



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: 2320.38.051

February 22, 2019

Rena Flint  
U.S. Army Corps of Engineers, Alaska District  
P.O. Box 6898  
JBER, AK 99506-6898

Re: Decision Document  
Wildwood AFS Operations Building Facility Former Transformer Location  
Cleanup Complete Determination

Dear Ms. Flint:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Wildwood AFS Operations Building Facility Former Transformer Location site, located in Kenai. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on 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 Wildwood AFS Operations Building Facility Former Transformer Location site, which is located in the ADEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

**Site Name and Location:**

Wildwood AFS Operations Building  
Facility Former Transformer Location  
Latitude: 60.607097  
Longitude: -151.287226  
Kenai, AK 99611

**Name and Mailing Address of Contact Party:**

Rena Flint  
U.S. Army Corps of Engineers, Alaska District  
PO Box 6898  
JBER, AK 99506-6898

**DEC Site Identifiers:**

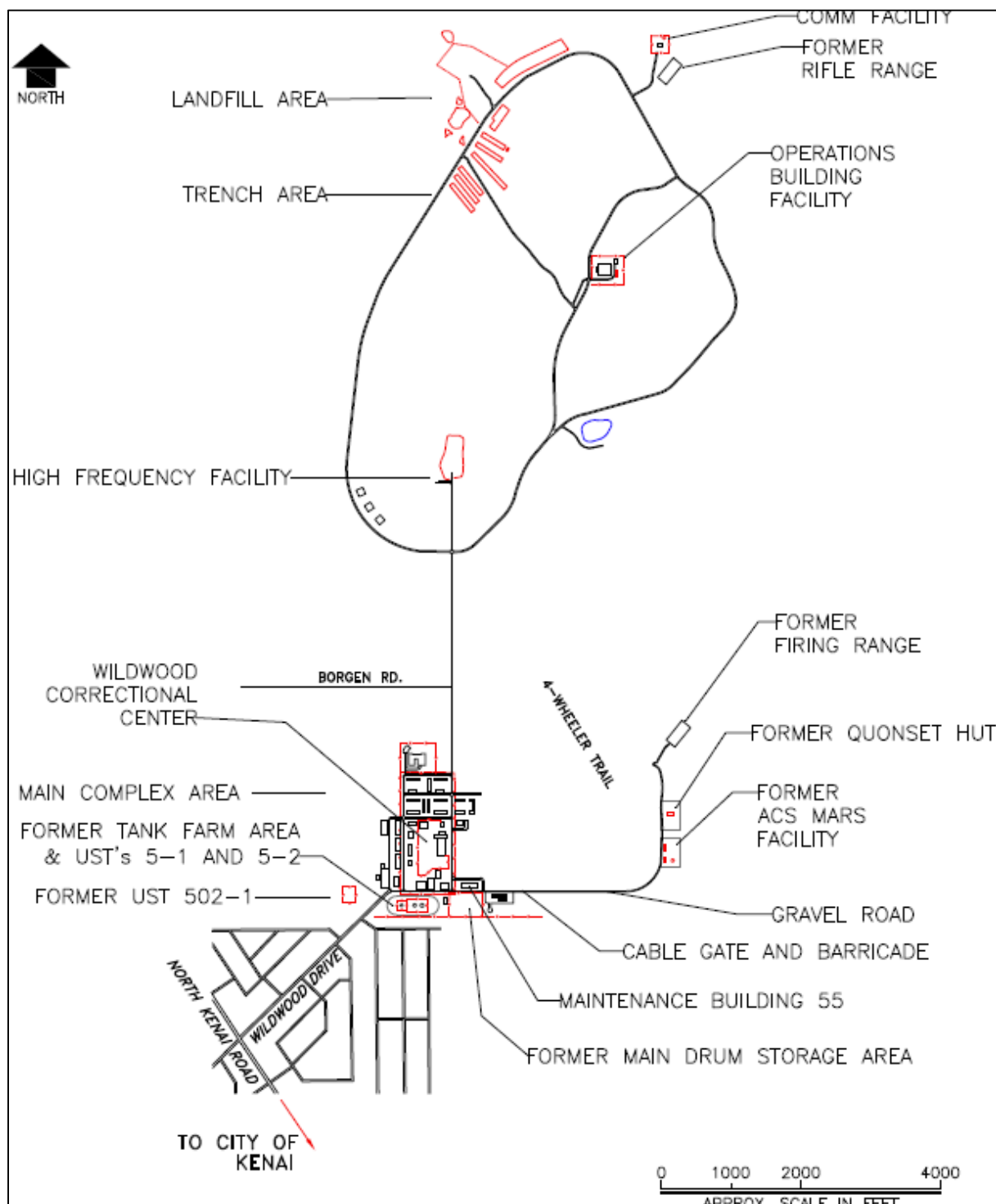
File No.: 2320.38.051  
Hazard ID.: 25211

