bivouac. GFTP-4C was not ever used as a fire training pit to anyone's knowledge.

The primary concern of the sampling program was that contaminated areas of the suspected FTPs were identified and characterized in sufficient detail to guide decisions as to the direction for further investigation. The sampling plan was prepared based on past sampling activities, U.S. Department of Transportation (DOT) regulations (49 CFR 1972), and EPA Hazardous and Toxic Waste regulations (40 CFR 261-264). The sampling plan was designed to meet the following objectives:

- o Characterization of wastes potentially present at each suspected FTP;
- o Determination of the vertical extent of soil contamination at each suspected FTP;
- o Filling the data gaps at "confirmed" FTPs by collecting samples from one soil boring at the center of each confirmed FTP; and
- o Evaluation of waste quantities, current use, and distance to groundwater and surface water users.

The 1991 sampling program included the following activities.

- o Borehole drilling;
- o Subsurface soil sampling; and
- o Surface soil sampling.

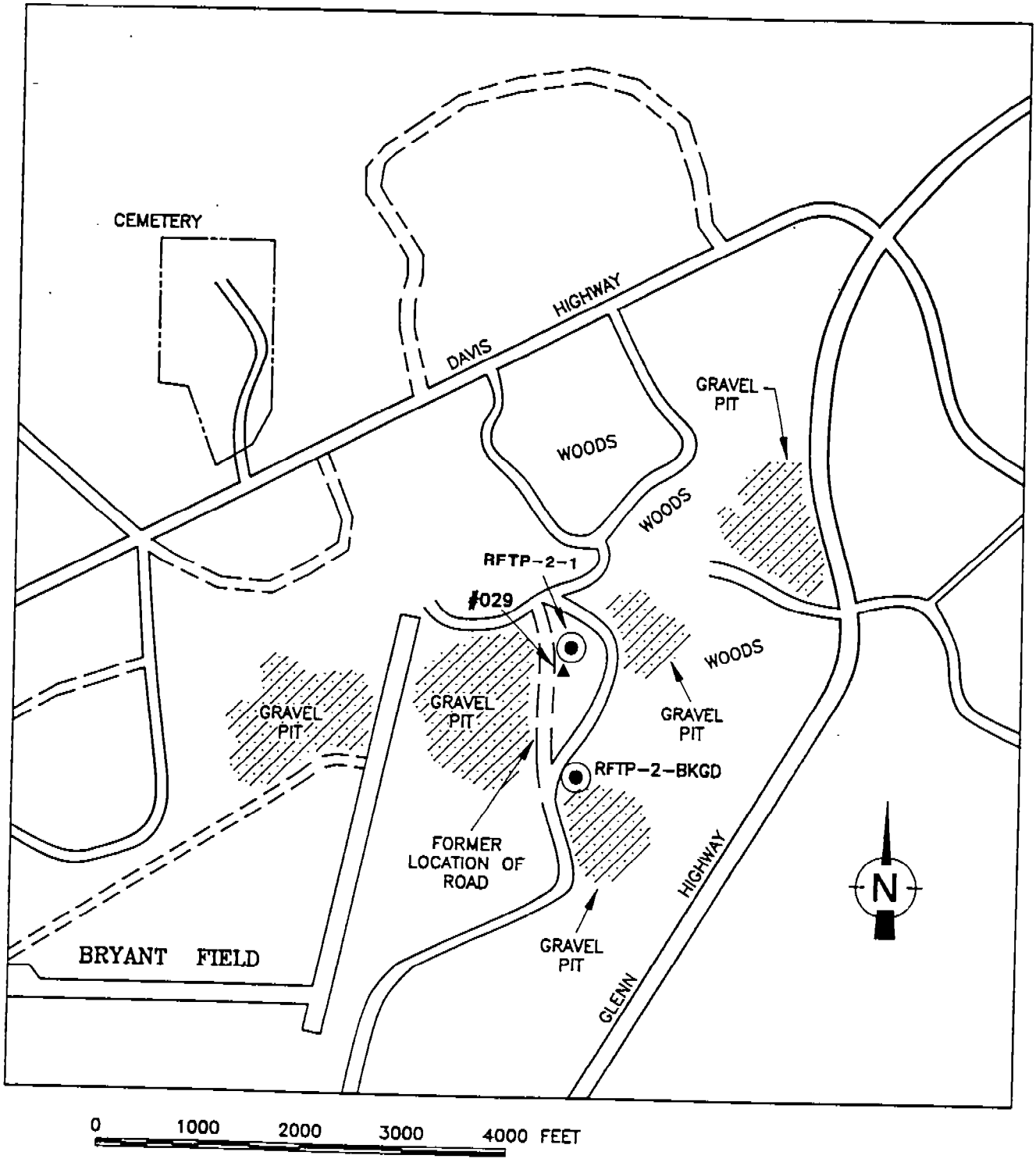
Sampling locations were chosen on the basis of aerial photograph interpretation and a detailed site reconnaissance. Surface soil samples were collected to determine if topsoil is contaminated. One surface soil sample (#29) was collected at RFTP-2 as a composite sample from

gray, black, and white stained soil (Figure 2-7). The composite sample was comprised of 7 aliquots of stained soil located throughout the FTP. One surface soil sample (#21) was collected from the black soil in WFTP-3A as a grab sample (Figure 2-8). Since stained soil was not observed at Fort Greely, surface samples were not collected.

Drilling was accomplished using an Acker Soil Max at Fort Richardson and a Mobile B-50 at Fort Wainwright and Fort Greely. The split-spoon sampler was advanced during hollow-stem auguring by conventional methods. Blow counts were recorded at each 6-inch interval of penetration of the split-spoon. Samples were collected with a split-spoon approximately every 3 to 5 feet for logging purposes. Selected samples were packaged and shipped for chemical analysis.

Two boreholes were drilled at Fort Richardson (Figure 2-7), seven at Fort Wainwright (Figure 2-8), and nine at Fort Greely (Figure 2-9). All boreholes were completed with a drill rig except for GFTP-4D-4 and WFTP-BKG, which were excavated with a hand auger.

In accordance with the work-plan, background samples were collected at 5 feet below ground surface (bgs) at each Fort in a location upgradient from the FTPs. One background sample each was collected at 5 feet bgs at Fort Richardson (#28) and Fort Wainwright (#90). Two background samples were collected at 5 feet and 10 feet bgs at Fort Greely (#85 and #82, respectively) because the PID detected organic vapors in the shallow sample. The logs of the boreholes are presented in Appendix C. The logs include lithologic descriptions, sample depths, water table depth, and total depth drilled.



LEGEND

- Borehole Sample Location
- ▲ Surface soil sample (composite)

FIRE TRAINING PIT SITES
Fort Richardson, Anchorage, Alaska
CONTRACT DACA85-88-D-0014

TITLE:

SAMPLE LOCATION MAP
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FIG. 2-7

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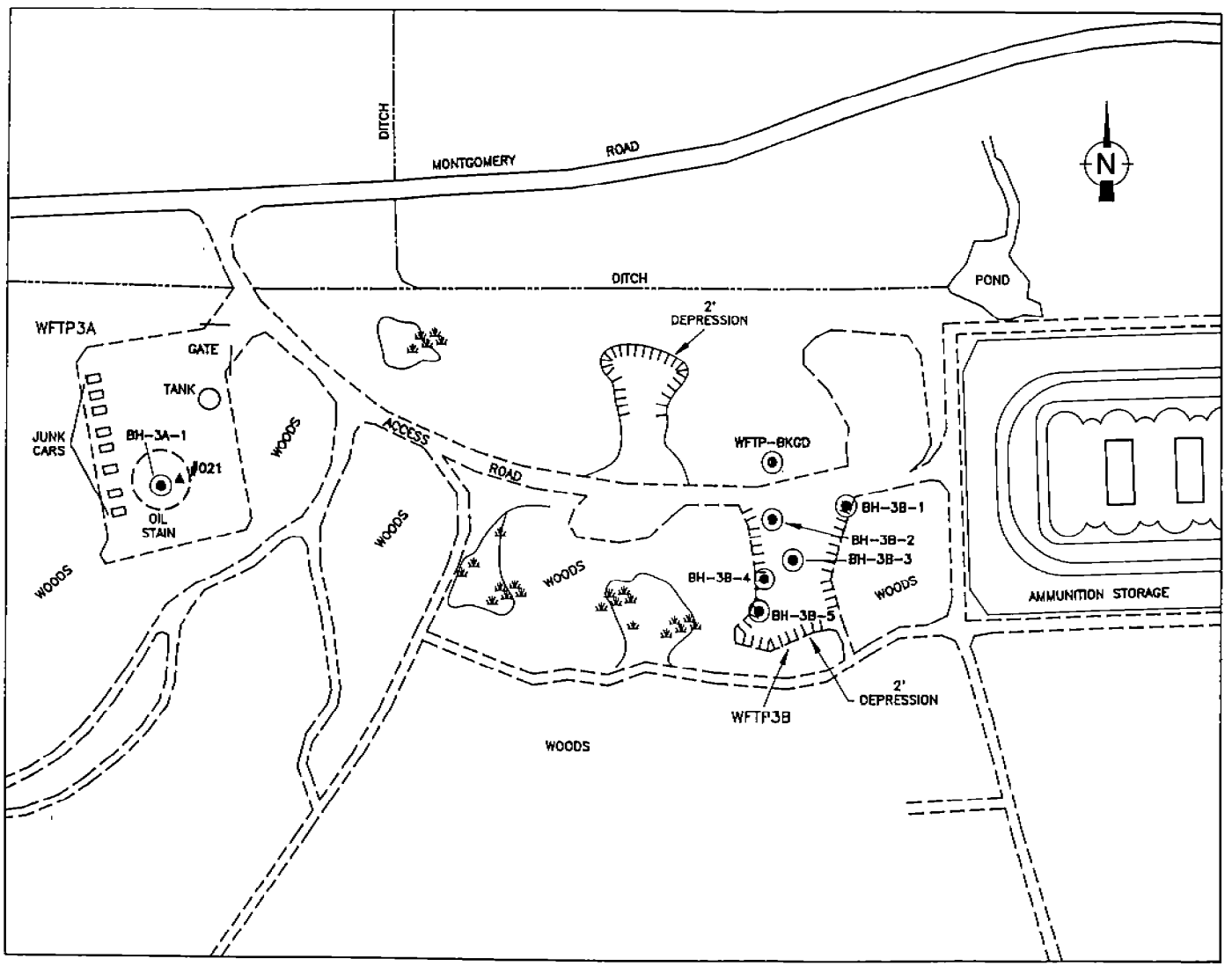

LEGEND

- Borehole Sample Location
- Surface soil sample

FIRE TRAINING PIT SITES
Fort Wainwright, Fairbanks, Alaska
CONTRACT DACA85-88-C-0014

TITLE:

SAMPLE LOCATION MAP
Delivery Order No. 14

Project No. KM5130

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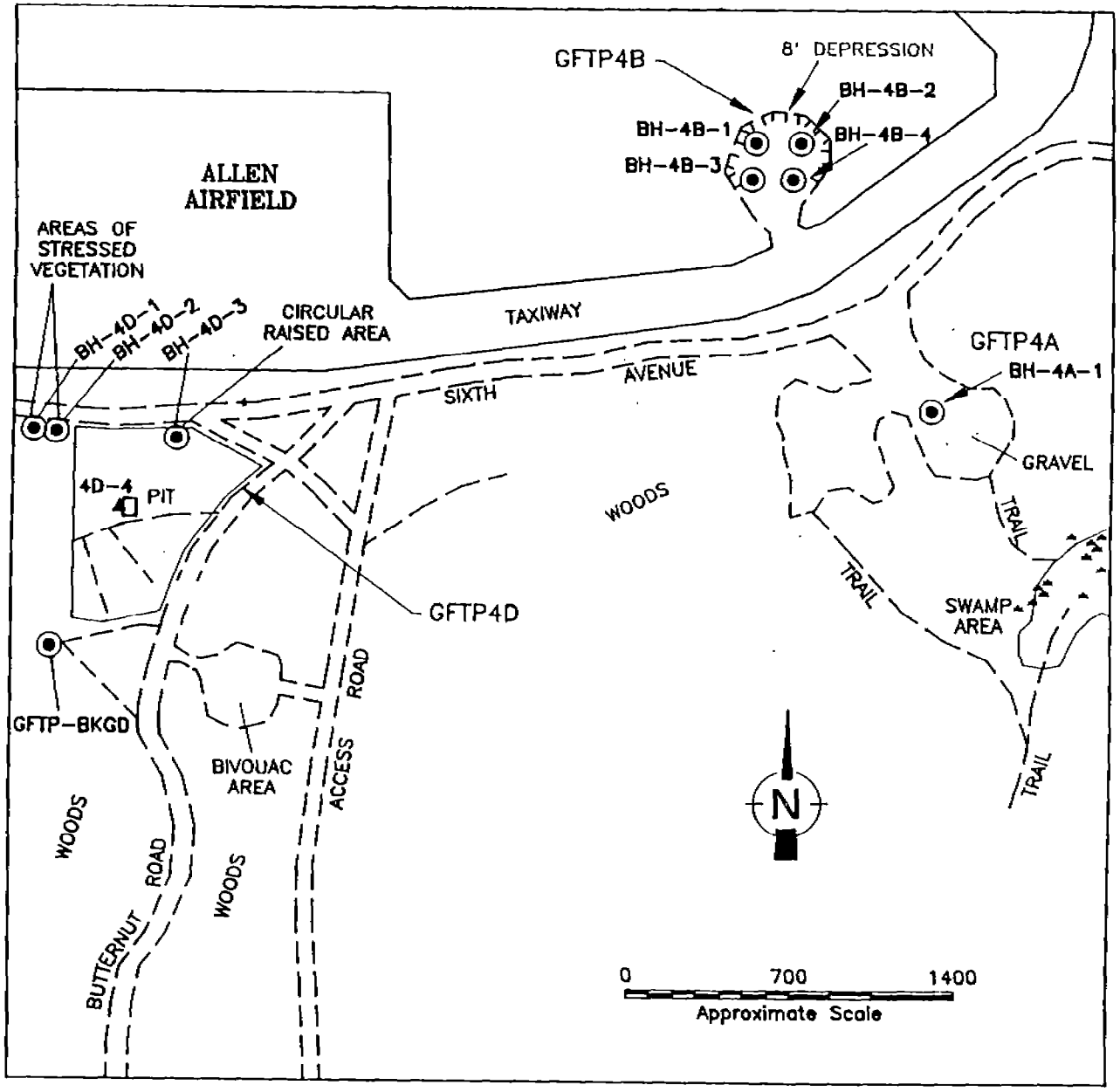
FIG. 2-8

Date: 09/91 Drawn by: RSM Scale:



LEGEND

- Access road
- Overgrown access road
- Borehole Sample Location
- Surface soil sample

FIRE TRAINING PIT SITES
Fort Greely, Delta Junction, Alaska
CONTRACT DACA85-88-D-0014

TITLE:

SAMPLE LOCATION MAP
Delivery Order No. 14

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FIG. 2-9

Date: 09/91 Drawn by: RSM Scale:

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3. ANALYTICAL PROGRAM

Surface and subsurface samples were collected from the FTPs at each of the three Forts. Four subsurface samples, one surface sample and one background subsurface sample were collected at Fort Richardson. Ten subsurface samples, one surface sample, and one background subsurface sample were collected at Fort Wainwright. Seventeen subsurface samples and two background subsurface samples were collected at Fort Greely. Additionally, quality assurance/quality control (QA/QC) samples, including duplicate and triplicate soil samples, trip blank samples, and rinsate samples, were collected. Results of the sampling program are presented in Appendix D. The quality of the data was checked by the North Pacific Division's Quality Assurance Laboratory at Troutdale, Oregon (NPDL 1991).

3.1 LABORATORY IDENTIFICATION

Each sample was sealed and labeled immediately after collection. A 13-digit alphanumeric code was assigned to each sample as an identification number to track samples collected at the site. The sample code is broken down as follows:

Group	Digits	Time	Code Examples
(1)	1-2	Calendar Year	90, 91
(2)	3-4	Week (1-52)	01, 52
(3)	5-8	IRP identification code	RFTP (Fort Richardson Fire Training Pit)
(4)	9-11	Sample number	001,010,100
(5)	12-13	Sample type	Symbol
		Soil	SL
		Water	WA
		Hexane	MI

Example: 91 26 RFTP 029 SL - 1991, Week 26, Fort Richardson Fire Training Pits, Sample No. 029, Soil.

The sample label also provided the analysis required and the preservation.

3.2 ANALYTICAL PARAMETERS

Analytical requirements for the investigation were established to provide data necessary for determining the handling and disposal requirements for the site wastes. The parameters were chosen based on the following rationale:

- Fire training activities could have burned the following fuel types: diesel fuel, JP-4 waste oils, brake fluids, transformer oils, and solvents; hence, samples were analyzed for volatile organic compounds (VOCs), base/neutral/acid extractables (BNAs), pesticides and polychlorinated biphenyls (PCBs), and metals.

- Waste oil regulations address metals and total petroleum hydrocarbons (TPH); hence, samples were also analyzed for TPH; and

- FTPs may contain PCB-contaminated transformer oils with the possibility of dioxin contamination from incomplete combustion of PCB materials; hence, at least one sample per FTP was analyzed for dioxin.

4. PRELIMINARY HAZARD ASSESSMENT

This section describes the potential hazards presented by the principal contaminants found at the FTPs. Relevant information is presented on physical, chemical and toxicological properties; likely release; fate and transport mechanisms; potential exposure pathways; and potential receptors. The information presented in this section constitutes a preliminary hazard evaluation and is not intended as a quantitative baseline risk assessment. Its purpose is to determine whether or not contaminants from the FTPs could pose potential risks to human or environmental receptors and to identify data needs for future investigations.

Based on the analyses performed to date, the soils are generally contaminated with petroleum hydrocarbons, along with pesticides in selected soils. Some of the areas exhibit contamination with a characteristic waste contaminant, lead. The presence of contaminants in site soils was established by analytical data generated during the field investigation. In order to focus on significant contaminants, the data were compared to existing criteria for hazardous waste. Soil was assumed to be contaminated if concentrations of compounds exceeded 20 times Resource Conservation and Recovery Act (RCRA) Toxicity Characteristic Leaching Procedure (TCLP) action level concentrations. The TCLP is designed to determine the mobility of organic and inorganic compounds in soils and other media (40 CFR 261.24). A list of TCLP action level concentrations of concern to this site is presented in Table 4-1. A

TABLE 4-1

RCRA TCLP Action Levels

Contaminant	Type	TCLP mg/L
Arsenic	D004	5
Barium	D005	100
Cadmium	D006	1
Chromium	D007	5
Lead	D008	5
Mercury	D009	0.2
Selenium	D010	1
Silver	D011	5
Trichloroethane	F039	0.5
Tetrachloroethene	F039	0.7
2,3,7,8-TCDD	F039	0.001

RCRA = Resource Conservation and Recovery Act
TCLP = Toxicity Leaching Procedure

Source: 40 CFR 261.24

D-type waste is a characteristic waste, and an F-type waste is a multi-source leachate waste. A U-type waste is from discarded commercial chemical products, off-specification species, container residues, and spill residues.

If a compound was not found in the TCLP list, its concentration was compared to a maximum concentration listed under Land Disposal Restrictions (LDRs), which are required under Hazardous and Solid Waste Amendments (HSWA)of RCRA. If a contaminant exceeds a maximum concentration, then it must be remediated by the Best Demonstrated Available Technology (BDAT) (40 CFR 268.43) prior to disposal. A list of BDAT concentrations of concern for this site for nonwastewater is presented in Table 4-2. Soil that contains compounds at concentrations greater than those associated with BDAT are considered contaminated.

A compound that is not found in the TCLP or BDAT List is compared to the background sample. If its concentration is greater than 3 to 5 times the background concentration or greater than 3 to 5 times the detection limit of the background sample, then the soil is assumed to be contaminated.

Concentrations of petroleum contaminants were also compared to Alaska Department of Environmental Conservation (ADEC) clean up levels established using the clean up matrix for soils in 18AAC78.

4.1 SOURCE AND RELEASE CHARACTERIZATION

The pits were locations of test fires used for the training of fire department and rescue crews. Fluids were stored at the site until they were burned for training purposes, and the exact nature of all substances that were placed in the FTPs has not been documented. The pits were soaked with water, filled with fuels, brake fluid, and solvents, and ignited. Fuels included diesel, JP-4, and waste oil. Solvents may have been included as contaminants in the waste oil.

It is estimated that 1,500 to 2,300 gallons of waste fuel were burned per year at each pit (USACE 1989). The FTPs were never lined. Currently the surfaces of the FTPs are flush with the ground surface, and they do not contain surface water diversion systems.

TABLE 4-2

BDAT Concentrations

Contaminant	BDAT mg/kg
Acetone	160
Methylene Chloride	33
Toluene	8
Xylenes	28

BDAT = Best Developed Available Technology

Source: 40 CFR 268.43

4.2 FORT RICHARDSON HAZARD ASSESSMENT

4.2.1 Contaminants Detected

RFTP-2 contains lead (543 mg/kg) at a concentration that exceeds 20 times the TCLP concentration of lead. The FTP also contains diesel range hydrocarbons at concentrations (10,000 to 20,000 mg/kg) above ADEC maximum matrix clean up levels.

RFTP-2 also contains numerous compounds at concentrations above background but below any regulatory limit. The surface soil sample, collected from stained soil throughout the FTP, contained tetrachloroethene (PCE) (485 µg/kg), toluene (462 µg/kg), xylenes (1,116 µg/kg), bis(2-ethylhexyl)phthalate (4,100 µg/kg), copper (146 mg/kg), zinc (1,740 mg/kg), and dioxins. RFTP-2 subsurface samples collected from 4.5 to 21 feet bgs contained acetone (283 µg/kg), trichloroethane (TCA) (46 µg/kg), toluene (56 µg/kg), and xylenes (42 µg/kg).

Various dioxin isomers were detected in surface soil, including OCDD and HpCDD. The most toxic isomer, TCDD, was not detected. The concentration of each isomer is compared to the most toxic isomer, TCDD, using EPA toxicity equivalence factors (TEF) (EPA 1990). The TEF is an interim science measure used by EPA to help characterize multiple PCDD and PCDF isomers (USEPA 1989). A conservative approach was employed in evaluating the data when the specific isomers were not identified; in those cases, the TEF of the most toxic isomer was used. See Table 4-3 for a listing of TEFs. The concentration of TCDD in the soil was calculated to be 0.020 µg/kg. The concentration was calculated by multiplying each dioxin isomer concentration by its TEF as follows:

[1.803 µg/kg Total HpCDD X 0.01 TEF] + [1.560 µg/kg OCDD X 0.001 TEF]
= 0.02 µg/kg TEF TCDD

This concentration of dioxin is two orders of magnitude below the TCLP limit. The duplicate and triplicate samples #039 and #040 contained slightly higher concentrations of dioxin than the original sample. These equivalent samples reflect the nonhomogeneity of dioxin in soil.

TABLE 4-3

Toxicity Equivalent Factors (TEF)
for PCDDs and PCDFs

Compound	TEF
2,3,7,8-TCDD	1
2,3,7,8-PeCDDs	0.5
2,3,7,8-HxCDDs	0.1
2,3,7,8-HpCDDs	0.01
OCDD	0.001
2,3,7,8-TCDFs	0.1
2,3,7,8-PeCDFs	0.05
2,3,4,7,8-PeCDFs	0.5
2,3,7,8-HxCDFs	0.1
2,3,7,8-HpCDFs	0.01
OCDF	0.001

PCDD = Polychlorinated dibenzo-p-dioxin
PCDF = Polychlorinated dibenzofurans
TCDD = Tetrachlorodibenzo-p-dioxin
PeCDD = Pentachlorodibenzo-p-dioxin
HxCDD = Hexachlorodibenzo-p-dioxin
HpCDD = Heptachlorodibenzo-p-dioxin
OCDD = Octachlorodibenzo-p-dioxin
TCDF = Tetrachlorodibenzofurans
PeCDF = Pentachlorodibenzofurans
HxCDF = Hexachlorodibenzofurons
HpCDF = Heptachlorodibenzofurons
OCDF = Octachlorodibenzofurons

Source: EPA 1989

4.2.2 Site-Specific Conditions

4.2.2.1 Geographical Setting

Fort Richardson is located primarily within the Cook Inlet-Susitna Lowland Section of the Coastal Trough physiographic province of Alaska. The Cook Inlet-Susitna Lowlands are characterized by glacial features resulting from a series of five glacial periods in recent geologic history. The province contains glaciated areas of ground moraines, drumlin fields, eskers, and outwash plains. Most of Fort Richardson lies less than 500 feet above sea level and has a local relief of 50 to 250 feet. Rolling upland areas near the bordering mountain ranges rise to about 3,300 feet in altitude. The northern section where the RFTP is located features flat to gently rolling, wooded terrain, including ponds and numerous streams within 2 to 4 miles of the site (WCC 1990b).

