



THE STATE  
*of* **ALASKA**  
GOVERNOR MIKE DUNLEAVY

**Department of  
Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE  
Contaminated Sites Program

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DEC File No.: 2541.38.001  
Hazard ID: 96

September 22, 2023

Robert Johnston  
AFCEC/CZOP  
10471 20<sup>th</sup> Street, Suite 343  
Elmendorf AFB, AK 99506-2201

Re: Decision Document: Driftwood Bay RRS SS007 Spill/Leak No. 7 at POL Tank Farm  
Cleanup Complete Determination – Institutional Controls

Dear Mr. Johnston

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the Driftwood Bay RRS SS007 Spill/Leak No. 7 at POL Tank Farm located at Driftwood Bay. 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 as long as the institutional controls are maintained and effective, and no information becomes available that indicates residual contamination poses an unacceptable risk.

This Cleanup Complete with Institutional Controls (ICs) determination is based on the administrative record for the Driftwood Bay RRS SS007 Spill/Leak No. 7 at POL Tank Farm maintained by DEC. This decision letter summarizes the site history, cleanup actions, regulatory decisions, and specific conditions required to effectively manage remaining contamination at this site.

**Site Name and Location:**

Driftwood Bay RRS SS007  
Spill/Leak No. 7 at POL Tank Farm  
Section 7, 02 South 119 West  
Seward Meridian  
Dutch Harbor, AK 99692

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

Robert Johnston  
AFCEC/CZOP  
10471 20<sup>th</sup> Street, Suite 343  
Elmendorf AFB, AK 99506-2201

**DEC Site Identifiers:**

File No.: 2451.38.001

Hazard ID.: 96

**Regulatory Authority for Determination:**

18 Alaska Administrative Code (AAC) 75

**Site Description and Background**

Site SS007 is located on the north shore of Amaknak Island, approximately 3,000 feet east of the Driftwood Bay runway. SS007 was a petroleum, oil, and lubricants (POL) tank farm consisting of two 250,000-gallon above-ground storage tanks (ASTs), a fuel pumphouse, and a 25,000-gallon MOGAS (motor gasoline) AST.

In 1991, oiled sand was excavated from the foundations of the two 250,000-gallon ASTs during demolition of the site and placed into the landfill at the former composite building (SS002). One sample of the sand was collected and analyzed for total petroleum hydrocarbons (TPH) and diesel range organics (DRO). TPH and DRO were detected at 27,000 mg/kg and 1,930 mg/kg respectively in the sample.

**Contaminants of Concern**

During the site investigation and cleanup activities at this site, samples were collected from soil, surface water, and groundwater were analyzed for polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), gasoline range organics (GRO), DRO, residual range organics (RRO), and TPH. Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern (COCs) at this site:

- DRO
- TPH (RRO)
- Benzo(a)pyrene

**Cleanup Levels**

DEC Method Three calculations were performed by approved methods established in 18 AAC 75.340(e) by using site-specific fraction of organic carbon (FOC) obtained from total organic carbon (TOC) concentrations established for the site. Based on evaluation of the Method Three criteria developed, the human health ingestion cleanup level for the over 40-inches of precipitation climate zone, established in 18 AAC 75.341 Tables B1 and B2, provides the most conservative cleanup criterion for soil.

DRO was detected in groundwater above their respective cleanup levels established in 18 AAC 75.345, Table C. The approved cleanup levels are identified in Table 1.

**Table 1 – Approved Cleanup Levels**

<b>Contaminant</b>	<b>Soil – Human Health<sup>1</sup> (mg/kg)</b>	<b>Groundwater (µg/L)</b>
DRO	8,250	1,500
TPH (RRO) <sup>2</sup>	8,300	1,100
Benzo(a)pyrene	1.2	0.25

Notes:

<sup>1</sup> Soil cleanup level protective of people exposed to contaminated soil by the ingestion pathway.