**Regulatory Authority for Determination:**

18 AAC 75

### Site Description, Background, Characterization and Cleanup

The Operations Building Facility is located in the north-central area of the Wildwood AFS development. The former transformer was located near the northwest corner of generator/maintenance building (Building 101), atop a concrete slab. The figure below shows the general location of the Operations Building Facility, home of the former transformer location site:

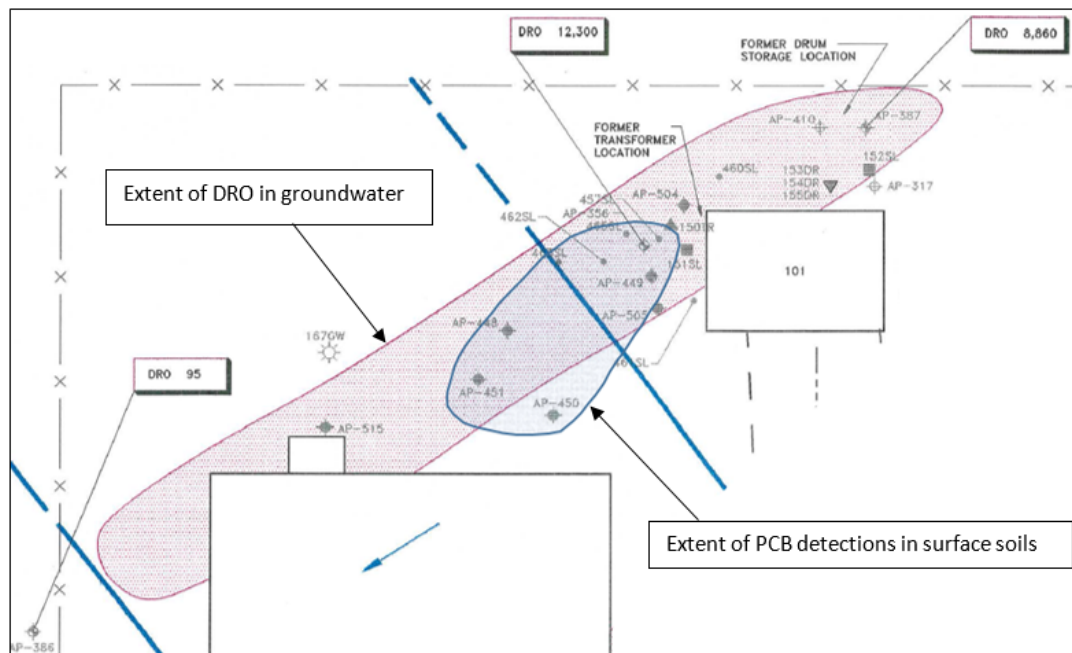


The former transformer location was first evaluated in October of 1989 during a Phase II site assessment. The purpose of the assessment was to identify potential hazardous and toxic wastes, and petroleum sources that may require remedial action. A total of 7 soil samples were collected from the operation building area on October 13, 1989; however only 1 surface sample (Sample 151SL) was collected from the soil adjacent to the large transformer. A sample was also collected from the oil within the transformer (Serial #VHR18071). Both the soil and oil samples were analyzed by the project laboratory for chlorinated pesticides/PCBs by Method 8080. No pesticides or PCBs were detected in the soil sample. The oil sample contained detections of pesticides, but no PCBs. The transformer was removed and disposed of in 1990.