4.2.2.2 Climate

Fort Richardson is located in a climatic transition zone between the maritime climate of the coast and the continental climate of interior Alaska. The mean monthly temperature ranges from a low of 11.8° Fahrenheit (F) in January to 57.9°F in July. The mean annual total precipitation is 14.7 inches, with almost half of the precipitation occurring in July, August, and September. The total precipitation includes a mean annual snowfall of 70 inches. The driest period occurs between January and May (ES&E 1983a).

Prevailing airflow originates from the south. However, from April to September, northerly winds blow at lower elevations. Mean wind speeds range from 5.8 to 8.3 miles per hour (ES&E 1983a).

4.2.2.3 Site Geology

The FTP sits on a large outwash plain formed along the margin of the Elmendorf Moraine by glacial meltwater. The outwash plain alluvium consists of gravel in the eastern portion of the installation and grades into sand to the west.

Underlying the FTP is a thick, coarse-grained, surficial deposit of gravel and sand, generally well-bedded and well-sorted. It has very little clay or silt, only 10% by volume (AEHA 1983). Drilling logs (FRA-1, FRA-2, FRA-3) from the Fort Richardson Landfill and located 1.5 miles northwest of RFTP-2 show that surficial deposits are more than 160 feet thick.

4.2.2.4 Hydrology

Fort Richardson is believed to overlie a major portion of the recharge area for the confined aquifer that serves Anchorage. Groundwater recharge originates in the Chugach Mountains and probably involves the entire glacial outwash underlying RFTP-2 and major portions of Fort Richardson south of the Elmendorf Moraine. Ship Creek replenishes the aquifer for Anchorage but it also obtains its water supplies from the Chugach Mountains (Cederstrom 1964).

Several aquifers probably exist below or near RFTP-2. Well logs from the Fort Richardson fish hatchery, about 1.5 miles south of RFTP-2, and from the Fort Richardson Landfill, 1 mile west of RFTP-2 indicate the depth to groundwater to be 140 feet deep, although perched aquifers are found at 38 feet bgs. Groundwater flow was inferred to flow west-northwest at that site.

The main drainages of the installation are Eagle River located more than 3 miles to the north, Fossil Creek located 1.3 miles to the north, and Ship Creek located 2 miles to the south of RFTP-2. Eagle River is fed by turbid glacial water, and Ship Creek is sustained by snowmelt and runoff. Another water body, Otter Lake, is located 4.5 miles northwest of RFTP-2 (WCC 1990b). RFTP-2 is not located near any major tributaries of Eagle River or Ship Creek.

4.2.2.5 Potentially Exposed Populations

The area surrounding RFTP-2 contains gravel pits and forests. There are no access restrictions in the area of the site. East of RFTP-2 is the Glenn Highway and west of RFTP-2 is the Bryant Airfield. North and south of RFTP-2 are gravel pits. The closest residential

area, the main cantonment area for Fort Richardson, is approximately 1 mile to the southwest of the FTP. There are no buildings within at least a 0.25-mile radius of the site.

The Fort Richardson area has a diverse wildlife population. Wildlife found at the Fort include moose, bear, Dall sheep, swans, and waterfowl. No threatened or endangered species are known to reside on the Fort Richardson installation (ES&E 1983a).

4.2.3 Fate and Transport Contaminants

Physical and chemical properties of chemicals are important determinants of the fate and transport processes that directly affect the exposure potential for human and environmental receptors. This section describes some of the more important properties and probable fate and transport of the chemicals of potential concern found at the site.

4.2.3.1 Diesel Range Hydrocarbons

These high molecular weight constituents are likely to adsorb to soils, particular by those with a high organic content. The water solubility of diesel and oil is minimal, thus migration via water is limited to surface dispersion.

4.2.3.2 Lead

Lead is a naturally occurring metal used in the manufacture of batteries, ammunition, and various metal products (e.g., sheet lead, solder, and pipes), and it is contained in many industrial chemicals, including fuel additives. Soil lead content normally ranges from 10 to 30 mg/kg in soils (USEPA 1986b).

Sorption processes exert dominant effects on the distribution of lead in terrestrial and aquatic environments. The dominant sorption mechanisms are dependent on geologic setting, pH, oxidation-reduction potential, availability of ligands, and chemical composition of the soil. Adsorption of inorganic and organic materials, hydrous iron, and manganese oxides controls the mobility of lead in soils. Over most of

the pH range, lead carbonate and lead sulfate control solubility, and their solubilities are low. Lead also strongly bonds with organic materials present in soil.

Lead in soils is not easily taken up by plants, so the availability of lead to terrestrial organisms by this route appears to be limited. Bioaccumulation of lead has been demonstrated for a variety of organisms, with bioconcentration factors typically ranging from 42 to 1,700 (USEPA 1986a.) Due to the affinity of lead to the soil matrix, it is expected that lead will be immobilized in the surface soils.

4.2.4 Transport and Exposure Pathways

The highest levels of contamination were found in the surface soil. Because access to RFTP-2 is unrestricted, exposures to surface soil contaminants can potentially occur by dermal contact and incidental ingestion of surface soils. Lead may also become airborne by wind erosion, but this is probably limited by the hardness of the soil in RFTP-2.

Contaminants cannot migrate in surface water to Fossil Creek, 1.3 miles north of the site, as there is no viable overland route. Because of the high permeability and low organic content of the soil, soluble contaminants leached by infiltrating rainwater will tend to migrate downward. Given the considerable depth of groundwater, about 140 feet bgs, and small amounts of precipitation, about 15 inches annually, it seems unlikely that a significant concentration of site contaminants has reached groundwater.

4.2.5 Potential Receptors

Based on the location of contaminants in surface soil and the limited migration of contaminants from the site, potential exposures to site contaminants are likely to occur at or near the site by the following pathways:

- Direct dermal contact with contaminated soil;
- Incidental ingestion of contaminated soil; and
- Inhalation of airborne contaminants, mainly vapors of VOCs.

Access to the RFTP site is unrestricted. Potential receptors would include any wildlife or people, perhaps hunters or army personnel, passing through the site. The setting of the site suggests that human exposures will be infrequent.

4.3 FORT WAINWRIGHT HAZARD ASSESSMENT

4.3.1 Contaminants Detected

WFTP-3A surface soil contains diesel range hydrocarbons at concentrations (21,460 mg/kg) that exceed the ADEC regulatory matrix concentrations. WFTP-3B also contained diesel range hydrocarbons from 2.5 feet bgs to 8.5 feet bgs at concentrations (1,370 to 1,707 mg/kg) that exceed the ADEC regulatory matrix concentration. The presence of the diesel confirms that the WFTP-3B area was formerly used as an FTP.

WFTP-3A and WFTP-3B also contained compounds above background concentrations, but not above federal or state regulatory limits. Contaminants detected in the surface soil of WFTP-3A included benzene (421 µg/kg), toluene (1,611 µg/kg), xylenes(2,205 µg/kg), lead (99.3 mg/kg), and zinc (216 mg/kg). Analysis of subsurface soil from WFTP-3A did not reveal any contamination. Subsurface samples from WFTP-3B contained xylenes (1,167 µg/kg), and 2-methylnaphthalene (1,470 µg/kg) from 2.5 feet to 4.0 feet bgs.

4.3.2 Site-Specific Conditions

4.3.2.1 Geographical Setting

Fort Wainwright is located in two physiographic provinces: the Tanana-Kuskokwim Lowlands and the Yukon-Tanana Uplands of central Alaska. WFTP-3A and WFTP-3B are located in the Tanana-Kuskokwim Lowlands. The Fort is located on nearly level ground within the meander belt of the Chena River. The typical elevation is 450 feet above MSL with local relief of only 15 feet. The bedrock hills of the Birch Creek Schist, rising from 550 feet to an elevation of 1,097 feet, are located at the northern boundary of the base (WCC 1990c; USGS 1966).

4.3.2.2 Climate

Fort Wainwright is located in a continental subarctic climatic zone characterized by great diurnal and annual temperature variations, low precipitation, low humidity, short moderate summers, long cold winters, great seasonal contrasts in light duration, and low incidence of cloud cover (Leslie 1989).

The monthly mean temperatures range from -11.9°F in January to 60.7°F in July. The mean total precipitation is 11.2 inches, with 6.6 inches of the precipitation occurring as rain during the summer (June through September). The mean total precipitation includes 69.7 inches of snow (Leslie 1989).

Prevailing airflow in the area is from the north in all months except June and July when the wind originates from the southwest. Mean wind speeds range from 3.1 to 7.6 miles per hour (Leslie 1989).

4.3.2.3 Site Geology

Fort Wainwright is located on a buried river valley. The installation is underlain by several hundred feet of Quaternary glacial sediment. The top layers consist of a 6- to 20-foot surficial layer of silty micaceous loess and fine-grained sand derived from the outwash plain of the Tanana River. Drilling logs indicate that unconsolidated silt, sand, and gravel outwash deposits typically underlie this surficial layer.

The Tanana River valley is filled with floodplain alluvial deposits consisting of unconsolidated silt, sand, and river gravel. Locally, the ground is discontinually frozen (permafrost) and ice content of the soil can range from low to very high. In the immediate vicinity of the WFTPs, permafrost is not known to exist. The gravels consist mostly of quartz and gneiss, and have been mined extensively for gold further to the east.

Bedrock underlying the area is primarily Precambrian Birch Creek Schist with a few occurrences of Paleozoic and Mesozoic intrusives. Generally, the depth to bedrock in the valley is less than 300 feet, but buried valleys do exist and can reach over 700 feet bgs (WCC 1990c; ES&E 1983b).

4.3.2.4 Hydrology

Fort Wainwright lies within the Tanana River and Chena River drainage basins. All surface water runoff from the installation eventually drains into the Tanana River. The Tanana River is a silt-laden, highly braided glacial stream with a channel that meanders across an alluvial floodplain (WCC 1990c). The WFTPs are located less than 1 mile south of the Chena River and more than 3 miles north of the Tanana River (USGS 1966).

The aquifer underlying Fort Wainwright is composed of unconsolidated sands and gravels 300 to 700 feet thick that lie in a buried river valley. The aquifer appears to be a single, unconfined, completely saturated (except the vadose zone), high-yielding aquifer containing discontinuous permafrost (USACE 1989). The water table at the installation occurs at depths of 7 to 10 feet (WCC 1990c). Regionally, groundwater flows westward in the same direction as the Tanana and Chena Rivers. South of the Chena River, groundwater flows west-northwest. North of the Chena River, groundwater flows west-southwest. Groundwater is recharged through infiltration of precipitation and seasonally through infiltration of the Tanana River.

4.3.2.5 Potentially Exposed Populations

Fort Wainwright occupies 915,000 acres of land with 15,000 acres in the main cantonment area at the eastern edge of the City of Fairbanks, in the Tanana River Basin of interior Alaska. The City of Fairbanks has a population of 28,854. Approximately 15,000 people live and work at Fort Wainwright (WCC 1990c).

The area in the immediate vicinity of the WFTPs is wooded and is intersected by military roads that are traveled frequently. The closest buildings, approximately 600 feet north of the WFTPs, are a hangar and a Corps of Engineers building. Further north are taxiways for the Fort Wainwright airport. A forested area and a parking area for recreational vehicles are located to the west of the WFTPs. East of the WFTPs is an ammunition storage area. The area south of the WFTPs is also wooded.

The site is not fenced except for a locked gate at WFTP-3A to restrict vehicular traffic. Due to the sensitive nature of the ammunition storage area, the area is patrolled by Military Police.

The nearest residential area, a barracks, is located about 2,000 feet southwest of the site. Another post housing area is located about 0.8 miles north of the site. The closest off-post residential area is about 1 mile southeast.

Groundwater is used as a water supply source by the City of Fairbanks and Fort Wainwright. The Fort drinking-water wells are located about 1.25 miles southwest of the FTPs. Fairbanks wells are located over 4 miles west of the site on the south bank of the Chena River.

Woodland wildlife species are found in the Fort Wainwright area. The base lies within a moose herd wintering range and a major migration route to moose calving grounds.