<sup>2</sup> TPH does not have an approved cleanup level and so the cleanup level for residual-range organics was used because TPH typically represents those constituents of petroleum.

mg/L = milligrams per liter

µg/L = micrograms per liter

### **Characterization and Cleanup Activities**

Site characterization under 18 AAC 75.325 began in 1991 during demolition and removal actions at the Driftwood Bay RRS. Petroleum, oil, and lubricant (POL) contaminated soil was removed from the foundations of the two 250,000 gallon ASTs during demolition. Soil samples collected from the removed soils had concentrations of TPH and DRO at 27,000 and 1,930 g/kg respectively. In 1995, surface soil samples collected from the 250,000-gallon AST foundations and pumphouse detected diesel range organics (DRO) at a maximum concentration of 13,300 milligrams per kilogram (mg/kg), and total petroleum hydrocarbons (TPH) was detected at a maximum concentration of 27,000 mg/kg.

In 2005 a Preliminary Assessment/Site Investigation (PA/SI) was conducted at Driftwood Bay. Aerial and ground reconnaissance were conducted to determine the layout of the site using drawings, aerial photos, and as-builts from previous reporting. Concrete foundations of the 250,000-gallon ASTs were located, however the MOGAS AST was believed to have been destroyed by beach erosion and tidal activity. A surface soil field testing grid was established within the area of the former tank farm area that covered approximately 110 feet by 250 feet, resulting in 49 photo-ionization detector (PID) readings collected at approximately 1 foot below ground surface (bgs). Four surface soil samples were collected at SS007 based on the highest PID readings collected and DRO was present in all samples, ranging from 37.4 mg/kg to 13,700 mg/kg. Benzo(a)pyrene exceeded the cleanup level in one sample at a concentration of 2.37 mg/kg. Surface water and sediment samples were collected from both the bay and stream at low tide. These samples were all below the most conservative cleanup criteria.

In 2007 a Site Characterization and Remedial Investigation was conducted to determine the extent of contamination at SS007. All but four of the 29 soil boring samples contained DRO concentrations exceeding the 18 AAC 75 Method Two migration to groundwater criterion, ranging from 250 to 3,400 mg/kg. Due to elevated DRO results, DEC Method Three calculations were performed by using site-specific FOC obtained from TOC concentrations established for the site. Based on evaluation of the Method Three criteria developed, the ingestion level provides the most conservative DRO criterion, at 8,250 mg/kg. Comparison of analytical soil results to the Method Three criteria indicated no soil exceedances at SS007. Benzo(a)pyrene results were below the most stringent DEC cleanup levels and was determined to not pose a cancer risk at the site, therefore the analyte was not retained as a COC in soil.

Due to the presence of subsurface DRO contamination extending to the water table, six groundwater samples were collected across the site, including downgradient locations. DRO exceeded the DEC Table C groundwater levels in five of six samples collected, ranging from 1,900 micrograms per L (µg/L) to 82,000 µg/L. The 2007 site characterization recommended the SS007 POL Tank Farm remedy include monitored natural attenuation (MNA) with institutional controls (ICs).

On February 8, 2010, DEC issued a Determination of Final Compliance for Driftwood Bay Radio Relay Station (RRS) Sites, concurring with the recommendation of MNA with ICs at SS007. Once ICs were in place and the groundwater contaminant plume was shown to be attenuating, SS007 would be changed to Cleanup Complete with ICs. This determination was supported, per DEC request, in the *CERCLA*

*Record of Decision: OT001 Former Composite Building and DA013 Burned Battery Area*, dated January 2013.

To support the ICs established for SS007, a groundwater monitoring event was conducted in August of 2015. Six new well points were installed at SS007 to monitor the groundwater plume. Only four could be sampled, and DRO concentrations exceeded the 18 AAC 75 Method Two Groundwater Cleanup Levels in all four wells with results ranging from 3,750 µg/L to 10,500 µg/L.

In 2015, an IC Plan was developed for the site and included the following elements:

1. Land Use Controls (LUCs) for each site will be incorporated into the 611th Civil Engineering Squadron LUC Management Plan. This was completed in July of 2015.
2. A Notice of Environmental Contamination (NEC) to be placed in the Alaska Department of Natural Resources' (ADNR) land records. This was completed in April of 2018.
3. Warning signs placed at the boundary of each site to provide contact information for LUC management. This was completed in August of 2015.