Further characterization was completed in July 1994, as documented in the 1995 Phase III Remedial Investigation Report. Soil samples were collected from observably stained surface locations, as well from several soil borings advanced. Several of the soil boring were completed as monitoring wells or microwells. Soil and water samples were submitted for laboratory analysis of one or more of the following: DRO, PCBs, total petroleum hydrocarbons (TRPH), semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), and fuel IDs.

In surface soils (0 to 2 feet bgs), DRO was present up to 21,000 mg/kg and PCBs up to 2.2 mg/kg. In the subsurface soils (2 to 15 feet bgs), DRO was present up to 5,100 mg/kg. PCBs were not detected in subsurface soils. In groundwater (Well AP-356), PCBs were detected up to 2.5 µg/l, which exceeds the Table C groundwater cleanup level (GCL) of 0.44 µg/l. Several fuels related compounds were also present in groundwater; mainly DRO (up to 12.3 mg/l). The Table C GCL for DRO is 1.5 mg/l.

The figure below depicts the extent of detected PCB contamination in surface soils (blue) and the dissolved DRO plume in groundwater (red) as presented in the 1995 Release Investigation.

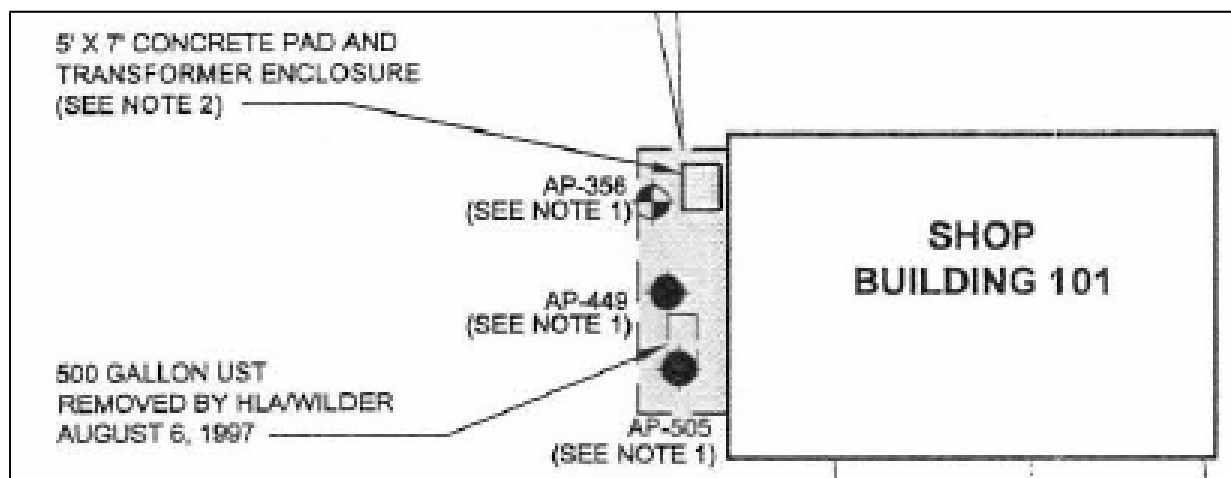


Additional sampling was completed at the former transformer location in September 1995 in an effort to better define the presence and extent of contamination for future removal, if necessary. Samples were collected from two locations; from the former transformer location and from a nearby leaching pond.

Eight surface soil samples were collected from the former transformer location. PCBs were detected up to 1.52 mg/kg in the surface soils. It was estimated that up to 20 cubic yards (cy) of PCB contaminated soil may need removal. No PCBs were detected in the two sediment samples collected from the leaching pond.

Excavation commenced at the former transformer location in July 1997. Initially, an empty PCB transformer enclosure and concrete pad near the northwest corner of the Building 101 were removed to access the contaminated soil. Unexpectedly, a 500-gallon UST was uncovered during the excavation activities. The UST and piping were removed and disposed of, allowing for additional excavation. In total, roughly 123 cy of contaminated soil was excavated from the former transformer location. The final excavation dimensions were measured to be 13 feet wide, 36 feet long, and about 5 feet deep. The excavation was backfilled with clean material after confirmation soil samples were collected. Well AP-356 (former transformer source well) was decommissioned during excavation.

