

## Request for Conditional Closure

**Site:** Oil Drum Dump, also known as Two-Party Agreement (TPA) Site 14 and National Oceanic and Atmospheric (NOAA) Site 14

**Location:** St. George Island, Alaska is approximately 800 miles southwest of Anchorage in the Bering Sea. On the island, the Oil Drum Dump is located 2.5 miles southwest of the City of St. George. The site is located on the landfill access road, approximately 1 mile southeast of Zapadni Road (56° 35' 9.33" N latitude, 169° 35' 49.03 W longitude; Figure 1).

**Legal Property Description:** The Oil Drum Dump is located in Section 36, Township 41 South, Range 130 West, of the Seward Meridian, Alaska, as shown on the plat of rectangular net survey, officially filed February 15, 1985 (Figure 2). The St. George Tanaq Corporation owns the surface estate, and The Aleut Corporation owns the subsurface estate.

**Type of Release:** Debris— including fuel storage tanks, propane cylinders, 55-gallon drums, and vehicle skeletons— and stained soil presumed to have resulted from leaking debris contents.

**History and Background:** This site was used for disposal of debris, including drums, decommissioned fuel storage tanks, and other metallic vessels. Historically, the western portion of the site contained six large aboveground storage tanks from the Former Diesel Tank Farm, TPA Site 1 (Tetra Tech 2000a).

### Summary of Site Investigations:

Investigations conducted at the Oil Drum Dump Site include the following.

#### 1992 Preliminary Assessment by Ecology & Environment, Inc. (E&E)

The E&E assessment reported a noticeable amount of surface debris, including propane tanks, drums, abandoned fuel storage tanks, metal debris, and vehicle remains. The report noted soil staining near abandoned tanks and drums. The contents in two of the 14 tanks on site were sampled, and field screening indicated the liquid in the tanks was water (E&E 1993).

#### 1992 Environmental Assessment by Harding Lawson Associates (HLA)

HLA inventoried a total of 14 fuel storage tanks, leaving them in place. One hundred twenty (120) propane tanks also were inventoried and marked with paint for future reference and removal (HLA 1993).

#### 1993 Environmental Assessment by Woodward-Clyde Consultants, Inc. (Woodward-Clyde)

Woodward-Clyde inventoried and removed 72 drums. Soil surrounding one group of 36 drums on the south end of the site was stained and several of the drums were actively leaking. Twenty-eight (28) drums contained waste material. Woodward-Clyde also inventoried 288 propane cylinders, two automotive batteries, three vehicles, and a truck trailer. The propane cylinders and batteries were removed from the site (Woodward-Clyde 1994).

1997 Site Investigation by Polarconsult Alaska, Inc. (Polarconsult)

Polarconsult (1997a) conducted soil sampling to identify potential areas of soil contamination. Twenty-two shallow soil samples were collected, composited into five samples (four project samples and one quality control duplicate sample), and analyzed for heavy metals, diesel-range organics (DRO), and residual-range organics (RRO). Additionally, five discrete samples were analyzed for gasoline-range organics (GRO) and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Two of the five discrete samples were collected from locations where organic vapors were detected using an organic vapor monitor. Samples composited from around a former drum cache west of the road (composite group 2) contained 8,160 mg/kg DRO and 39,900 mg/kg RRO (Table 1, Figure 3), exceeding Method One (category B) cleanup levels applied by Polarconsult. Results of a duplicate sample, composite group 5, corroborated these results. None of the discrete samples analyzed for GRO and BTEX exceeded their Method One (category B) cleanup levels.

2000 Environmental Site Investigation by Polarconsult Alaska, Inc.

Test pits sampled in 1997 were located, re-sampled, and individually analyzed (rather than as composites) for DRO, RRO, and BTEX. Other locations were also sampled in an effort to characterize the extent of the contamination (Table 2, Figure 3). According to Polarconsult, soil contamination coincided with test pits excavated in discolored soil (Polarconsult 2001).

**Groundwater Characteristics:**

No groundwater monitoring wells have been installed at the Oil Drum Dump, but groundwater beneath the site is estimated to occur at a depth of 250 feet (Tetra Tech 2000b). The site is located 2.4 miles from the St. George municipal drinking water wells. Tetra Tech EM Inc. (Tetra Tech) conducted a vadose zone modeling study for the St. George municipal landfill, located only 400 yards northwest of the Oil Drum Dump. In this study, Tetra Tech concluded that the thickness of the fractured basalt portion of the vadose zone and the distance of the landfill to the public water supply wells would be expected to significantly dilute and attenuate groundwater contamination. The City of St. George, which is responsible for the drinking water field, and ADEC accepted this interpretation.

**Summary of Applied Cleanup Levels:**

NOAA has chosen to apply ADEC Method Two cleanup criteria, discussed at 18 AAC 75.341(c) (ADEC 2000) at this site. The most stringent cleanup level among the ingestion, inhalation, and migration to groundwater pathways has been applied for the site cleanup criteria. Under the TPA, for benzene NOAA had the option to cleanup to the less stringent State of Alaska cleanup level in effect in 1991 (ADEC 1991). Cleanup criteria were met to the maximum extent practicable (18 AAC 75.325 (f), 18 AAC 75.990).