Groundwater samples were collected in 2015 and 2016 and analyzed for DRO. All wells exceeded the Table C cleanup levels. However, in August 2017, DEC approved a request for an 18 AAC 75.350 determination that groundwater is not a potential drinking water source for SS007. Per this determination, additional groundwater monitoring was no longer required at the time, however evaluation of potential impacts to surface water quality was requested by DEC. Analytical samples were collected from five wells in 2017 and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and PAHs, including benzo(a)pyrene. The individual BTEX and PAH constituent concentrations were summed to calculate Total Aromatic Hydrocarbon (TAH) and Total Aqueous Hydrocarbon (TAqH) concentrations for comparison against DEC's surface water quality standards listed in 18 AAC 70. The analytical results for the TAH and TAqH analyses for all well points sampled in 2017 were below the surface water quality standards established in 18 AAC 70.

Due to policy change, DEC now considers all groundwater to be a potential future use of drinking water. Additional monitoring and analytical samples were collected in 2021 to support the unlimited use/unrestricted exposure (UU/UE) of groundwater at SS007. None of the six wells exceeded the Table C groundwater cleanup level of 1,500 µg/L for DRO and the maximum detection was 911 µg/L. Only three monitoring events have been conducted (2015, 2016, and 2021), therefore there are not enough data points to conduct a valid Mann-Kendal analysis. However, Table 2 shows the declining contaminant concentrations over time.

**Table 2 Site SS007 Summary of DRO Groundwater Analytical Results (2015 - 2021)**

Year	Analyte	Action Level	Location – All results in µg/L					
			WP-01	WP-02	WP-03	WP-04	WP-05	WP-06
2015	DRO	1,500	10,500	NS	NS	13,500	4,400	3,750
2016	DRO	1,500	832	365	975	1,550	956	3,860
2021	DRO	1,500	ND [400]	181 J [400]	202 J [400]	626 J [400]	604 J [400] 622 J dup	911 [400]
<b>Key:</b> µg/L – micrograms per liter [ ] – limit of detection ND – analyte is not detected NS – well point not sampled Concentration exceeds ADEC, 18 AAC 75, Oil and Other Hazardous Substances Pollution Control, Table C Groundwater Cleanup Levels, as amended through November 18, 2021 (ADEC, 2021) and the Final Records of Decision for Driftwood Bay RRS (USAF, 2013).								

Annual IC inspections are conducted to monitor for signs of trespassing and to ensure signage remains in place. The warning signs at site SS007 state the following: “Warning – Any work/dig permit must comply with PACAF Regional Support Center OI 32-7001 Land Use Control Management. Soil and/or water in this area are contaminated.” The signs also provide contact information for the Air Force Civil Engineer Center (AFCEC) Remedial Project Manager and a figure with the area subject to LUCs identified. Additionally, the LUC boundary figure from the 611th Civil Engineering Squadron LUC Management Plan specifies that there are excavation and digging restrictions in place at SS007, in addition to the NEC filed with the ADNR Records Office.

Statutory reviews under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) are not required for site SS010 as no CERCLA contaminants were identified and the site does not have an official Decision Document, however the Air Force conducts periodic reviews due to pollutants or contaminants regulated under Alaska State Law remaining at the site above levels that allow for UU/UE. The periodic reviews re-evaluate the ICs in place to ensure the current remedy remains effective in limiting risk to human health and the environment. The first two periodic reviews were conducted in 2018 and 2023, with the next review scheduled for 2028.

**Remaining Contamination**

The maximum concentrations of contaminants remaining at the site are shown in Table 2. The concentrations of DRO in soil are below the respective approved cleanup levels. DRO concentrations in groundwater have shown to be decreasing. Sample locations referred to in Table 2a and 2b are shown in the attached site figure 1.