4.3.3 Fate and Transport of Contaminants

Physical and chemical properties of chemicals are important determinants of the fate and transport processes that directly affect the exposure potential for human and environmental receptors. This section describes some of the more important properties and probable fate and transport of the diesel range hydrocarbons found at the site. These high molecular weight constituents are likely to adsorb to soils, particularly those with a high organic content. The water solubility of diesel and oil is minimal, thus migration via water is limited to surface dispersion.

4.3.4 Transport and Exposure Pathways

Because access to the WFTPs is unrestricted, exposures to surface soil contaminants can potentially occur by dermal contact and incidental ingestion of surface soils. In addition, contaminants will tend to volatilize to ambient air, potentially exposing receptors, at or downwind of the source area, to site contaminants by the inhalation pathway.

Nonvolatile contaminants may also become airborne by wind erosion of the soil, but this will be limited because most of the soil surface is vegetated or covered with gravel, and the area is surrounded by trees.

The surface soils at the WFTPs consist of sandy silt to silty sand. The silty content of the soil may moderately retard contaminant migration. Overland runoff flows north and northwest to a drainage ditch adjacent to Montgomery Road. The drainage ditch flows toward the Chena River about 0.4 mile away, potentially allowing migration of metals from the site to the river. VOCs and other soluble contaminants leached by infiltrating rainwater will tend to migrate downward toward groundwater. The water table in the area is less than 10 bgs. The groundwater that flows west-northwest could potentially carry contaminants from the site to the Chena River, about 0.75 miles away in that direction. Because of the distance from the site to the river and dilution upon reaching the river, it is unlikely that significant contaminants will reach the Chena River via surface water or groundwater migration.

Groundwater is used as a water supply source by the Municipality of Fairbanks. However, the distance to the drinking-water wells is considerable, and they are not likely to be affected by migration of site contaminants in groundwater. Fort Wainwright drinking water wells are located approximately 1.25 miles southwest of the site. Groundwater flows to the northwest. Therefore, there is very little potential for contaminants to migrate against the flow of groundwater to the drinking water wells.

4.3.5 Potential Receptors

Potential exposures to site contaminants are most likely to occur at or near the fire training pits by the following pathways:

- o Direct dermal contact with the contaminated soil;
- o Incidental ingestion of contaminated soil; and
- o Inhalation of airborne contaminants.

Access to the site is unrestricted. Potential receptors would include any wildlife or human receptors passing through the area. The location of the site, amid operational areas of the Fort, suggests that the likeliest receptors are army personnel working in the area.

4.4 FORT GREELY HAZARD ASSESSMENT

4.4.1 Contaminants Detected

Diesel range hydrocarbons were detected at GFTP-4B and GFTP-4D at concentrations near or above regulatory limits. Diesel range hydrocarbons were detected at concentrations exceeding ADEC regulations at GFTP-4B and GFTP-4D. GFTP-4B contained diesel range hydrocarbons from 4.5 feet bgs to 11 feet bgs with a maximum concentration of 2,450 mg/kg. GFTP-4D contained diesel range hydrocarbons from 4.5 feet to 6 feet bgs at a maximum concentration of 1,040 mg/kg. GFTP-4B contained DDD (81,000 µg/kg), DDT (150,000 µg/kg), and DDE (2,900 µg/kg); GFTP-4D contained DDD (330.0 µg/kg), DDT (1,200.0 µg/kg), and DDE (55.2 µg/kg). These were found in samples collected from 4.5 feet to 11 feet bgs at concentrations substantially above background concentrations.

GFTP-4B and GFTP-4D also contained TCA (13 µg/kg and 15 µg/kg, respectively) and PCE (177 µg/kg and 182 µg/kg, respectively) from 1 foot to 6.5 feet bgs at concentrations below regulatory limits but above background concentrations. GFTP-4A contained dioxin from 4.5 feet to 6 feet bgs at a concentration of 0.32 µg/kg TEF relative to 2,3,7,8-TCDD. This is only one-third of the regulatory concentration limit. Dioxins were detected in the samples analyzed at CAS laboratory more frequently then in equivalent duplicate samples analyzed at the SWOK laboratory. Additionally, rinsate sample contained dioxin. These peculiarities lead to questioning the validity of the dioxin data.

4.4.2 Site-Specific Conditions

4.4.2.1 Geographic Setting

Fort Greely is located in the Tanana-Kuskokwim lowlands, which are characterized by bottomland forests and wetlands, and braided glacial meltwater streams flowing north towards the Tanana River (ES&E 1983c).

The Fort is located adjacent to the meander belt of the Delta River. The typical elevation is 1,200 feet above MSL. Fort Greely is located south of Delta Junction near the convergence of the Delta River and Jarvis Creek. Delta Junction lies on the eastern edge of the bottomland spruce-popular forest and just west of the lowland spruce-hardwood forest ecosystem (JFS 1973).

4.4.2.2 Climate

Fort Greely has a continental climate, giving it warm summers and cold winters. The temperature ranges from 85°F to -65°F. The average temperature in the summer is 49.1°F and in the winter 5.8°F. High winds can make the winter particularly severe. Precipitation is light, averaging 11.51 inches including 41.3 inches of snow (Leslie 1989).

Throughout the winter, the prevailing wind direction is from the southeast at approximately 9.1 miles per hour. However, during June and July the wind is directed from the southwest at approximately 7.2 miles per hour (NOAA n.d.).

4.4.2.3 Site Geology

The study area at Fort Greely is underlain by Quaternary deposits resulting from Pleistocene glaciation. Bedrock occurs at depths greater than 400 feet bgs. Soils beneath the GFTPs consist mainly of stratified, well-drained, sandy silty soils with wet, silty, sandy permafrost soils in depressions (ES&E 1983c). The Delta River is located 1 mile west of the GFTPs, and Jarvis Creek is located 2,000 feet east of the GFTPs.

4.4.2.4 Hydrology

Maximum stream discharge occurs in late summer, when snow and melting ice reaches its maximum and is augmented by rainfall (ES&E 1983c). Surface water flows to the north.

The water table at the installation occurs between 174 feet and 200 feet bgs (ES&E 1983c). Water bearing strata at Fort Greely consist of both confined and unconfined aquifers, the unconfined aquifer being the

major source of water supply to the installation. Groundwater reservoirs are replenished by percolation from the glacier-fed streams. Direct infiltration of precipitation contributes minimally to the aquifer supply.

4.4.2.5 Potentially Exposed Populations

The area in the immediate vicinity of the GFTPs is a combination of open fields and forests. The cantonment area is 0.5 miles southwest of the GFTPs. The closest buildings are those of the Fort Greely airport, located 1,000 feet west of the GFTPs. GFTP-4B is used as a freight storage area for extra freight or for hazardous freight that is carried by planes. The area surrounding GFTP-4D is regularly used by military troops as a bivouac area. The site is totally unrestricted to human or animal traffic. The E & E field team observed equestrians riding through the site.

The Delta caribou heard regularly winters in the Fort Greely area (ADFG 1985). Moose are abundant and brown bear are also found in the area of the Fort (ADFG 1985). Bison, introduced to the area in the 1920s, have fall and winter ranges in the Fort area.

Ducks and geese migrate along the Delta and Tanana Rivers (ADFG 1985). Sandhill cranes migrate through the Fort area from late April to mid-May and again in September. Thousands of migrating waterfowl are observed in the area each year (ADFG 1985). Lake trout and Arctic grayling are found in the Delta River (ADFG 1990).

4.4.3 Fate and Transport of Contaminants

Physical and chemical properties of chemicals are important determinants of the fate and transport processes that directly affect the exposure potential for human and environmental receptors. This section describes some of the more important properties and probable fate and transport of the chemicals of potential concern found at the site.

4.4.3.1 Diesel Range Hydrocarbons

These high molecular weight constituents are likely to adsorb to soils, particularly those with a high organic content. The water solubility of diesel and oil is minimal, thus migration via water is limited to surface dispersion.

4.4.3.2 Pesticides

DDT [p,p'-DDT or 2,2-bis-(p-chlorophenyl)-1,1,1-trichloroethane] is a pesticide extensively used throughout the world for insect control. DDT insecticidal properties were first recognized in 1939. It was used extensively for insect control during World War II and has been in world-wide agricultural use since then. In 1972 the EPA banned all uses of DDT in the United States primarily because of accumulation of residues in the environment and concern about its possible carcinogenicity (ATSDR 1989).

Technical-grade DDT typically contains 80% to 90% p,p'-DDT. Other components include DDE [p,p'-DDE or 2,2-bis(p-chlorophenyl)-1,1-dichloroethylene], and DDD [p,p'-DDD, or TDE or 2,2(p-chlorophenyl)-1,1-dichloroethane]. Together, these compounds are known as DDT-T.

DDT-T is a man-made chemical and does not occur naturally in the environment. However, it is presently widely distributed in the environment as a result of its extensive past use as a pesticide and its high stability and persistence. DDT-T also tends to accumulate in the food chain. One of its most significant environmental effects is that elevated levels cause thinning of the shells of birds' eggs. This has had a devastating effect on the reproductive success of many birds of prey, particularly eagles.

The low water solubility and high organic carbon and octanol-water partition coefficients of DDT-T indicate that it is strongly bound to soil and organic material. It is not readily mobile as a free compound in soils and, consequently, does not migrate readily in the subsurface unless a co-solvent, such as oil or organic solvents, is present to transport it. Volatilization of DDT and DDE is known to account for considerable losses of these compounds from surface soils and water.

The major removal processes for DDT-T residues in the atmosphere are photochemical degradation, and dry and set deposition, with the latter processes accounting for the bulk of the removal (ATSDR 1989).

In the atmosphere DDT-T is subject to direct photo-oxidation and reaction with photochemically produced hydroxyl radicals. Because of the above process, DDT has an estimated half-life in the atmosphere of 2 days (Coulston 1985). In surface water DDT is photodegradable by wavelengths of light present in the troposphere. DDT-T is not known to hydrolyze, and biodegradation in surface water is considered a minor method of transformation (Johnsen 1976). On soil surfaces DDT-T is known to undergo photo-oxidation (Lichtenstein and Schlaz 1959). It also undergoes both aerobic and anaerobic biodegradation in soils. Aerobic degradation converts DDT to DDE, and anaerobic degradation converts it to DDD; the anaerobic process is more rapid (HSDB 1988). Both metabolites are resistant to further degradation; thus, the ratios of DDD and DDE to DDT in the environment are likely to increase. The half-life to DDT in soil has been estimated to range from 2 to greater than 15 years (Lichtenstein and Schlaz 1959; Stewart and Chisholm 1971).

4.4.4 Transport and Exposure Pathways

Contaminants found in subsurface soils in GFTP-4B and GFTP-4D include pesticides and diesel range hydrocarbons. Because access to the site is unrestricted, exposures to site contaminants can potentially occur by dermal contact and incidental ingestion of surface soils. Contaminants could also potentially become airborne by wind erosion of surface soil, but this is limited by vegetation or gravel over most of the ground surface in the fire pits.

Surface soil contaminants could potentially migrate with surface runoff to Jarvis Creek, 2,000 feet east of the site. Because of the distance to the creek and dilution effects, the concentrations of contaminants reaching Jarvis Creek will probably be extremely small. However, pesticides are persistent in the environment and tend to bioaccumulate and, if they reached the Creek, could concentrate in fish.

The soils underlying the GFTPs consist of gravelly sand and sandy gravel, and offer little retardation of contaminant migration. Contaminants leached by infiltrating rainwater will tend to migrate downward through the permeable soil toward groundwater. However, given the considerable depth to groundwater, approximately 175 feet bgs, and the light precipitation, 11.5 inches annually, it seems unlikely that significant concentrations of site contaminants have reached groundwater.

4.4.5 Potential Receptors

Potential exposures to site contaminants are likely to occur at or near the fire training pits by the following pathways:

- Direct dermal contact with contaminated soil;
- Incidental ingestion of contaminated soil; and
- Inhalation of airborne contaminants.

Access to the site is unrestricted. Potential receptors would include any wildlife or human receptors passing through the area. The likeliest human receptors are army personnel who regularly use the area for military exercises.

If pesticides from the site migrated to Jarvis Creek, they could bioconcentrate in fish, potentially exposing waterfowl and other receptors who consume fish from the Creek to significant levels.

5. PROPOSED FUTURE WORK

Based on the results of the current field investigation, a general sampling plan for future work is outlined below. Review of the 1991 analytical results indicates that WFTP-3B, GFTP-4B, and GFTP-4D contain contaminated soil and are therefore confirmed FTPs. RFTP-2, WFTP-3A, and GFTP-4A are known FTPs.