**Summary of Cleanup Actions:**

Cleanup actions were conducted during site investigations in 1993, 1996, 1997, and 2000. In October 1993, a NOAA contractor removed 72 drums, 288 propane cylinders, and other potentially hazardous items (Woodward-Clyde 1994). Polarconsult removed remaining debris, including several large tanks and small surface debris, during December 1996 and March 1997 (Polarconsult 1997b).

In June 2000, numerous discontinuous patches of visibly stained soil were excavated. Further excavation was conducted in July 2000 using a more powerful excavator (Polarconsult 2001). Soil was excavated to approximately 11 feet below ground surface (bgs) near sample location SS251 before fractured, vesicular red basalt impeded further excavation. Near sample location SS250, contaminated soil was removed to about 4 feet bgs, where refusal was encountered. A total of 101 cubic yards of contaminated soil was removed throughout 2000 excavation activities at the Oil Drum Dump site (Figure 4). The soil was transported to the NOAA petroleum-contaminated soil (PCS) stockpile for on-island treatment in NOAA's enhanced thermal conduction system.

Following excavation, soil samples were collected for field and laboratory (confirmation) analysis (Table 3, Figure 4). In the fixed laboratory, samples were analyzed for DRO, RRO, and BTEX. DRO was detected above its most stringent Method Two cleanup level of 250 mg/kg at two sampling locations. At sample location SS250, DRO was detected at a concentration of 3,350 mg/kg. At sample location SS251, DRO was detected at a concentration of 1,320 mg/kg. RRO was also detected above its most stringent Method Two cleanup level of 10,000 mg/kg in sample SS250, with a concentration of 12,500 mg/kg RRO. These samples were collected from excavation bottoms where refusal (*i.e.*, basalt) was met, and further excavation was not feasible. BTEX did not exceed Method Two cleanup levels.

**Recommended Action:**

In accordance with paragraph 59 of the Two Party Agreement (NOAA 1996), NOAA requests written confirmation that NOAA completed all appropriate corrective action, to the maximum extent practicable, at the Oil Drum Dump, TPA Site 14/Site 14 in accordance with the Agreement and that ADEC grant a conditional closure not requiring further remedial action from NOAA. NOAA understands ADEC will/may require additional containment, investigation, or cleanup if subsequent information indicates that the level of contamination that remains does not protect human health, safety, or welfare, or the environment.

**References:**

Alaska Department of Environmental Conservation. 1991. *Interim Guidance for Non-UST Contaminated Soil Cleanup Levels, Contaminated Sites Program*. July 17.

Alaska Department of Environmental Conservation. 2000. Title 18 of the *Alaska Administrative Code 75, Articles 3 and 9. Oil and Hazardous Substances Pollution Control Regulations*. State of Alaska. Amended through October 28, 2000.

Ecology and Environment, Inc. 1993. *Preliminary Assessment of National Oceanic and Atmospheric Administration Sites, Pribilof Islands, Alaska*. February.

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National Oceanic and Atmospheric Administration. 1996. Pribilof Islands Environmental Restoration Two-Party Agreement, Attorney General's Office File No. 66 1-95-0126. National Oceanic and Atmospheric Administration. January 26, 1996.

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Polarconsult Alaska, Inc. 2001. *Draft Environmental Site Investigation, St. George Environmental Cleanup, Pribilof Islands Environmental Restoration Project, Part II (Revision 2)*. December.

Tetra Tech EM Inc. (Tetra Tech). 2000a. *Draft Site Characterization Plan, Oil Drum Dump, Two-Party Agreement Site No. 14, Pribilof Islands Site Restoration, St. George Island, Alaska*. February.

Tetra Tech. 2000b. *Vadose Zone Modeling Report St. George Municipal Landfill St. George Alaska*. April 28.

Woodward-Clyde Consultants, Inc. 1994. *Phase 1B Environmental Assessment, St. George Island, Alaska*. March.

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**For the National Oceanic and Atmospheric Administration**

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John Lindsay  
NOAA, Pribilof Project Office

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Date

**Approvals:** In accordance with Paragraph 59 of the Two Party Agreement, this is to confirm that all corrective action has been completed to the maximum extent practicable at the Oil Drum Dump, TPA Site 14/Site 14 in accordance with the Agreement and that no further remedial action is required as a part of this conditional closure granted by ADEC.