**Table 3a – Maximum Contaminant Concentrations Remaining in Soil**

Contaminant	Soil (mg/kg)	Sample Location	Date Sampled
DRO	3,400	DBSS007-BH17A-SO	6/21/2007
Benzo(a)pyrene	0.610 <sup>1</sup>	DBSS007-BH08A-SO	6/20/2007

<sup>1</sup>Maximum contaminant concentrations for benzo(a)pyrene are below DEC cleanup levels, therefore is not retained as a COC for the site.

**Table 3b – Maximum Contaminant Concentrations Remaining in Groundwater**

Contaminant	Groundwater (µg /L)	Sample Location	Date Sampled
DRO	911	SS007-WP06-102821	10/28/2021

<sup>1</sup>Benzo(a)pyrene eliminated as a COC in groundwater due to no exceedances of TAH and TAqH at the site.

**Cumulative Risk Evaluation**

Pursuant to 18 AAC 75.325(g), when detectable contamination remains onsite 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 (HI) of 1 across all exposure pathways.

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

**Exposure Pathway Evaluation**

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC’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 3.

**Table 3 – Exposure Pathway Evaluation**

Pathway	Result	Explanation
Direct Contact with Surface Soil	Exposure Controlled	Contamination remains in surface soil below human health cleanup levels. Dig restrictions are in place controlling exposure.
Direct Contact with Subsurface Soil	Exposure Controlled	Contamination remains in subsurface soil below human health cleanup levels. Dig restrictions are in place controlling exposure.
Inhalation – Outdoor Air	Pathway Incomplete	Contaminants in soil are not volatile.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contaminants in soil are not volatile. No occupied buildings are present at the site and are not reasonably expected to be placed at the site.
Groundwater Ingestion	Exposure Controlled	18 AAC 75.350 Groundwater Use Determination approved by DEC. Additional ICs are in place controlling exposure, including the recorded NEC that states in the event groundwater becomes accessible by land use activities, the land owner and/or operator are required to notify DEC and evaluate the environmental status of contamination.
Surface Water Ingestion	Exposure Controlled	COCs were non-detect in surface water, but have the potential to migrate to surface water source. ICs are in place controlling exposure.

Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminant of concern does not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	De Minimis Exposure	Contamination does not reach the bay or surface water where aquatic life could be affected, as documented by the groundwater and surface water sampling results. Potential terrestrial ecological exposure is de minimis due to the small area of contamination and minimal vegetation present.

Notes:

1. “De-Minimis Exposure” means that, in DEC’s judgment, the receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination.
2. “Pathway Incomplete” means that, in DEC’s judgment, the contamination has no potential to contact receptors.
3. “Exposure Controlled” means there is an IC in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

**DEC Decision**

Petroleum contamination remains in the subsurface soil above levels suitable for unrestricted future use; however, DEC has approved the use of institutional controls to limit potential future exposure and risk to human health or the environment. A Notice of Environmental Contamination has been recorded in the land records maintained by the Alaska Department of Natural Resources and a copy is enclosed with this letter.

ICs necessary to support this closure determination include:

- Notification to the DEC is required for approval prior to commencing any subsurface excavation or digging activities within the boundaries of Tract 38A and Tract 38B, as required by 18AAC 75.325(i). Any work/dig permit must comply with Pacific Air Force (PACAF) Center OI 32-7001 Land Use Control Management.
- In the event that the remaining contaminated soil or groundwater becomes accessible by land use activities, or other information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are required under 18 AAC 75.300 to notify DEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-.390.
- Pursuant to 18 AAC 75.325(i)(1) and (2), DEC approval is required prior to moving soil or groundwater that is, or has been, subject to the cleanup rules found at 18 AAC 75.325-.370. At this site, in the future, if soil is removed from the site or groundwater is brought to the surface it must be characterized and managed following regulations applicable at that time.

DEC has determined the cleanup is complete as long as the ICs are properly implemented, and no information becomes available that indicates residual contamination may pose an unacceptable risk.

Movement or use of contaminated material in an ecologically sensitive area or in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited. Furthermore, 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.