The FTPs are best described as waste piles, as defined in the federal regulations. According to 40 CFR 265.258, waste piles are closed by removing contaminated soil or by adding a cover to the FTP area. The proposed sampling plan will provide sufficient information to determine the extent of contamination and the volume of contaminated soil at each FTP. Additionally, if groundwater quality is potentially threatened, the sampling plan will also determine the existence of groundwater contamination and the attribution of the contamination of FTPs, while determining specific groundwater flow directions at the site.

5.1 FORT RICHARDSON

The collection of surface and subsurface samples is recommended to determine the vertical and lateral extent of lead and diesel contamination. The contaminated soil can then either be remediated on site or be removed for remediation.

At RFTP-2 the water table is approximately 140 bgs, and the contaminants were detected at only moderate concentrations in the soil. The potential for groundwater contamination is low; however, lead is present at a significant concentration. Soil should be analyzed for total lead

as well as lead according to the TCLP in samples collected during the future subsurface sampling investigation at RFTP-2. If the concentration of lead exceeds the TCLP limit, groundwater monitoring wells may have to be installed.

5.2 FORT WAINWRIGHT

Since Fort Wainwright has been placed on the NPL, the Fort Wainwright FTPs will not be further investigated under this delivery order, but will be investigated in accordance with the Inter-Agency Agreement. Surface and subsurface soil samples should be collected at WFTP-3A and WFTP-3B to determine the lateral and vertical extent of diesel contamination. The soil can be remediated on site or it can be removed from the site.

Although contaminants were detected at only moderate concentrations, they may be present in the groundwater because the water table is very shallow. Drinking water wells are approximately 1.2 miles from the site. Although there currently are monitoring wells surrounding the site, E & E recommends installing a well at the site to determine if diesel contaminants have migrated to the groundwater.

5.3 FORT GREELY

At the Fort Greely FTPs, surface and subsurface soil samples should be collected to a minimum depth of 25 feet in a grid pattern around GFTP-4A. The depth of 25 feet was chosen in order to sample soil from beneath the pits. Subsurface and surface samples should also be collected from GFTP-4B and GFTP-4D to determine the vertical and lateral extent of contamination. The soil should be removed from GFTP-4B and GFTP-4D for remediation of DDD, DDE, and DDT to meet a cleanup standard that will be determined in the future.

5.4 POSSIBLE REMEDIAL MEASURES

Soil contaminated with petroleum hydrocarbons can be remediated by a number of methods including bioremediation, in situ vacuum extraction, land farming, composting, soil pile aeration, low temperature volatilization, and other methods.

The presence of a RCRA characteristic or listed waste (lead) will severely limit the overall effectiveness of some of the above methods. The potential presence of a dioxin will require either very expensive on-site incineration or dechlorination, or excavation, transportation, and very expensive storage at a TSD facility in Texas. (At present, the Texas facility is the only facility permitted to store dioxin from off-site.)

The presence of metals in the soil, even if the soil is not a characteristic waste, can prove toxic to bioremediation microbes. This can be most readily determined by a bench scale test. If the soil is a characteristic waste, treatment would be necessary prior to land disposal either in situ or ex situ.

The presence of DDT, which is soon to be included in the landban, requires thermal destruction or other treatment.

Although in every case further sampling will be required, the type and extent of sampling will depend to some extent upon the remedial measures proposed. Groundwater may have to be monitored at each Fort, depending upon water table depth and concentration of contaminants, as described above. However, prior to developing detailed sampling plans, the general direction of the remediation must be determined for each of the three Forts.

6. REFERENCES

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North Pacific Division Laboratory (NPDL), 1991, Quality Assurance Laboratory, Quality Assurance of Analytical Data for Fire Training Pits at Fort Richardson, Fort Wainwright, and Fort Greely.

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References (Cont.)

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APPENDIX A

EPA FORMS 2070-12

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. DAMAGE TO FLORA
02 [X] OBSERVED (DATE: 6/24/91) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Vegetation does not grow on the FTP, but does grow sparingly around the FTP.

01 [X] B. DAMAGE TO FAUNA
02 [ ] OBSERVED (DATE:) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

A potential exists for fauna to consume contaminated flora or soil that is growing around the FTP.

01 [ ] C. CONTAMINATION OF FOOD CHAIN
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [X] D. UNSTABLE CONTAINMENT OF WASTES
(Spills/runoff/standing liquids/leaking drums)
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [X] ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION

Petroleum was poured into a pit that was unlined during the operation of the FTP.

01 [ ] E. DAMAGE TO OFFSITE PROPERTY
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known

01 [ ] F. CONTAMINATION OF SEWER, STORM DRAINS, WWTPS
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known

01 [ ] G. ILLEGAL/UNAUTHORIZED DUMPING
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None known

III. TOTAL POPULATION POTENTIALLY AFFECTED:
IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991, Draft Progress Report for the Confirmation of the Fire Training Pits, Fort Richardson, Fort Wainwright, Fort Greely, Alaska

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Drinking water wells are greater than 3 miles from the site. The depth to groundwater is 140 feet; therefore, groundwater contamination is not predicted.

01 [ ] B. SURFACE WATER CONTAMINATION
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Surface water contamination is not predicted.

01 [X] C. CONTAMINATION OF AIR 16,040
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Stained soil was spread alongside a nearby road. The HNu detected 20 ppm of organics in the air along this road.

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known

01 [X] E. DIRECT CONTACT
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

There is a potential for persons traveling on the road to come into contact with contaminated soil.

01 [X] F. CONTAMINATION OF SOIL 0.2 acres
01 [ ] POTENTIALLY ALLEGED
02 [X] OBSERVED (DATE: 6/24/91) 1 [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The fire training pit was only 0.2 acres. The extent of contamination is unknown. The acreage used in the FTP could not be estimated because road construction removed the surrounding area.

01 [ ] G. DRINKING WATER CONTAMINATION
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Drinking water wells are greater than 3 miles from the site.

01 [ ] H. WORKER EXPOSURE/INJURY
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The site is inactive.

01 [X] I. POPULATION EXPOSURE/INJURY 16,040
01 [ ] POTENTIALLY ALLEGED
02 OBSERVED (DATE:) 1 [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Ft. Wainwright FTPs	Off Montgomery				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Fort Wainwright	AK	99703	Fairbanks North Star Borough	N/A	
09 COORDINATES LATITUDE: 69° 49' 42"	LONGITUDE: 147° 35' 56"				

10 DIRECTIONS TO SITE (Starting from nearest public road)
Enter site at Airport Way entrance. Proceed on Gaffney to Meridian Road. Proceed South on Meridian and turn left on Montgomery Road. Access road to FTPs is on the right side of road after Luzon Road.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
U. S. Army				
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Ft. Wainwright	AK	99703	( )	
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)			
U. S. Army				
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
Fort Wainwright	AK	99703	( )	

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☒ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER-OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☐ YES DATE ___/___/___ (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☒ F. OTHER: _____
CONTRACTOR NAME(S): Ecology & Environment, Inc. (Specify)

02 SITE STATUS (Check one)
☐ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1961 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Diesel Range Hydrocarbons

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Exposures to contaminants are possible by the following:
1. dermal contact
2. incidental ingestion of contaminated soil
3. inhalation of VOCs

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
David Williams	U.S. Army Corps of Engineers		(907) 753-5657
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Jacqueline Lundberg		E & E	(907) 257-5000	11 / 1 / 91 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A SOLID
- [X] B POWDER, FINES
- [ ] C SLUDGE
- [ ] D OTHER (Specify)
- [ ] E SLURRY
- [ ] F LIQUID
- [ ] G GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: Unknown

CUBIC YARDS:

NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A TOXIC
- [X] B CORROSIVE
- [ ] C RADIOACTIVE
- [ ] D PERSISTENT
- [X] E SOLUBLE
- [ ] F INFECTIOUS
- [ ] G FLAMMABLE
- [ ] H IGNITABLE
- [ ] I HIGHLY VOLATILE
- [ ] J EXPLOSIVE
- [ ] K REACTIVE
- [ ] L INCOMPATIBLE
- [ ] M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		
OLW	OILY WASTE			
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLW	C10-C18	-	Land Treatment	2,958	mg/kg
OLW	C20-C28	-	Land Treatment	21,460	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	NONE		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [ ] A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE ___) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Soil samples that were collected immediately above the water table are contaminated. There is a potential that groundwater is contaminated also.

01 [X] B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE ___) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Contaminants that were found in the soil could travel in surface runoff to the Chena River via ditches alongside roads.

01 [ ] C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE ___) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Although VOCs were detected in surface soils, a PID did not detect organic vapors greater than 1 ppm in the ambient air.

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE ___) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known.

01 [X] E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE ___) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

A potential exists for someone to come into contact with surface contamination. WFTP-3B is unfenced. A locked gate prohibits motorized access, but pedestrians can walk around or under the gate to get to WFTP-3A.

01 [X] F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED 29.5 acres (Acres)
02 [X] OBSERVED (DATE 6/16/91) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Although soil samples were contaminated, the lateral and vertical extent of contamination has not been determined.

01 [X] G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED 15,000
02 [ ] OBSERVED (DATE ___) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The Ft. Wainwright drinking water wells are over 1 mile to the southwest of the site. Groundwater from the site flows northwest toward the Chena River. There is a very limited potential that soil contaminants would migrate to groundwater and flow to the drinking wells.

01 [ ] H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED 0
02 [ ] OBSERVED (DATE ___) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The site is inactive. A worker exposure or injury is not documented in the files.

01 [X] I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED 15,000
02 [ ] OBSERVED (DATE ___) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 [X] J. DAMAGE TO FLORA
02 [X] OBSERVED (DATE 6/16/91 6/17/91) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

WFTP-3A did not have any vegetation growing on it. WFTP-3B had moderate vegetation cover. Fire training activities at WFTP-3A may have stressed the vegetation.

01 [X] K. DAMAGE TO FAUNA
02 [ ] OBSERVED (DATE) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION (Include named species)

There is a potential for small herbious to consume vegetation that is growing in a contaminated area. The site is surrounded by the base; thus, large animals are scarce.

01 [ ] L. CONTAMINATION OF FOOD CHAIN
02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Contamination of the Food Chain is unlikely. The site is in the middle of the base by the airport. As a result, large animals are not likely to frequent the site.

01 [X] M. UNSTABLE CONTAINMENT OF WASTES (Spills, runoff, standing liquids, leaking drums)
02 [X] OBSERVED (DATE 6/16/91) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED
04 NARRATIVE DESCRIPTION

Surface soil is contaminated, and therefore wastes must not have been contained adequately.

01 [ ] N. DAMAGE TO OFFSITE PROPERTY
02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None Known

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None Known

01 [ ] P. ILLEGAL/UNAUTHORIZED DUMPING
02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None Known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None Known

III. TOTAL POPULATION POTENTIALLY AFFECTED: 15,000

IV. COMMENTS

None

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, November 1991, Draft Progress Report for the Confirmation of the Fire Training Pits at Fort Richardson, Fort Wainwright and Fort Greeley, Alaska.

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EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Fort Greely FTPs	Sixth Avenue				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Fort Greely	AK		N/A		
09 COORDINATES LATITUDE: 63 59 23	LONGITUDE: 145 43				
10 DIRECTIONS TO SITE (Starting from nearest public road): Enter Ft. Greely at the main gate and proceed east. Turn left on to Robin Road. Turn right onto Evergreen Road and then left on to Sixth Avenue.					

