THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 335.38.001

19 April 2019

Lisa Geist
Department of the Army
U.S. Army Engineer District, Alaska
Environmental Engineering Section, CEPOA-EN-EE-ER
P.O. Box 6898
JBER, Alaska 99506-0898

Re: Decision Document: BLM Legacy Well Umiat Test Well #3 (FUDS)
Cleanup Complete Determination

Dear Ms. Geist:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the referenced site associated with the Umiat Air Force Station test well locations, located near Umiat, Alaska. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on the site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the site, 'BLM Legacy Well Umiat Test Well #3 (FUDS),' which is located in the ADEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
BLM Legacy Well Umiat Test Well #3 (FUDS)
2 Miles NE of Umiat
Nuiqsut, Alaska 99789

Name and Mailing Address of Contact Party:
Lisa Geist
U.S. Army Engineer District, Alaska
Environmental Engineering Section
P.O. Box 6898
JBER, Alaska 99506-0898

DEC Site Identifiers:
File No.: 335.38.001
Hazard ID.: 3092

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background
The Umiat site is located on the floodplain of the Colville River north of the Brooks Range in northern Alaska. Umiat Test Well 3 is located approximately two miles northeast of Umiat Station near the northeast end of Umiat Lake at Latitude 69°23'11" North and Longitude 152°05'19" West. The well was drilled to a depth of 572 feet in 1946, and produced 24 barrels of oil a day during pumping tests in 1948. The 7-inch well casing was capped with fixtures that extended about 5 feet above the ground surface. Umiat Lake is approximately 150 feet south of the wellhead. Remnants of two small gravel pads are evident. The wellhead (removed in 2015 by the BLM) was located on an approximately 150-foot square gravel pad; a second 400 square foot gravel pad is located 30 feet northwest of the wellhead. The former pads and the surrounding areas are densely vegetated. Wetlands surround the area.

Contaminants of Concern
During the site characterization and cleanup activities at this site, samples were collected from soil, groundwater, and surface water and analyzed for the following potential chemicals of concern:

- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)
- Gasoline Range Organics (GRO)
- Volatile Organic Compounds (VOCs)
- Semi-volatile Organic Compounds (SVOCs)
- Pesticides, polychlorinated biphenyls, and metals

Based on these initial analyses, subsequent testing included only the following contaminants as they were detected at measurable concentrations that required further evaluation, and were considered contaminants of concern (COCs) for this site:

- DRO
- RRO
- Xylenes

Cleanup Levels
The Arctic Zone Cleanup Levels were the applicable cleanup levels for this site.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (mg/L)
DRO	12,500	N/A
RRO	13,700	N/A
Xylenes	720	N/A

mg/kg = milligrams per kilogram
mg/L = milligrams per liter

µg/L = micrograms per liter

Characterization and Cleanup Activities
Well 3 was first investigated during the 1997 Phase III Investigation Remedial Investigation of the former Umiat Air Force Station (E&E 1998). No obvious stained soil was present at this site. Two soil samples were collected around the wellhead. Each sample was analyzed for DRO, RRO, GRO, VOCs, SVOCs, pesticides, PCBs, and metals. The well site and sampling points are shown on the attached figure.

A second phase of investigation was performed in August of 1998 (E&E 1999), whereby 32 soil samples were collected. The soil was collected from the interface of the water saturation zone, which varied from 0.5 feet to 3.5 feet below the ground surface. Since no evidence of contamination was visible, samples were collected within an approximate 50-FT circle around the well. Each sample was analyzed for DRO, RRO, VOCs, and SVOCs. Only DRO and RRO were detected at a concentration greater than $1/10^{th}$ the cleanup level; however, all detections were below the cleanup levels for the site. Further, samples collected in close proximity to water bodies were of sufficiently low concentration as to not warrant concern for a water quality violation.

Cumulative Risk Evaluation
Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

Based on a review of the environmental record, ADEC has determined that residual contaminant concentrations meet the human health cumulative risk criteria for residential land use.

Exposure Pathway Evaluation
Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	Contamination present in surface soil is below human health cleanup levels (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De Minimis Exposure	Contamination remains in the sub-surface, but is below human health cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remaining on site is not sufficiently volatile to cause outdoor air concern.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contamination remaining on site is not sufficiently volatile to cause potential indoor-air concern.
Groundwater Ingestion	Pathway Incomplete	Supra-permafrost groundwater is not a potential drinking water source.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.

Pathway	Result	Explanation
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	De Minimis Exposure	Contamination not of sufficient magnitude or extent to impact ecological receptors.

Notes to Table 2: "De Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. "Pathway Incomplete" means that in ADEC's judgment contamination has no potential to contact receptors. "Exposure Controlled" means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

ADEC Decision

Soil contamination at the site remains at concentrations below the approved Arctic zone cleanup levels suitable for residential land use. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater from a site that is subject to the site cleanup rules or for which a written determination from the department has been made under 18 AAC 75.380(d)(1) that allows contamination to remain at the site above method two soil cleanup levels or groundwater cleanup levels listed in Table C requires DEC approval in accordance with 18 AAC 75.325(i). A "site" as defined by 18 AAC 75.990 (115) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. (See attached site figure.)

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days

after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 451-2166, or email at john.carnahan@alaska.gov.

Sincerely,

Digitally signed by John B. Carnahan
DN: cn=John B. Carnahan, o=Department of Environmental Conservation, ou=SPAR, email=john.carnahan@alaska.gov, c=US
Date: 2019.04.19 15:24:31 -08'00'

John Carnahan
Project Manager

Attach: Site Figures

cc: Spill Prevention and Response, Cost Recovery Unit
Will Mangano, COE

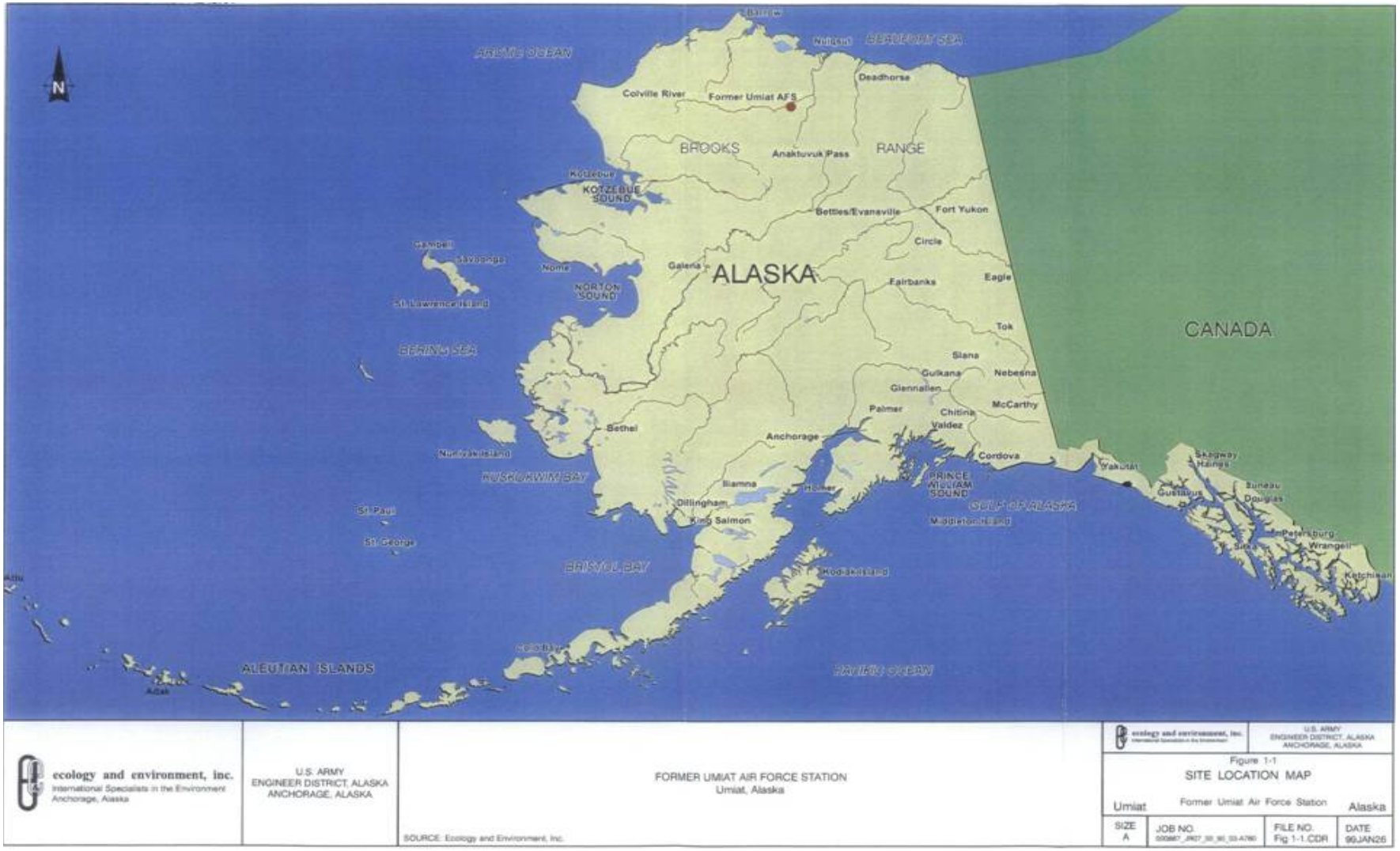
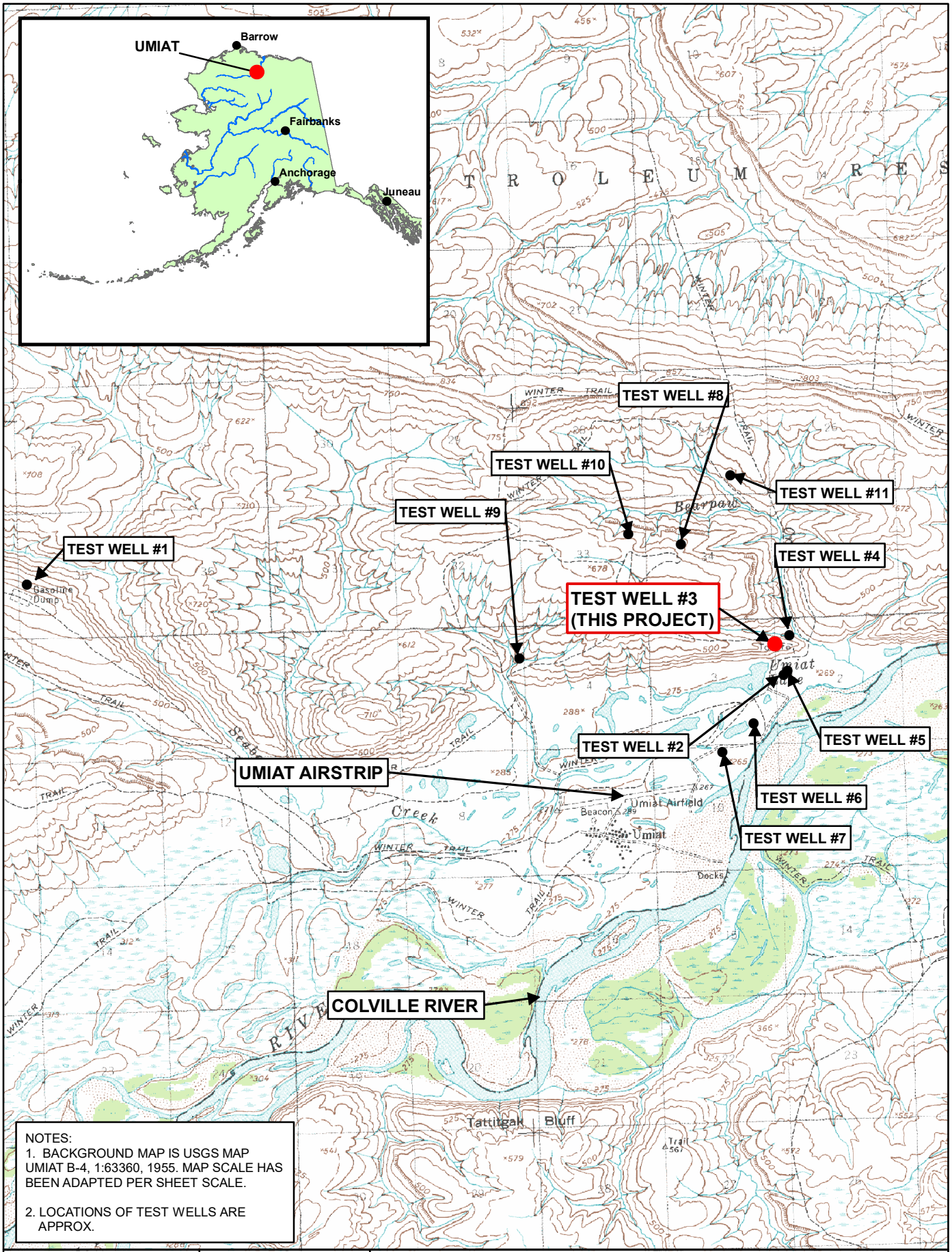


Figure 1 - Location Map (E&E 1999)



NOTES:
1. BACKGROUND MAP IS USGS MAP UMIAT B-4, 1:63360, 1955. MAP SCALE HAS BEEN ADAPTED PER SHEET SCALE.

2. LOCATIONS OF TEST WELLS ARE APPROX.

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Miles

U.S. ARMY
CORPS OF ENGINEERS
ALASKA DISTRICT

LOCATION AND VICINITY MAPS

UMIAT AFS - F10AK0243
UMIAT, ALASKA

FIGURE 2

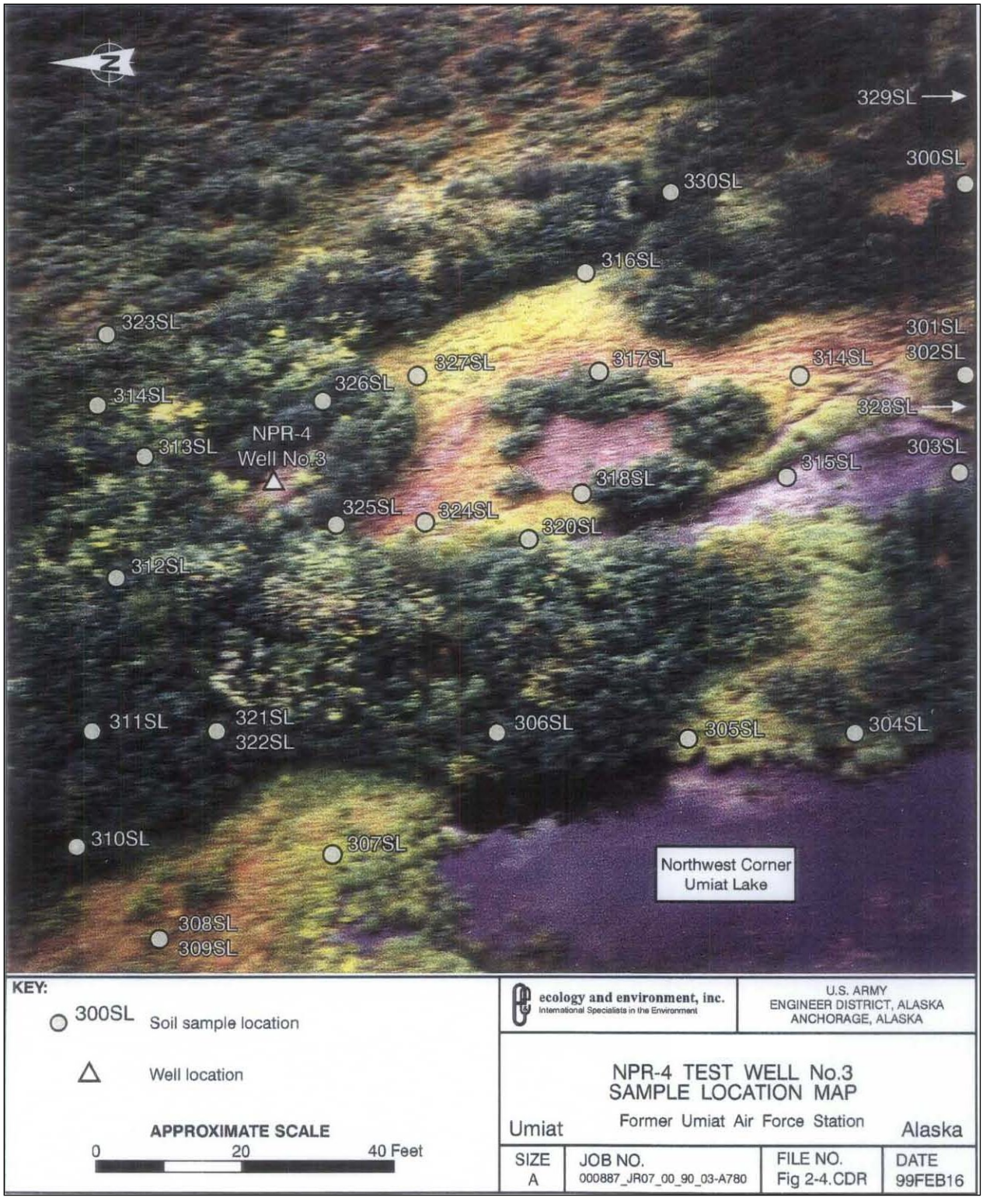

Figure 3 - Test Well 3 Sample Points 1999