If, in the future, groundwater from this site is to be used for other purposes, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

The DEC Contaminated Sites Database will be updated to reflect the change in site status to “Cleanup Complete with Institutional Controls” and will include a description of the contamination remaining at the site. The Notice of Environmental Contamination will be available online through the DEC Contaminated Sites Database at <https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/91>.

The ICs will be removed in the future if documentation is provided that shows concentrations of all residual hazardous substances remaining at the site are below the levels that allow for unrestricted exposure to, and use of, the contaminated media and that the site does not pose a potential unacceptable risk to human health, safety or welfare, or to the environment.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if the institutional controls are determined to be ineffective or if information indicates that contaminants at this site may pose an unacceptable risk to human health or the environment.

#### **Informal Reviews and Adjudicatory Hearings**

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC’s “Appeal a DEC Decision” web page <https://dec.alaska.gov/commish/review-guidance/> for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

If you have any questions about this closure decision, please contact me at (907 451-2181, or by email at [cascade.galasso-irish@alaska.gov](mailto:cascade.galasso-irish@alaska.gov).

Sincerely,



Cas Galasso  
Project Manager

Enclosure: Recorded Notice of Environmental Contamination, April 19, 2018.

cc: DEC, Division of Spill Prevention and Response, Cost Recovery Unit

Mr. Johnston  
AFCEC

September 22, 2023

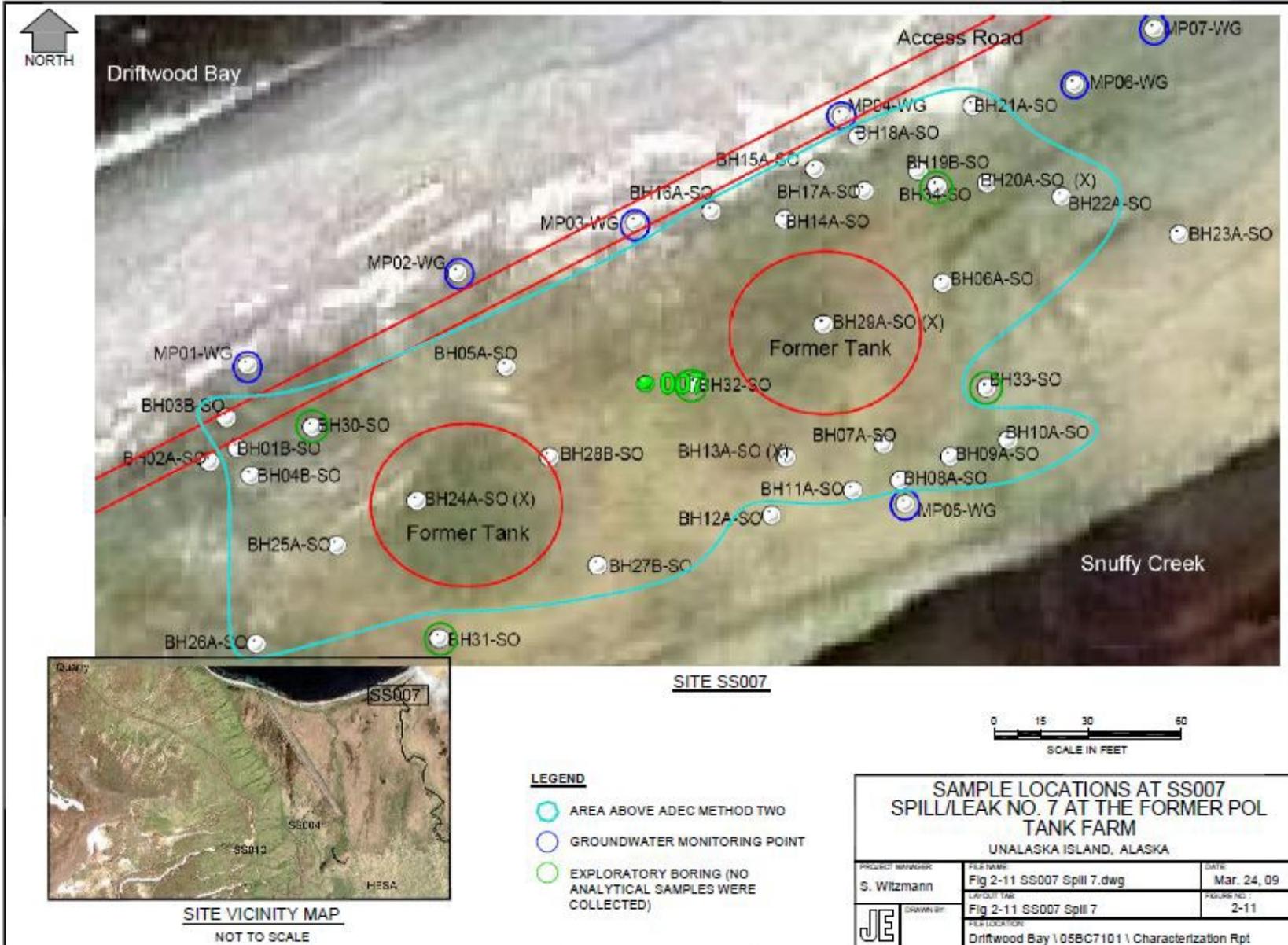


Figure 1 - Sample locations at SS007 Spill/Leak at the Former POL Tank Farm.



## NOTICE OF ENVIRONMENTAL CONTAMINATION

## Recording District: Aleutian

As required by the Alaska Department of Environmental Conservation, Grantee, pursuant to 18 AAC 75.375 the U.S. Air Force, Grantor, as the owner of the subject property, hereby provides public notice that the property located at: Northing 1,211,987 feet, Easting 5,246,235 feet (Zone 10 Alaska State Plane), East of the Airfield Runway, Unalaska Island, Alaska, 99692, and more particularly described as follows:

T. 72 S., R. 119 W., Section 3, Tract 37, Seward Meridian