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
U.S. Army				
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Ft. Greely	AK		( )	
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)			
U.S. Army				
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
Ft. Greely	AK		( )	

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☒ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER-OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 7/17-21/91 (MONTH DAY YEAR)
BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☒ F. OTHER: Ecology & Environment, Inc. (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION: 1961 (BEGINNING YEAR) | 1983 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
: DDT, DDD, DDE, Lead and diesel range hydrocarbons

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Exposure to contaminants are possible by the following:
1. Direct dermal contact
2. Incidental ingestion of contaminated soil.
3. Inhalation of airborne contaminants.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
David Williams	U.S.Army Corps of Engineers		(907) 753-5657
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Jacqueline Lundberg		E & E	(907) 257-5000	11 01 91 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
[X] A SOLID [ ] E SLURRY
[X] B POWDER, FINES [ ] F LIQUID
[ ] C SLUDGE [ ] G GAS
[ ] D OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS: Unknown
CUBIC YARDS:
NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
[X] A TOXIC [X] E SOLUBLE [ ] I HIGHLY VOLATILE
[ ] B CORROSIVE [ ] F INFECTIOUS [ ] J EXPLOSIVE
[ ] C RADIOACTIVE [ ] G FLAMMABLE [ ] K REACTIVE
[X] D PERSISTENT [ ] H IGNITABLE [ ] L INCOMPATIBLE
[ ] M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	Unknown		
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES	Unknown		
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	DDT	50-29-3	Land Treatment	150,000	ug/kg
OCC	DDD	6088-51-3	Land Treatment	81,000	ug/kg
OCC	DDE	72-55-9	Land Treatment	2,900	ug/kg
OLW	C10-C18	-	Land Treatment	2,450	mg/kg
OLW	C18-C24	-	Land Treatment	1,040	mg/kg
OLW	Oil	-	Land Treatment	820	mg/kg
OLW	C12-C28	-	Land Treatment	808	mg/kg
OLW	C22-C24	-	Land Treatment	284	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	None		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 2,000
02 [ ] OBSERVED (DATE: ___) [ ] X POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The groundwater is recharged via Jarvis Creek. Overland waterflow can transport contaminants from the GFTP's to Jarvis Creek. However, this potential should be considered very limited.

01 [X] B SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: Unknown
02 [ ] OBSERVED (DATE: ___) [ ] X POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Jarvis Creek is 2,000 ft. east of the FTPs. Although no sediment or surface water samples were collected, there is a potential for contaminants at the site to migrate via overland runoff and drainage ditches to Jarvis Creek.

01 [ ] C CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED:
02 [ ] OBSERVED (DATE: ___) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

A PID did not detect organic vapors above 1 ppm in ambient air.

01 [ ] D FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED:
02 [ ] OBSERVED (DATE: ___) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None observed.

01 [X] E DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 2,000
02 [ ] OBSERVED (DATE: ___) [ ] X POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None of the GFTPs are fenced. Motorized and pedestrian access if uncontrolled.

01 [X] F CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 17 acres (Areal)
02 [ ] OBSERVED (DATE: 7/19-21/91) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Although soil samples were contaminated. The lateral and vertical extent of contamination has not been determined.

01 [ ] G DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 0
02 [ ] OBSERVED (DATE: ___) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The Ft. Greely drinking water wells are located south of the FTPs. Groundwater flows to the north.

01 [ ] H WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: 0
02 [ ] OBSERVED (DATE: ___) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The site is inactive. There is no documentation of a work exposure or injury on site.

01 [X] I POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 2,000
02 [ ] OBSERVED (DATE: ___) [ ] X POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

The population exposed to injury includes those that use surface water for recreation or who are in the FTP area.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 [X] J. DAMAGE TO FLORA — 02 [X] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
Vegetation has not grown back in the area of GFTP-4A since it was closed in 1983.

01 [X] K. DAMAGE TO FAUNA — 02 [ ] OBSERVED (DATE) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
There is a potential for fauna to consume contaminated flora. The GFTPs are not fenced, and therefore, animals have access to them.

01 [ ] L. CONTAMINATION OF FOOD CHAIN — 02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 [X] M. UNSTABLE CONTAINMENT OF WASTES — 02 [X] OBSERVED (DATE 7/19-21/1991) [ ] POTENTIAL [ ] ALLEGED
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: 2,000
04 NARRATIVE DESCRIPTION
Surface soils are contaminated, and therefore, wastes were not contained adequately.

01 [ ] N. DAMAGE TO OFF-SITE PROPERTY — 02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 [ ] P. ILLEGAL/UNAUTHORIZED DUMPING — 02 [ ] OBSERVED (DATE) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
None

III. TOTAL POPULATION POTENTIALLY AFFECTED: 2,000

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
E & E, November 1991, Draft Progress Report for the Confirmation of the Fire Training Pits at Fort Richardson, Fort Wainwright and Fort Greely, Alaska

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Ft. Richardson Fire Training Pit
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: West of Bryant Field
03 CITY: Ft. Richardson
04 STATE: AK | 05 ZIP CODE: | 06 COUNTY: Greater Anchorage area Bor. | 07 COUNTY CODE: N/A | 08 CONG DIST:
09 COORDINATES: LATITUDE 61° 16' 16.3" | LONGITUDE 149° 38' 32.1"
10 DIRECTIONS TO SITE (Starting from nearest public road): Enter Ft. Richardson from Arctic Valley gate. Turn right on first available road (unmarked). Follow the road to a fork and turn left. The FTP is on the left side of the road before the road T's onto a paved road.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U. S. Army
02 STREET (Business, mailing, residential): -
03 CITY: Ft. Richardson
04 STATE: AK | 05 ZIP CODE: | 06 TELEPHONE NUMBER: ( )
07 OPERATOR (If known and different from owner): U. S. Army
08 STREET (Business, mailing, residential): -
09 CITY: Ft. Richardson
10 STATE: AK | 11 ZIP CODE: | 12 TELEPHONE NUMBER: ( )
13 TYPE OF OWNERSHIP (Check one): [ ] A. PRIVATE [X] B. FEDERAL: U.S. Army (Agency name) [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER (Specify) [ ] G. UNKNOWN
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply): [ ] A. RCRA 3001 DATE RECEIVED: __/__/__ MONTH DAY YEAR [ ] B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED __/__/__ MONTH DAY YEAR [ ] C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON-SITE INSPECTION: [X] YES DATE 6/24/91 MONTH DAY YEAR [ ] NO
BY (Check all that apply): [ ] A. EPA [ ] B. EPA CONTRACTOR [ ] C. STATE [X] D. OTHER CONTRACTOR [ ] E. LOCAL HEALTH OFFICIAL [ ] F. OTHER:
CONTRACTOR NAME(S): Ecology & Environment Inc., Anchorage
02 SITE STATUS (Check one): [ ] A. ACTIVE [X] B. INACTIVE [ ] C. UNKNOWN
03 YEARS OF OPERATION: ~ 1971 BEGINNING YEAR | 1985 ENDING YEAR [ ] UNKNOWN
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED: lead, diesel range hydrocarbons and oil
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION:
Exposure by the following:
1. Dermal contact and incidental ingestion of surface soils.
2. Inhalation of contaminated

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents): [ ] A. HIGH (Inspection required promptly) [ ] B. MEDIUM (Inspection required) [X] C. LOW (Inspect on time available basis) [ ] D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Dave Williams
02 OF (Agency Organization): U.S. Corps of Engineers
03 TELEPHONE NUMBER: 907)753-5657
04 PERSON RESPONSIBLE FOR ASSESSMENT: Jacqueline Lundberg
05 AGENCY:
06 ORGANIZATION: E & E, Inc.
07 TELEPHONE NUMBER: (907) 257-5000
08 DATE: 8/1/91 MONTH DAY YEAR

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
[X] A SOLID [ ] E SLURRY
[X] B POWDER, FINES [ ] F LIQUID
[ ] C SLUDGE [ ] G GAS
[ ] D OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS: unknown
CUBIC YARDS:
NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
[ ] A TOXIC [ ] E SOLUBLE [ ] I HIGHLY VOLATILE
[ ] B CORROSIVE [ ] F INFECTIOUS [ ] J EXPLOSIVE
[ ] C RADIOACTIVE [ ] G FLAMMABLE [ ] K REACTIVE
[ ] D PERSISTENT [ ] H IGNITABLE [ ] L INCOMPATIBLE
[ ] M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	unknown		
OLW	OILY WASTE			
SOL	SOLVENTS	unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown		

IV. HAZARDOUS SUBSTANCES (See appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLW	C10-C18	-	Land Treatment	10,200	mg/kg
OLW	Oil	-	Land Treatment	24,000	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Number)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

APPENDIX B
EPA FORMS 2070-13

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Ft. Richardson Fire Training Pit RFTP #2
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: East of Bryant Air Field
03 CITY: Ft. Richardson
04 STATE: AK | 05 ZIP CODE: 99506-0898 | 06 COUNTY: (Borough) Greater Anch.area | 07 COUNTY CODE: N/A | 08 CONG. DIST.:
09 COORDINATES: LATITUDE 61° 16' 16.3" | LONGITUDE 149° 38' 32.1"
10 TYPE OF OWNERSHIP (Check one): [ ] A. PRIVATE [X] B. FEDERAL [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER _____ [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 6/24/91 (MONTH DAY YEAR)
02 SITE STATUS: [ ] ACTIVE [X] INACTIVE
03 YEARS OF OPERATION: ~ 1971 | 1985 (BEGINNING YEAR | ENDING YEAR) [ ] UNKNOWN
04 AGENCY PERFORMING INSPECTION (Check all that apply):
[ ] A. EPA [ ] B. EPA CONTRACTOR _____ (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR
[ ] E. STATE [ ] F. STATE CONTRACTOR _____ (Name of firm) [X] G. OTHER Ecology & Environment Inc. (E & E) (Specify)

05 SITE INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Jacqueline Lundberg	Geologist	E & E	(907) 257-5000
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Jack Wells	Geologist	E & E	(907) 257-5000
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
None			( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one): [X] PERMISSION [ ] WARRANT
18 TIME OF INSPECTION: 1000-1600
19 WEATHER CONDITIONS: Overcast, ~60°F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Dave Williams	U.S. Army Corps of Engineers	(907) 753-5657

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Jacqueline Lundberg		E & E	907/257-5000	7/29/91 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
[X] A SOLID [ ] E SLURRY
[X] B POWDER, FINES [ ] F LIQUID
[ ] C SLUDGE [ ] G GAS
[ ] D OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS unknown
CUBIC YARDS
NO OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
[ ] A TOXIC [ ] E SOLUBLE [ ] I HIGHLY VOLATILE
[ ] B CORROSIVE [ ] F INFECTIOUS [ ] J EXPLOSIVE
[ ] C RADIOACTIVE [ ] G FLAMMABLE [ ] K REACTIVE
[ ] D PERSISTENT [ ] H IGNITABLE [ ] L INCOMPATIBLE
[ ] M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	unknown		
OLW	OILY WASTE			
SOL	SOLVENTS	unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLW	C10-C18	-	Land Treatment	10,200	mg/kg
OLW	Oil	-	Land Treatment	24,000	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION
02 OBSERVED (DATE:)
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
1 [ ] POTENTIAL [ ] ALLEGED

Drinking water wells are greater than 3 miles from the site. The depth to groundwater is 140 feet; therefore, groundwater contamination is not predicted.

01 [ ] B. SURFACE WATER CONTAMINATION
02 OBSERVED (DATE:)
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
1 [ ] POTENTIAL [ ] ALLEGED

Surface water contamination is not predicted.

01 [X] C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: 16,040
02 OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
1 [X] POTENTIAL [ ] ALLEGED

Stained soil was spread alongside a nearby road. The IRMu detected 20 ppm of organics in the air along this road.

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED:
02 OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
1 [ ] POTENTIAL [ ] ALLEGED

None known

01 [X] E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED:
02 OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
1 [X] POTENTIAL [ ] ALLEGED

There is a potential for persons traveling on the road to come into contact with contaminated soil.

01 [X] F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 0.2 acres
02 [X] OBSERVED (DATE: 6/24/91)
04 NARRATIVE DESCRIPTION
1 [X] POTENTIAL [ ] ALLEGED

The Fire Training Pit was only 0.2 acres. The extent of contamination is unknown. The acreage used in the FTP could not be estimated because road construction removed the surrounding area.

01 [ ] G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED:
02 OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
1 [ ] POTENTIAL [ ] ALLEGED

Drinking water wells are greater than 3 miles from the site.

01 [ ] H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED:
02 OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
1 [ ] POTENTIAL [ ] ALLEGED

The site is inactive.

01 [X] I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 16,040
02 OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
1 [X] POTENTIAL [ ] ALLEGED

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 [X] J. DAMAGE TO FLORA
02 [X] OBSERVED (DATE: 6/24/91) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Vegetation does not grow on the FTP, but does grow sparingly around the FTP.

01 [X] K. DAMAGE TO FAUNA
02 [ ] OBSERVED (DATE:) 1 [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

A potential exists for fauna to consume contaminated flora or soil that is growing around the FTP.

01 [ ] L. CONTAMINATION OF FOOD CHAIN
02 [ ] OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [X] M. UNSTABLE CONTAINMENT OF WASTES
02 [ ] OBSERVED (DATE:) 1 [ ] POTENTIAL [X] ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION

Petroleum was poured into a pit that was unlined during the operation of the FTP.

01 [ ] N. DAMAGE TO OFF-SITE PROPERTY
02 [ ] OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
02 [ ] OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known

01 [ ] P. ILLEGAL/UNAUTHORIZED DUMPING
02 [ ] OBSERVED (DATE:) 1 [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

None known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None known

III. TOTAL POPULATION POTENTIALLY AFFECTED:

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991, Draft Progress Report for the Confirmation of the Fire Training Pits, Fort Richardson, Fort Wainwright, Fort Greely, Alaska

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

(01) TYPE OF PERMIT ISSUED (Enter code)	(02) PERMIT NUMBER	(03) DATE ISSUED	(04) EXPIRATION DATE	(05) COMMENTS
A. NPDES				
B. UIC				
C. AIR				
D. RCRA				
E. RCRA INTERIM STATUS				
F. SPCC PLAN				
G. STATE (Specify)				
H. LOCAL (Specify)				
I. OTHER (Specify)				
X J. NONE				

III. SITE DESCRIPTION

(01) STORAGE/DISPOSAL (Enter code)	02 AMOUNT	03 UNIT OF MEASURE	(04) TREATMENT (Enter code)	05 OTHER
A. SURFACE IMPOUNDMENT			[ ] A. INCINERATION	[ ] A. BUILDINGS ON SITE
B. PILES			[ ] B. UNDERGROUND INJECTION	NONE
C. DRUMS, ABOVE GROUND			[ ] C. CHEMICAL/PHYSICAL	
D. TANK, ABOVE GROUND			[ ] D. BIOLOGICAL	
E. TANK, BELOW GROUND			[ ] E. WASTE OIL PROCESSING	06 AREA OF SITE
F. LANDFILL			[ ] F. SOLVENT RECOVERY	
G. LANDFARM			[ ] G. OTHER RECYCLING/RECOVERY	.05
H. OPEN DUMP			X H. OTHER Burned Fuel	
X I. OTHER Burn Pit				

(07) COMMENTS

Drums were allegedly on-site during the operation of the FTP. Presently, no drums are on-site. The site consists only of contaminated soil.

IV. CONTAINMENT

(01) CONTAINMENT OF WASTES (Enter code)

[ ] A. ADEQUATE, SECURE [ ] B. MODERATE [X] C. INADEQUATE, POOR [ ] D. INSECURE, UNSOUND, DANGEROUS

(02) DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

The RFTP is unlined and contains no surface water barriers.

V. ACCESSIBILITY

(01) WASTE EASILY ACCESSIBLE [X] YES [ ] NO

(02) COMMENTS

Surface soil is contaminated, and the FTP is not fenced.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

E & E, 1991

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☒	B. ☒
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☒
D. ☐	E. ☐ Unknown	☐

03 DISTANCE TO SITE

A. >3 (mi)

B. >3 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☒ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 16,040

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
38' to 140' (ft)	Southwest	140 (ft)	Unknown (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

Drinking water at Fort Richardson is provided by a combination of the Fort Richardson Military dam near the headwaters of Ship Creek and emergency supply sources from several wells at the installation. Groundwater used for emergency water is from a confined aquifer and is not hydraulically connected to the upper unconfined aquifer.

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS Recharge occurs through percolation of precipitation and surface water to the aquifer.	☐ YES ☒ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Ship Creek	☐	2.75 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 1,400 NO. OF PERSONS	B. 10,000 NO. OF PERSONS	C. 16,040 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION 1.25 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 220

04 DISTANCE TO NEAREST OFF-SITE BUILDING 0.4 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The site is located within the installation boundaries at Fort Richardson. Immediate surrounding area consists of gravel pits and forests. Residential areas at Fort Richardson are located within 1 mile from the site.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

[ ] A. $10^{-6} - 10^{-8}$ cm/sec [ ] B. $10^{-4} - 10^{-6}$ cm/sec [X] C. $10^{-4} - 10^{-3}$ cm/sec [ ] D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

[ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec) [X] B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) [ ] C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) [ ] D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
300 - 500 (ft)	Unknown (ft)	Unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
0 (in)	< 1.5 (in)	0 %	0	0 %

09 FLOOD POTENTIAL
SITE IS IN > 100 YEAR FLOODPLAIN

10
N/A [ ] SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. > 3 (mi)	B. > 3 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
> 3 (mi)
ENDANGERED SPECIES: None

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 1 (mi)	B. 0.9 (mi)	C. > 3 (mi)	D. > 3 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Fort Richardson is located within the Cook Inlet - Susitna lowland section of the coastal trough physiographic province of Alaska. The lowlands are characterized by ground moraines, drumlin fields, eskers and outwash plains. Local relief is 15 to 75 m. Relief at the site is generally less than 10 m.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

U.S. Department of Agriculture, 1968, Potential Evapotranspiration and Climate in Alaska by Thornthwaite's Classification, U.S.D.A.Forest Service Research Paper PNW-71.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	16	Southwest Lab in Oklahoma	On File
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
None	

IV. PHOTOGRAPHS AND MAPS

01 TYPE [X] GROUND [X] AERIAL

02 IN CUSTODY OF Ecology & Environment Inc., Alaska & U. S. Army Corps of Engineers Alaska District (Name of organization or individual)

03 MAPS [X] YES [ ] NO

04 LOCATION OF MAPS Ecology & Environment, Inc. - Alaska

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA FORM 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

EPA

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. CURRENT OWNER(S)

01 NAME: U. S. Army | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 172nd Infantry Brigade | 04 SIC CODE
05 CITY: Ft. Richardson | 06 STATE: AK | 07 ZIP CODE

01 NAME | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

01 NAME | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

01 NAME | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

PARENT COMPANY (if applicable)

08 NAME: None | 09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.) | 11 SIC CODE
12 CITY | 13 STATE | 14 ZIP CODE

08 NAME | 09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.) | 11 SIC CODE
12 CITY | 13 STATE | 14 ZIP CODE

08 NAME | 09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.) | 11 SIC CODE
12 CITY | 13 STATE | 14 ZIP CODE

08 NAME | 09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.) | 11 SIC CODE
12 CITY | 13 STATE | 14 ZIP CODE

III. PREVIOUS OWNER(S) (list most recent first)

01 NAME: None | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

01 NAME | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

01 NAME | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

IV. REALTY OWNER(S) (if applicable, list most recent first)

01 NAME: None | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

01 NAME | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

01 NAME | 02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE
05 CITY | 06 STATE | 07 ZIP CODE

V. SOURCES OF INFORMATION (cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME: Inactive	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME: None	11 D+B NUMBER
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE / 16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME: U. S. Army	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY: Ft. Richardson	06 STATE: AK / 07 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME: None	11 D+B NUMBER
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE / 16 ZIP CODE

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE / 16 ZIP CODE

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
14 CITY	15 STATE / 16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
None	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
None			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
U. S. Army			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY: Ft. Richardson / 06 STATE: AK / 07 ZIP CODE		05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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EPA FORM 2070-13 (7-81)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

01 [ ] A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE	03 AGENCY

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II PAST RESPONSE ACTIVITIES (Continued)

01 [ ] R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] S. CAPPING/COVERING 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] T. BULK TANKAGE REPAIRED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] V. BOTTOM SEALED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] W. GAS CONTROL 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] X. FIRE CONTROL 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] Y. LEACHATE TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] Z. AREA EVACUATED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION /A	02 DATE	03 AGENCY
01 [ ] 2. POPULATION RELOCATED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 [ ] 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION None	02 DATE	03 AGENCY

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION ( ) YES (X) NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

N/A

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Ft. Wainwright FTP's	Off Montgomery Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Ft. Wainwright	AK	99703	Fairbanks No. Star Borough	N/A	

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
64° 49' 45"	147 36 00	☐ A. PRIVATE ☒ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (Month Day Year)	02 SITE STATUS	03 YEARS OF OPERATION
06/16/91 - 06 17 91	☒ ACTIVE ☐ INACTIVE	at least 1961 (Beginning Year) Present (Ending Year) ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☒ G. OTHER Ecology & Environment, Inc. (E & E) (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
Jacqueline Lundberg	Geologist	E & E	(907) 257-5000
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO**
Jack Wells	Geologist	E & E	(907) 257-5000
Jeff Taylor	Biologist	E & E	(907) 257-5000
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
NONE			( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☐ PERMISSION ☐ WARRANT	8:00-1635 6/16/91 7:50-1715 6/17/91	Sunny 60°-70° to rainy - 60°F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO
David Williams	U.S. Army Corps of Engineers	907 753-5657

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (Month Day Year)
Jacqueline Lundberg		E & E	907/257-5000	7 30 91

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

03 PHYSICAL STATES (Check all that apply)

X A. SOLID
X B. POWDER, FINES
C. SLUDGE
D. OTHER
E. SLURRY
F. LIQUID
G. GAS

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS: Unknown

CUBIC YARDS:

NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)

X A. TOXIC
X B. CORROSIVE
C. RADIOACTIVE
D. PERSISTENT
X E. SOLUBLE
F. INFECTIOUS
G. FLAMMABLE
H. IGNITABLE
I. HIGHLY VOLATILE
J. EXPLOSIVE
K. REACTIVE
L. INCOMPATIBLE
M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		
OLW	OILY WASTE			
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLW	C10-C18	-	Land Treatment	2,958	mg/kg
OLW	C20-C28	-	Land Treatment	21,460	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	NONE		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [ ] A. GROUNDWATER CONTAMINATION
02 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[ ] POTENTIAL [ ] ALLEGED

Soil samples that were collected immediately above the water table are contaminated. There is a potential that groundwater is contaminated also.

01 [X] B. SURFACE WATER CONTAMINATION
02 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[X] POTENTIAL [ ] ALLEGED

Contaminants that were found in the soil could travel in surface runoff to the Chena River via ditches alongside roads.

01 [ ] C. CONTAMINATION OF AIR
02 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[ ] POTENTIAL [ ] ALLEGED

Although VOCs were detected in surface soils, a PID did not detect organic vapors greater than 1 ppm in the ambient air.

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS
02 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[ ] POTENTIAL [ ] ALLEGED

None known.

01 [X] E. DIRECT CONTACT
02 POPULATION POTENTIALLY AFFECTED
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[X] POTENTIAL [ ] ALLEGED

A potential exists for someone to come into contact with surface contamination. WFTP-3B is unfenced. A locked gate prohibits motorized access, but pedestrians can walk around or under the gate to get to WFTP-3A.

01 [X] F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 29.5 acres (Acres)
02 [X] OBSERVED (DATE: 6/16/91)
04 NARRATIVE DESCRIPTION
[ ] POTENTIAL [ ] ALLEGED

Although soil samples were contaminated, the lateral and vertical extent of contamination has not been determined.

01 [X] G. DRINKING WATER CONTAMINATION
02 POPULATION POTENTIALLY AFFECTED: 15,000
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[X] POTENTIAL [ ] ALLEGED

The Ft. Wainwright drinking water wells are over 1 mile to the southwest of the site. Groundwater from the site flows northwest toward the Chena River. There is little potential that soil contaminants would migrate to the drinking wells.

01 [ ] H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: 0
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[ ] POTENTIAL [ ] ALLEGED

The site is inactive. A worker exposure or injury is not documented in the files.

01 [X] I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 15,000
02 [ ] OBSERVED (DATE:)
04 NARRATIVE DESCRIPTION
[X] POTENTIAL [ ] ALLEGED

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

1. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION
02 [X] OBSERVED (DATE: 6/16/91 6/17/91) [ ] POTENTIAL [ ] ALLEGED

WFTP-3A did not have any vegetation growing on it. WFTP-3B had moderate vegetation cover. Fire training activities at WFTP-3A may have stressed the vegetation.

01 [X] K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED (DATE:) [X] POTENTIAL [ ] ALLEGED

There is a potential for small herbivors to consume vegetation that is growing in a contaminated area. The site is surrounded by the base; thus, large animals are scarce.

01 [ ] L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED

Contamination of the Food Chain is unlikely. The site is in the middle of the base by the airport. As a result, large animals are not likely to frequent the site.

01 [X] M. UNSTABLE CONTAINMENT OF WASTES
03 POPULATION POTENTIALLY AFFECTED
02 [X] OBSERVED (DATE: 6/16/91) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Surface soil is contaminated, and therefore wastes must not have been contained adequately.