**For the Alaska Department of Environmental Conservation**

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Louis Howard  
Alaska Department of Environmental Conservation  
Remedial Project Manager

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Date

## **Tables and Figures**

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**Table 1. Summary of 1997 Site Characterization Results**

Sample #	Depth (ft bgs)	Max OVM (ppm)	Pb (mg/kg)	As (mg/kg)	Cd (mg/kg)	Cr (mg/kg)	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Total BTEX (mg/kg)
Group 1 <sup>a</sup>	1.7	0	3.09	ND <sup>b</sup>	0.0805	30	ND	ND	NA <sup>e</sup>	NA <sup>e</sup>	NA <sup>e</sup>
Group 2 <sup>a</sup>	1.3	4	4.37	ND <sup>b</sup>	0.168	29.1	8,160	39,900	NA <sup>e</sup>	NA <sup>e</sup>	NA <sup>e</sup>
Group 3 <sup>a</sup>	1.2	0	3.61	ND <sup>b</sup>	0.114	30.8	18.3	83	NA <sup>e</sup>	NA <sup>e</sup>	NA <sup>e</sup>
Group 4 <sup>a</sup>	1.2	0	4.36	ND <sup>b</sup>	0.139	27.9	11.4	ND	NA <sup>e</sup>	NA <sup>e</sup>	NA <sup>e</sup>
Group 5 <sup>a,c</sup>	1.3	4	4.04	ND <sup>b</sup>	0.156	29	6,090	30,000	NA <sup>e</sup>	NA <sup>e</sup>	NA <sup>e</sup>
SS 152 <sup>d</sup>	2.0	0	NA <sup>e</sup>	ND <sup>b</sup>	ND <sup>b</sup>	ND <sup>b</sup>					
SS 153 <sup>d</sup>	1.5	2	NA <sup>e</sup>	4.86	ND <sup>b</sup>	ND <sup>b</sup>					
SS 154 <sup>d</sup>	1.5	4	NA <sup>e</sup>	ND <sup>b</sup>	ND <sup>b</sup>	ND <sup>b</sup>					
SS 158 <sup>d</sup>	1.5	0	NA <sup>e</sup>	ND <sup>b</sup>	ND <sup>b</sup>	ND <sup>b</sup>					
SS 162 <sup>d</sup>	2.0	0	NA <sup>e</sup>	ND <sup>b</sup>	ND <sup>b</sup>	ND <sup>b</sup>					

Notes:

<sup>a</sup> Samples are composites of several subsamples analyzed for all constituents but GRO and BTEX.

<sup>b</sup> Analyte was not detected above its practical quantitation limit.

<sup>c</sup> Composite sample group 5 is a field duplicate of composite sample group 2.

<sup>d</sup> Sample was a discrete sample analyzed only for GRO and Benzene/BTEX.

<sup>e</sup> Sample not analyzed for the listed contaminant.



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**Table 2. Summary of 2000 Site Characterization Results**

<i>Sample ID</i>	<i>Depth (ft bgs)</i>	<i>Benzene (mg/kg)</i>	<i>DRO (mg/kg)</i>	<i>RRO (mg/kg)</i>
SS 234	2.6	ND <sup>a</sup>	ND <sup>a</sup>	ND <sup>a</sup>
SS 235	1.5	ND <sup>a</sup>	ND <sup>a</sup>	109
SS 236	2.7	ND <sup>a</sup>	ND <sup>a</sup>	ND <sup>a</sup>
SS 237	1.5	ND <sup>a</sup>	ND <sup>a</sup>	ND <sup>a</sup>
SS 238	1.9	ND <sup>a</sup>	ND <sup>a</sup>	4,020
SS 239	1.0	ND <sup>a</sup>	ND <sup>a</sup>	ND <sup>a</sup>
SS 240	1.7	ND <sup>a</sup>	898	11,200
SS 241	1.6	ND <sup>a</sup>	ND <sup>a</sup>	175
SS 242	2.5	ND <sup>a</sup>	ND <sup>a</sup>	ND <sup>a</sup>
SS 243	1.8	ND <sup>a</sup>	ND <sup>a</sup>	26
SS 244	4.6	ND <sup>a</sup>	780	14,500
SS 245	2.4	ND <sup>a</sup>	ND <sup>a</sup>	4,000
SS 246	1.1	ND <sup>a</sup>	21	1,160

Notes:

<sup>a</sup> Sample was not detected above its practical quantitation limit.

Yellow shading indicates that soil at and near the sample location was removed and remediated by NOAA's enhanced thermal conduction system.

**Table 3. Summary of 2000 Site Remediation Confirmation Results**

<i>Sample ID</i>	<i>Depth (ft bgs)</i>	<i>Benzene (mg/kg)</i>	<i>DRO (mg/kg)</i>	<i>RRO (mg/kg)</i>
SS 247	2.5	ND <sup>a</sup>	65	472
SS 248	3.0	ND <sup>a</sup>	63	352
SS 249	2.9	ND <sup>a</sup>	117	693
SS 250 <sup>b</sup>	4.2	ND <sup>a</sup>	<b>3,350</b>	<b>12,500</b>
SS 251 <sup>b</sup>	10.9	ND <sup>a</sup>	<b>1,320</b>	8,360
<b>Cleanup Level</b>	--	0.5	250	10,000

Notes:

<sup>a</sup> Benzene was not detected above its practical quantitation limit of 0.0155

<sup>b</sup> Sample collected from excavation bottom at refusal.

Concentrations in **bold italics** exceeded the most stringent Method Two cleanup levels.