has been subject to a discharge or release and subsequent cleanup of oil or other hazardous substances, regulated under 18 AAC 75, Article 3, as amended June 17, 2015. This release and cleanup are documented in the Alaska Department of Environmental Conservation (ADEC) contaminated sites database at [http://www.dec.state.ak.us/spur/osp/db\\_search.htm](http://www.dec.state.ak.us/spur/osp/db_search.htm) under Hazard ID number 96.

ADEC reviewed and approved, subject to this and other institutional controls, the cleanup as protective of human health, safety, welfare, and the environment. No further cleanup is necessary at this site unless new information becomes available that indicates to ADEC that the site may pose an unacceptable risk to human health, safety, welfare, or the environment. ADEC determined, in accordance with 18 AAC 75.325 - 390 site cleanup rules, that cleanup has been performed to the maximum extent practicable even though residual fuel contaminated soil and/or groundwater exists on-site. Further cleanup was determined to be impracticable as a result of findings generated documented in the Site Characterization Report for Driftwood Bay RRS, dated September 2009.

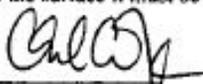
Attached is a site survey or diagram drawn to scale that shows the property boundaries, the area which was addressed during the 2015 Remedy Implementation at Site SS007, and locations of warning signs posted at the site.

Notification to the ADEC is required for approval prior to commencing any subsurface excavation or digging activities within the boundaries of Tract 37, as required by 18AAC 75.325(i). Any work/dig permit must comply with Pacific Air Force (PACAF) Center OI 32-7001 Land Use Control Management.

In the event that the remaining contaminated soil or groundwater becomes accessible by land use activities, or other information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are required under 18 AAC 75.300 to notify ADEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-390.

Pursuant to 18 AAC 75.325(i)(1) and (2), DEC approval is required prior to moving soil or groundwater that is, or has been, subject to the cleanup rules found at 18 AAC 75.325-370. At this site, in the future, if soil is removed from the site or groundwater is brought to the surface it must be characterized and managed following regulations applicable at that time.

Return To: Charlie Crawford, CES-Insight,  
1701 Shenandoah Avenue, NW, Roanoke, VA 24017

  
Charlie Crawford  
CES-Insight