Confirmation soil samples collected from the excavation were analyzed by the project laboratory for GRO, DRO, RRO, BTEX and PCBs. Levels of DRO and PCB contamination remained in the soils at the base of the excavation up to 16,300 mg/kg and 0.88 mg/kg, respectively. The ADEC migration to groundwater (MTG) cleanup level for DRO is 250 mg/kg and for PCBs is 1.0 mg/kg. A figure showing the final excavation is presented below:



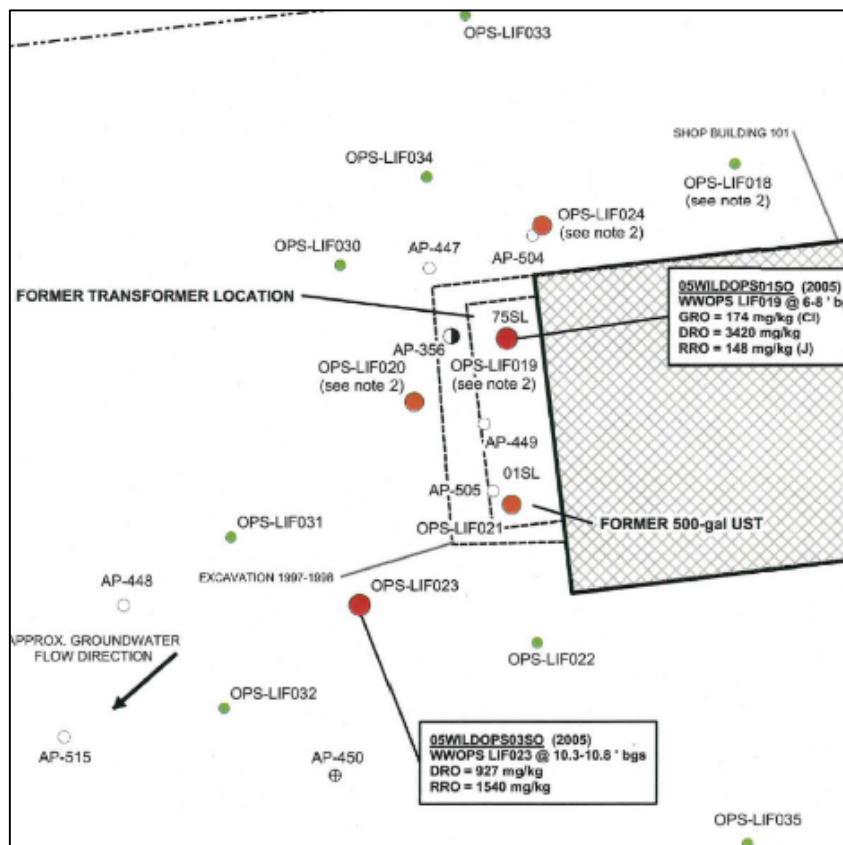
Several monitoring wells (installed in 1994) are located around the former transformer location; however, only samples from Wells AP-386 and AP-448 have been submitted for laboratory analysis of PCBs. Neither well was installed in the source of PCB impacts (where decommissioned Well AP-356 used to be). However, Well AP-448 is closest to the source, located roughly 60 feet downgradient of former Well AP-356. Wells AP-386 and AP-448 were sampled 5 times between 1994 and 1998. PCBs were not detected in any of the samples and DRO was generally below Table C GCLs. The table below summarizes the groundwater results:

OPERATIONS BUILDING FACILITY FORMER TRANSFORMER LOCATION									
Well Number	AP-386			AP-386		AP-386		AP-386	
Sample ID	94WIL554WA			95WIL034GW		95WIL124GW		96WIL057GW	
Date	8/15/94			8/17/95		12/11/95		7/11/96	
PCBs (Method 8080)									
Aroclor 1016	0.2	U	0.5	U	0.3	U	0.3	U	NA
Aroclor 1221	0.2	U	1	U	0.4	U	0.4	U	NA
Aroclor 1232	0.2	U	0.5	U	0.2	U	0.2	U	NA
Aroclor 1242	0.2	U	0.6	U	0.2	U	0.2	U	NA
Aroclor 1248	0.2	U	0.5	U	0.5	U	0.5	U	NA
Aroclor 1254	0.2	U	0.5	U	0.2	U	0.2	U	NA
Aroclor 1260	0.2	U	0.5	U	0.4	U	0.4	U	NA
Diesel-Range Organics	95			310		290		530 JL	

OPERATIONS BUILDING FACILITY FORMER TRANSFORMER LOCATION									
Well Number	AP-448			AP-448		AP-448		AP-448	
Sample ID	94WIL155WA			95WIL037GW		95WIL127GW		97WIL517GW	
Date	7/22/94			8/17/95		12/11/95		7/29/97	
PCBs (Method 8080)									
Aroclor 1016	NA		0.5	U	0.3	U	0.5	UJ	0.3 U
Aroclor 1221	NA		1	U	0.4	U	10	U	0.8 U
Aroclor 1232	NA		0.5	U	0.2	U	5	U	0.4 U
Aroclor 1242	NA		0.6	U	0.2	U	0.5	U	0.2 U
Aroclor 1248	NA		0.5	U	0.5	U	0.5	U	0.2 U
Aroclor 1254	NA		0.5	U	0.2	U	0.5	U	0.1 U
Aroclor 1260	NA		0.5	U	0.4	U	0.5	U	0.3 U
Diesel-Range Organics	1,500			1,100 J		1,200		NA	

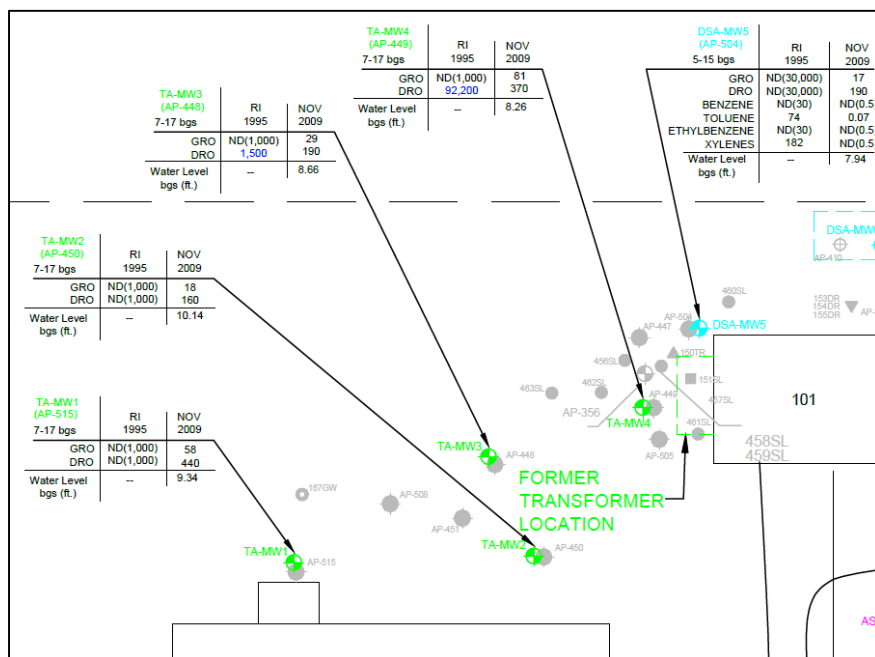
In June of 2005, 11 ROST/LIF probes were advanced at the former transformer location. Each boring was advanced to between 12 and 15 feet bgs. Two samples were collected for laboratory analysis, from the interval that exhibited the highest fluorescence response.