01 [ ] N. DAMAGE TO OFF-SITE PROPERTY
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED

None Known

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED

None Known

01 [ ] P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION
02 [ ] OBSERVED (DATE:) [ ] POTENTIAL [ ] ALLEGED

None Known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None Known

III. TOTAL POPULATION POTENTIALLY AFFECTED: 15,000

IV. COMMENTS

None

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files. Sample analysis, reports)

E & E, November 1991, Draft Progress Report for the Confirmation of the Fire Training Pits at Fort Richardson, Fort Wainwright and Fort Greeley, Alaska.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Enter all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
[ ] A. NPDES				
[ ] B. UIC				
[ ] C. AIR				
[ ] D. RCRA				
[ ] E. RCRA INTERIM STATUS				
[ ] F. SPCC PLAN				
[ ] G. STATE (Specify)				
[ ] H. LOCAL (Specify)				
[ ] I. OTHER (Specify)				
[X] J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
[ ] A. SURFACE IMPOUNDMENT		
[ ] B. PILES		
[ ] C. DRUMS, ABOVE GROUND		
[ ] D. TANK, ABOVE GROUND		
[ ] E. TANK, BELOW GROUND		
[ ] F. LANDFILL		
[ ] G. LANDFARM		
[ ] H. OPEN DUMP		
[X] I. OTHER (Specify) Burn Pits		

04 TREATMENT (Check all that apply)	05 OTHER
[ ] A. INCINERATION	[ ] A. BUILDINGS ON SITE
[ ] B. UNDERGROUND INJECTION	
[ ] C. CHEMICAL/PHYSICAL	NONE
[ ] D. BIOLOGICAL	
[ ] E. WASTE OIL PROCESSING	06 AREA OF SITE
[ ] F. SOLVENT RECOVERY	3A: 22 Acres (Acres)
[ ] G. OTHER RECYCLING/RECOVERY	3B: 7.5 Acres
[X] H. OTHER Burn Fuel (Specify)	

07 COMMENTS

Although aerial photos indicate that drums were stored on site since 1961, none were observed during E&E's June inspection.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

[ ] A. ADEQUATE, SECURE [ ] B. MODERATE [X] C. INADEQUATE, POOR [ ] D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC

No drums are presently on-site. The site is not lined.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE [X] YES [ ] NO. A locked gate restricts motorized vehicles from WFTP-3A, but pedestrian access is uncontrolled at WFTP-3A and WFTP-3B.

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

E & E, 1991

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☒
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☒
D. ☐	E. ☐ Unknown	F. ☐

03 DISTANCE TO SITE
A. 1.2 (mi)
B. >3 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 15,000

03 DISTANCE TO NEAREST DRINKING WATER WELL 1.2 (mi)

04 DEPTH TO GROUNDWATER 7 - 10 (ft)

05 DIRECTION OF GROUNDWATER FLOW Northwest

06 DEPTH TO AQUIFER OF CONCERN 7-10 (ft)

07 POTENTIAL YIELD OF AQUIFER 1000-3000 (gpd)

08 SOLE SOURCE AQUIFER ☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

The Ft. Wainwright drinking water wells are screened in the sand and gravel aquifer that underlies the site. The wells are located 1.2 miles southwest of the site. Ft. Wainwright personnel use water from the wells for drinking.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS: Recharge of groundwater by percolation of precipitation

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS: Discharge of groundwater to the Chena River.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Chena River	☐	0.6 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 5,000	B. 15,000	C. 17,613
NO. OF PERSONS	NO. OF PERSONS	NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION 0.75 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 300

04 DISTANCE TO NEAREST OFF-SITE BUILDING 0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The site is located within the installation bounderies of Fort Wainwright. The closest barracks are 0.4 miles west of the site. The closest private population is over 1 mile southeast of the site.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☒ C. $10^{-3} - 10^{-4}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
300 - 700 (ft)	Unknown (ft)	Unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
0.98 (in)	1.25 (in)	0 %	N/A	< 1 %

09 FLOOD POTENTIAL

SITE IS IN 100 YEAR FLOODPLAIN

10

N/A ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. 3 (mi)	B. N/A (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

> 3 (mi)

ENDANGERED SPECIES:

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A .11 (mi)	B. 2 (mi)	C. > 3 (mi)	D > 3 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is located on the nearly level ground of the Chena and Tanana Rivers floodplain. Local relief is 15 feet.

Bedrock hills rise 550 feet to an elevation of 1,097 feet, approximately 1.5 miles north of the site.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

U.S.Department of Agriculture, 1968, Potential Evapotranspiration and Climate in Alaska by Thornthwaite's Classification, U.S.D.A. Forest Service Research Paper, PNW-71.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	12	Southwest Lab of Oklahoma, Broken Arrow	On File
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
None	

IV. PHOTOGRAPHS AND MAPS

01 TYPE [X] GROUND [X] AERIAL

02 IN CUSTODY OF: Ecology & Environment, Inc. - Alaska
US Army Corp.of Eng (Name of organization or individual) Alaska District

03 MAPS [X] YES [ ] NO

04 LOCATION OF MAPS: Ecology & Environment, Inc. - Alaska

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
U.S. Army				Ft. Wainwright	AK	

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE
None						

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
None						

IV. REALTY OWNER(S) (If applicable, list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
None						

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
U. S. Army	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE
Ft. Wainwright	AK	

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER
None	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER
None	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER
None	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
NONE	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
NONE			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
U. S. Army			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
Ft. Wainwright	AK		
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE	03 AGENCY

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II PAST RESPONSE ACTIVITIES (Continued)

01 [ ] R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 [ ] 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NONE

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION [ ] YES [X] NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

NONE

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E & E, 1991

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
FORT GREELY FTP'S	Sixth Avenue				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG. DIST.**
Fort Greely	AK		N/A	N/A	

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Enter 1 type)
63 59 23	145 43	☐ A. PRIVATE ☒ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
7/17-21/1991 (MONTH / DAY / YEAR)	☐ ACTIVE ☒ INACTIVE	1961 (BEGINNING YEAR) 1983 (ENDING YEAR) ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☒ G. OTHER Ecology & Environment, Inc. (E & E) (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Jacqueline Lundberg	Geologist	E & E	(907) 257-5000
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Sue Wolfe	Chemist	E. & E	(907) 257-5000
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
			( )
			( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	1730 - 7/17/91 1215 - 7/21/91	Sunny 75° - Rainy 55° F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Dave Williams	United States Army Corps of Engineers	(907) 753-5657

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Jacqueline Lundberg		E & E	907/257-5000	8 / 1 / 91 (MONTH / DAY / YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 [X] J. DAMAGE TO FLORA | 02 [ ] OBSERVED (DATE) | [ ] POTENTIAL | [ ] ALLEGED
04 NARRATIVE DESCRIPTION
Vegetation has not grown back in the area of GFTP-4A since it was closed in 1983.

01 [X] K. DAMAGE TO FAUNA | 02 [ ] OBSERVED (DATE) | [X] POTENTIAL | [ ] ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
There is a potential for fauna to consume contaminated flora. The GFTPs are not fenced, and therefore, animals have access to them.

01 [ ] L. CONTAMINATION OF FOOD CHAIN | 02 [ ] OBSERVED (DATE) | [ ] POTENTIAL | [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 [X] M. UNSTABLE CONTAINMENT OF WASTES | 02 [X] OBSERVED (DATE 7/19-21/1991) | [ ] POTENTIAL | [ ] ALLEGED
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: 2,000 | 04 NARRATIVE DESCRIPTION
Surface soils are contaminated, and therefore, wastes were not contained adequately.

01 [ ] N. DAMAGE TO OFF-SITE PROPERTY | 02 [ ] OBSERVED (DATE) | [ ] POTENTIAL | [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs | 02 [ ] OBSERVED (DATE) | [ ] POTENTIAL | [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 [ ] P. ILLEGAL/UNAUTHORIZED DUMPING | 02 [ ] OBSERVED (DATE) | [ ] POTENTIAL | [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None known.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
None

III. TOTAL POPULATION POTENTIALLY AFFECTED: 2,000

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
E & E, November 1991, Draft Progress Report for the Confirmation of the Fire Training Pits at Fort Richardson, Fort Wainwright and Fort Greely, Alaska

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 2,000
02 [ ] OBSERVED (DATE: ____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
The groundwater is recharged via Jarvis Creek. Overland waterflow can transport contaminants from the GFTP's to Jarvis Creek. However, this potential should be considered very limited.

01 [X] B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: Unknown
02 [ ] OBSERVED (DATE: ____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
Jarvis Creek is 2,000 ft. east of the FTPs. Although no sediment or surface water samples were collected, there is a potential for contaminants at the site to migrate via overland runoff and drainage ditches to Jarvis Creek.

01 [ ] C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED:
02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
A PID did not detect organic vapors above 1 ppm in ambient air.

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED:
02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None observed.

01 [X] E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 2,000
02 [ ] OBSERVED (DATE: ____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
None of the GFTPs are fenced. Motorized and pedestrian access if uncontrolled.

01 [X] F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 17 acres (Actual)
02 [ ] OBSERVED (DATE: 7/19-21/91) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
Although soil samples were contaminated. The lateral and vertical extent of contamination has not been determined.

01 [ ] G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 0
02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
The Ft. Greely drinking water wells are located south of the FTPs. Groundwater flows to the north.

01 [ ] H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: 0
02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
The site is inactive. There is no documentation of a work exposure or injury on site.

01 [X] I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 2,000
02 [ ] OBSERVED (DATE: ____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION
The population exposed to injury includes those that use surface water for recreation or who are in the FTP area.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

[X] A SOLID [ ] E SLURRY
[X] B POWDER, FINES [ ] F LIQUID
[ ] C SLUDGE [ ] G GAS
[ ] D OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: Unknown
CUBIC YARDS:
NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)

[X] A TOXIC [X] E SOLUBLE [ ] I. HIGHLY VOLATILE
[ ] B CORROSIVE [ ] F INFECTIOUS [ ] J EXPLOSIVE
[ ] C RADIOACTIVE [ ] G FLAMMABLE [ ] K REACTIVE
[X] D PERSISTENT [ ] H IGNITABLE [ ] L INCOMPATIBLE
[ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	Unknown		
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES	Unknown		
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	DDT	50-29-3	Land Treatment	150,000	ug/kg
OCC	DDD	6088-51-3	Land Treatment	81,000	ug/kg
OCC	DDE	72-55-9	Land Treatment	2,900	ug/kg
OLW	C10-C18	-	Land Treatment	2,450	mg/kg
OLW	C18-C24	-	Land Treatment	1,040	mg/kg
OLW	Oil	-	Land Treatment	820	mg/kg
OLW	C12-C28	-	Land Treatment	808	mg/kg
OLW	C22-C24	-	Land Treatment	284	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	None		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Enter code)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
[ ] A. NPDES				
[ ] B. UIC				
[ ] C. AIR				
[ ] D. RCRA				
[ ] E. RCRA INTERIM STATUS				
[ ] F. SPCC PLAN				
[ ] G. STATE (Specify)				
[ ] H. LOCAL (Specify)				
[ ] I. OTHER (Specify)				
[X] J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Enter code)	02 AMOUNT	03 UNIT OF MEASURE (Enter code)	04 TREATMENT (Enter code)	05 OTHER
[ ] A. SURFACE IMPOUNDMENT			[ ] A. INCINERATION	[ ] A. BUILDINGS ON SITE
[ ] B. PILES			[ ] B. UNDERGROUND INJECTION	None
[ ] C. DRUMS, ABOVE GROUND			[ ] C. CHEMICAL, PHYSICAL	
[ ] D. TANK, ABOVE GROUND			[ ] D. BIOLOGICAL	06 AREA OF SITE
[ ] E. TANK, BELOW GROUND			[ ] E. WASTE OIL PROCESSING	17 (Acres)
[ ] F. LANDFILL			[ ] F. SOLVENT RECOVERY	
[ ] G. LANDFARM			[ ] G. OTHER RECYCLING/RECOVERY	
[ ] H. OPEN DUMP			[X] H. OTHER (Specify) Burn Fuel	
[X] I. OTHER (Specify) Burn Pits				

07 REMARKS

Currently, the FTPs do not contain any drums. However, earlier aerial photographs indicate that drums were regularly stored on-site for fire training purposes from 1961 to 1983.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Enter code)

[ ] A. ADEQUATE, SECURE [ ] B. MODERATE [X] C. INADEQUATE, POOR [ ] D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKES, LINERS, BARRIERS, ETC.

The site is not lined and does not have any surface water diversion system.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE [X] YES [ ] NO

02 COMMENTS

The site is not fenced and is easily accessible from 6th Avenue.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

E & E, 1991