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Eielson Farm Road AAA FUDS Contaminated Soil Removal

Location: Near Piledriver Slough, Alaska

Client: U.S. Army Engineer District, Alaska

Project Cost: \$5,995,630.00

Prime Contractor or Subcontractor: Prime Contractor

Project Manager: Craig Jones

Superintendent: Randy Hattenburg

Work Performed: 2011 (field work complete except for pond excavation, site restoration, additional thermal treatment) – Completion by Sept.1, 2012.



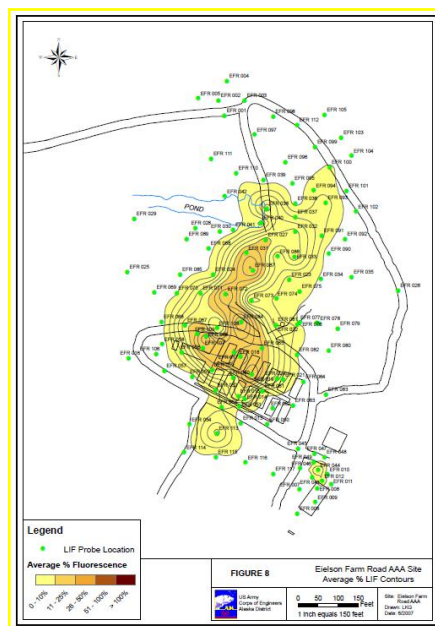
The Eielson Farm Road site is a former anti-aircraft artillery (AAA) site constructed in the early 1950's to provide protection to Eielson AFB.

Results from a 2006 RI indicated that contaminated soil, sediment, and groundwater exist at the site. The primary contaminant of concern was DRO and is associated with releases of diesel/heating fuel from underground piping and storage tanks.

The accepted plan for the site was offsite treatment/free product recovery/monitored natural attenuation as the preferred alternative.

The scope of work for the project was to:

- Clear and remove debris, concrete pads and piping.
- Excavate, transport, and treat/dispose of petroleum, oil, and lubricant (POL) impacted soil and sediment,
- Remove any fuel from the open excavations,
- Backfill the excavations and revegetate the site.



Fuel contaminated soils exceeding cleanup levels were identified in 2006 using a rapid optical screening tool (ROST)/laser-induced fluorescence (LIF) soil investigation.

Whereas the general location of the contaminated soil was known from the 2006 investigation key challenges to the project included:



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- Identifying the potentially clean soil within 1 foot vertically and 15 feet horizontally of ROST identified impacted soil.
- Most efficient means of removing 30,000 cubic yards of clean overburden.
- Excavating 34,000 tons of contaminated soil.
- Groundwater management (possibly containing free product).
- COE & ADEC concurrence of the approach.

Solutions to the challenges were as follows:

- Utilize LIF technology from 2006 in 2011 for:
 - Both in-situ & ex-situ field screening,
 - Revalidating the 3%/1,500 mg/kg DRO correlation by screening perimeter trench samples in conjunction with off-site analytical,
 - Additional interior screening samples and from trenches to refine the plume boundary.
- GPS survey control all sample points & generate a 3-D CAD model of plume.
- Make a 125' x 125' Proof of Concept Area to show that field screening and delineation will result in excavation and segregation of contaminated soils:
 - Excavate overburden to elevation above CAD model.
 - Field screen on 25' x 25' grid nodes.
 - Remove clean overburden in 1-ft lifts using a grid & repeat.
 - Stop when 1-ft above contaminated soil & survey & sample.
 - Compare POC survey with CAD/GPS approach for accuracy.
- Characterize clean soil & excavate the dirty soil for direct haul instead of stockpiling & screening dirty soil.



This project represents the largest quantity of contaminated soil remediated in a single field season by the Alaska District.