Based on the results of the ROST/LIF investigation it appears that DRO impacted soil remained at the former transformer location up to 3,420 mg/kg and at depths ranging between 5 and 11 feet bgs. The figure to the right shows the ROST/LIF boring locations and results, where applicable:

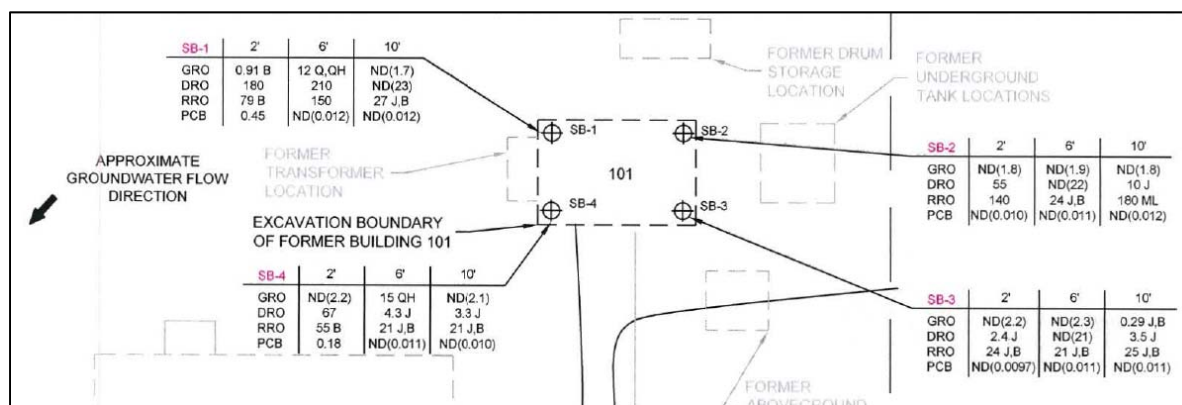




In November of 2009, an additional four temporary monitoring wells (TA-MW1 through TA-MW4) were installed at the former transformer location. Water samples were collected from each well and were submitted for laboratory analysis of GRO, DRO, VOCs, and SVOCs. None of the sample results exceeded current Table C groundwater cleanup levels. A figure showing the temporary monitoring wells and summary of results is depicted to the right:

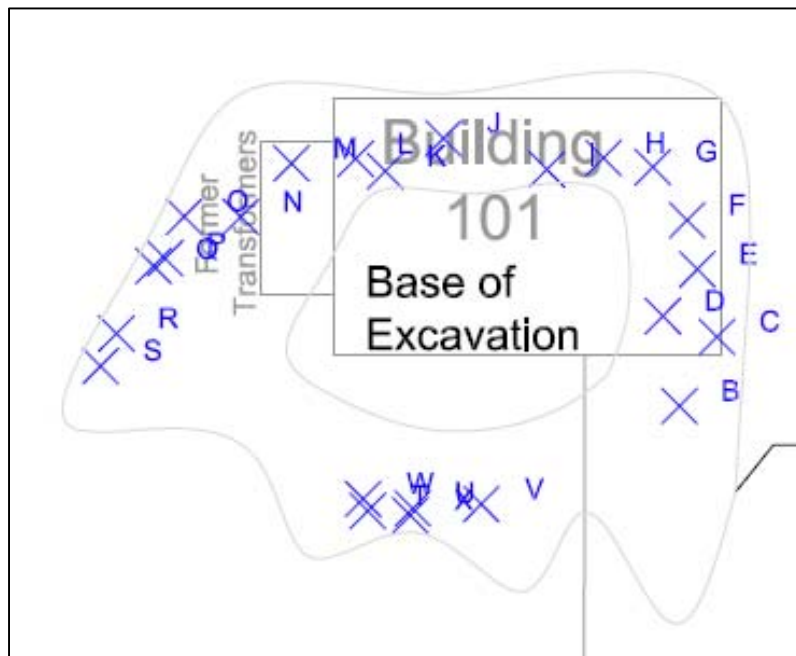


Building 100 and 101 were demolished in November of 2010. A petroleum odor was noted during the demolition activities. As such, additional characterization was completed within the former Building 101 footprint. Fourteen soil samples were collected from four soil borings; three sub-samples from each boring at depth intervals 2, 6, and 10 feet below ground surface. All samples were submitted for the analysis of GRO, DRO, RRO, and PCBs. All sample results were below applicable soil cleanup levels. The figure below shows the results of the investigation:



Additional excavation was completed at the Building 101 footprint in 2012 under the Native American Lands Environmental Mitigation Program (NALEMP), as documented in the *Soil Removal and Confirmation Sampling Report*, dated January 31, 2013. The report indicates that an excavation was performed down to about 8 feet bgs at the Building 101 footprint. Soil samples were collected from the base of the excavation and were submitted for laboratory analysis of DRO only. Based on information in the report, it appears that most of the DRO impacted soil has been removed from the footprint of Building 101, with DRO remaining in the

smear zone at the base of excavation up to 760 mg/kg and in one of the sidewall soil sample at 5,100 mg/kg (at Location T). A figure showing the 2012 excavation is presented below:



Additional UVOST soil borings were completed at the nearby former drum storage facility in April 2015. The former drum facility is located on the northeast side of Building 101. Although the borings were not aimed at addressing data gaps for the former transformer location, the samples were analyzed for total organic carbon (TOC). The average TOC concentration was 4,750 mg/kg or 0.00475 g/g fractured organic carbon (FOC). ADEC calculated an alternative MTG cleanup level for DRO using the FOC number. The alternative cleanup level was calculated to be 1,200 mg/kg. The table below shows the results of the calculations:

DRO (Total)		Organic Non-Carcinogenic Petroleum	Ingestion Cleanup Level:	10300 mg/kg
			Inhalation Cleanup Level:	43000 mg/kg
			Groundwater Cleanup Level:	1.5 mg/L
			Migration to Groundwater:	1200 mg/kg

Based on results from the 2012 NALEMP excavation, it appears that the highest level of DRO impacted soil remaining in the smear zone is 760 mg/kg, which is below the 1,200 alternative MTG cleanup level for DRO. DRO was detected above the alternative MTG in one sidewall sample (Location T) in 2012; however, this impact appears to be localized and is not impacting groundwater above Table C GCLs. All PCB contaminated soil has been removed to below approved cleanup levels.

### Contaminants of Concern

During the site characterization and cleanup activities at this site, samples were collected from soil and groundwater, and were analyzed for one or more of the following: TRPH, VOCs, SVOCs, DRO, GRO, RRO, and/or PCBs. Based on these analyses, the following contaminants

were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Diesel Range Organics (DRO)
- Polychlorinated Biphenyls (PCBs)

### Cleanup Levels

Applicable cleanup levels for this site include the calculated alternative MTG cleanup of 1,200 mg/kg for DRO, as well the risk-based ingestion cleanup level as outlined in 18 AAC 75.341(c), Table B2. 18 AAC 75.345 Table C outlines the applicable groundwater cleanup levels. The approved cleanup levels are shown below in the table:

**Approved Cleanup Levels Table**

Contaminant	Soil – Alternative MTG (mg/kg)	Soil - Ingestion (mg/kg)	Groundwater (mg/L)	Maximum Soil Concentrations Remaining Onsite (mg/kg)
DRO	1,200	10,250	1.5	5,100
PCBs	1	1	0.00044	0.88

### 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 below:

### Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below ingestion cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the sub-surface, but is below inhalation cleanup levels.



Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contaminants of concern are not volatile.
Groundwater Ingestion	De-Minimis Exposure	Groundwater contamination is below Table C GCLs.
Surface Water Ingestion	Pathway Incomplete	Surface water is not present near the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	All contamination has been excavated to between 6 and 8 feet. Residual impacts remain in the subsurface soils and smear zone, but are below applicable cleanup levels and at a depth that would not impact wild or farmed foods.
Exposure to Ecological Receptors	Pathway Incomplete	No aquatic or terrestrial routes are present.

**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 and groundwater contamination at the site have been cleaned up to concentrations below the approved 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.
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 20 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) 269-7691 or email at [joshua.barsis@alaska.gov](mailto:joshua.barsis@alaska.gov).

Sincerely,



Joshua Barsis  
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit