

## Request for Conditional Closure

**Site:** Polovina Hill stockpile, also known as non-Two Party Agreement (TPA) Site 47

**Location:** St. Paul Island, Alaska is approximately 800 miles southwest of Anchorage in the Bering Sea (Figure 1). On the island, the Polovina Hill stockpile site is situated approximately seven miles northeast of the Village of St. Paul, at the southeastern base of Polovina Hill, and adjacent to the access road to the Polovina quarry (Figure 1 and 2). NOAA positioned the site on the hillside in order to afford some protection from the high winds common on St. Paul Island.

Global positioning system (GPS) coordinates are available for the four corners of one of the site's two stockpiles, the west pile.

NW Corner:	57 10 56.937 N Latitude	170 11 08.116 W Longitude
NE Corner:	57 10 56.955 N Latitude	170 11 07.207 W Longitude
SW Corner:	57 10 56.139 N Latitude	170 11 08.025 W Longitude
SE Corner:	57 10 56.093 N Latitude	170 11 07.404 W Longitude

**Legal Property Description:** The Polovina Hill stockpile site is within Township 35 South, Range 131 West, Section 3, of the Seward Meridian, Alaska, as shown on the plat of rectangular survey officially filed May 14, 1986 (Figure 2). The Tanadgusix Corporation (TDX) owns the surface estate, and The Aluet Corporation owns the subsurface estate of this site.

**Type of Release:** National Oceanic and Atmospheric Administration (NOAA) used this site as a long-term storage area for diesel and gasoline-contaminated soils. Contaminated soils were stockpiled on a liner and covered at the site.

### **History and Background:**

During 1997, NOAA and its contractors removed underground storage tanks (USTs) from the former gas station, the decommissioned power plant, and the municipal garage on St. Paul Island. Petroleum-contaminated soils (PCS) from UST removal actions were stockpiled for long-term storage at an excavation on the slope of Polovina Hill. Stockpiled soils were segregated according to the type of contamination. Soil categorized as diesel-contaminated comprised a west stockpile, while soil categorized as gasoline-contaminated comprised an east stockpile (Figure 3; Photograph 1). NOAA constructed the stockpiles in accordance with Alaska Department of Environmental Conservation (ADEC) standards for long-term stockpiling (ADEC 1991). The soils were placed on a bottom liner and covered with a second liner (Photographs 1 and 2).

Estimates of the quantity of soil stockpiled at Polovina Hill vary. Aleutian Enterprises (1998) estimated the total volume of the east and west stockpiles at 777 cubic yards. Foster Wheeler Environmental Corporation (Foster Wheeler; 2001) estimated the volume of each individual stockpile at 1,500 cubic yards for a total volume of 3,000 cubic yards. UST removal and closure reports indicate that approximately 500 cubic yards of gasoline-contaminated soil were placed in the east stockpile, and approximately 416 cubic yards of diesel-contaminated soil were placed in

the west stockpile (Bristol 1997). In 2002, NOAA using its survey grade GPS and geographic information system (GIS) estimated the west stockpile volume at 400 cubic yards and the footprint at 4,865 square feet.

**Summary of Site Investigations:**

Prior to placement of the stockpile liners at the Polovina Hill site, Aleutian Enterprises and Bristol Environmental Services Corporation (Bristol) collected five samples from the footprints, two from the west side and three from the east side. All findings were non-detect (Aleutian Enterprises 1998). Once the soil stockpiles were constructed, Aleutian Enterprises and Bristol collected 10 soil samples from the west stockpile and 14 from the east soil stockpile (Aleutian Enterprises 1998 and Bristol 1997). In the west stockpile, diesel range organics (DRO) ranged from 710 to 7,800 mg/kg and total benzene, toluene, ethylbenzene, and xylenes (BTEX) ranged from 0.25 to 23.7 mg/kg. In the east stockpile, gasoline-range organics (GRO) ranged from 57 to 2,400 mg/kg; DRO ranged from 83 to 3,500 mg/kg; and BTEX ranged from non-detect to 17 mg/kg.

**Summary of Applied Cleanup Levels:**

The methods for establishing soil cleanup levels for the Pribilof Restoration Project are described in the Two-Party Agreement (TPA; NOAA 1996). NOAA employed ADEC Method Two cleanup criteria, discussed in 18 Alaska Administrative Code (AAC) 75.341(c) (ADEC 2000). For benzene, under the TPA (NOAA 1996), NOAA had the option to cleanup to the less stringent State of Alaska cleanup level (0.5 mg/kg) in effect in 1991 (ADEC 1991).

**Summary of Cleanup Actions:**

In 2000, Foster Wheeler (2001) completely removed the east stockpile from the Polovina Hill site, relocating it to the Blubber Dump. Foster Wheeler treated 350 cubic yards of the soil in NOAA's enhanced thermal treatment (ETC) system (Foster Wheeler 2001). Soil samples collected following treatment did not contain detectable levels of GRO, DRO, residual range organics (RRO), or BTEX. The maximum concentration of lead detected was 11 mg/kg, well below the residential cleanup standard of 400 mg/kg lead. Foster Wheeler subsequently moved the remediated soil to the St. Paul landfill. Untreated soil remained at the Blubber Dump to await treatment and/or final disposition.

Foster Wheeler collected four confirmation samples following the removal of the east stockpile from the Polovina Hill site (Foster Wheeler 2001). No GRO, DRO, RRO, or BTEX was detected. The maximum concentration of lead detected was 1 mg/kg.

Bering Sea Eccotech (BSE) removed the west stockpile from the Polovina Hill site on July 8-10, 2002 (NOAA 2005a). BSE transported approximately 400 cubic yards of PCS to the Blubber Dump stockpile site to await thermal treatment. Subsequently, NOAA and BSE thermally treated the soil in NOAA's ETC system. Following treatment, NOAA collected samples to confirm that the treatment lowered contaminant levels to acceptable concentrations prior to the soil's beneficial reuse at the St. Paul landfill (NOAA 2005b).

NOAA and BSE removed the underlying stockpile liner at Polovina Hill and collected 12 confirmation samples from the PCS stockpile footprint on July 21, 2004 (NOAA 2005a).

Samples were collected along a predetermined grid (Figure 4) and sent to a fixed-laboratory to verify that the stockpiled soils had not contaminated the site soils. BSE re-graded the stockpile footprint to match the surrounding ground surface (Photograph 3). This did not require the import of clean fill.

Fixed-laboratory results for the confirmation samples indicated contaminant concentrations well below ADEC Method Two cleanup criteria. The analytical results are summarized in Table 1.

[Note: the receipt of erroneous duplicate analytical data for sample SNPPSSS08-015 resulted in removal of an additional 10 cubic yards of soil in the location of this sample (Figure 4). Following this additional removal, BSE collected two additional confirmation samples (SNPPHS2SS01 and SNPPHS2SS02) on November 4, 2002. Results of these samples were below cleanup levels. It was later determined that the additional soil removal and confirmation sampling had been superfluous. The sample found to be above cleanup level was related to another site and had been mistakenly included in sampling results for this site.]

**Summary and 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 Polovina Hill stockpile site, non-TPA 47 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 (ADEC). 1991. *Guidance for Storage, Remediation, and Disposal of Non-UST Petroleum Contaminated Soils*. State of Alaska. July 29.

ADEC. 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.

Aleutian Enterprises. 1998. *NOAA Debris Cleanup, St. Paul Island, Alaska, 1997: Project Close Out Report*. Bering Sea Eccotech and Bristol Environmental Services Corp. joint venture. Project No 7029FG-00. February.

Bristol Environmental Services Corporation. 1997. *UST Removal and Closure Report. Saint Paul, Saint Paul Island, Alaska*. Project No. 7029FG-00. September.

Foster Wheeler Environmental Corporation. 2001. *Final Project Report, Petroleum-Contaminated Soil Remediation, St. Paul Island, Alaska*. RACII/Delivery Order No. 0077. July 27.

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National Oceanic and Atmospheric Administration (NOAA). 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.

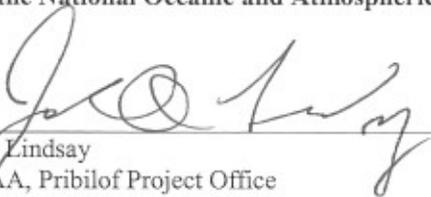
NOAA. 2005a. *Final Corrective Action Report, Polovina Hill Stockpile, St. Paul Island, Alaska*. Prepared by NOAA, Pribilof Project Office, Seattle, WA with Bering Sea Eccotech, Inc. Contract No. 50ABNC100043. January.

NOAA. 2005b. *Project Report for 2002 Petroleum-Contaminated Soil Remediation, St. Paul Island, Alaska*. Prepared by NOAA, Pribilof Project Office, Seattle, WA with Bering Sea Eccotech, Inc. Contract No. 50ABNC100043. In draft.

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For the National Oceanic and Atmospheric Administration

  
\_\_\_\_\_  
John Lindsay  
NOAA, Pribilof Project Office

  
\_\_\_\_\_  
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 Polovina Hill stockpile site, non-TPA 47 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

  
\_\_\_\_\_  
Louis Howard  
Alaska Department of Environmental Conservation  
Remedial Project Manager

  
\_\_\_\_\_  
Date

## Tables and Figures

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**Table 1. 2002 Confirmation Sample Results (mg/kg) for the West Polovina Hill Stockpile**

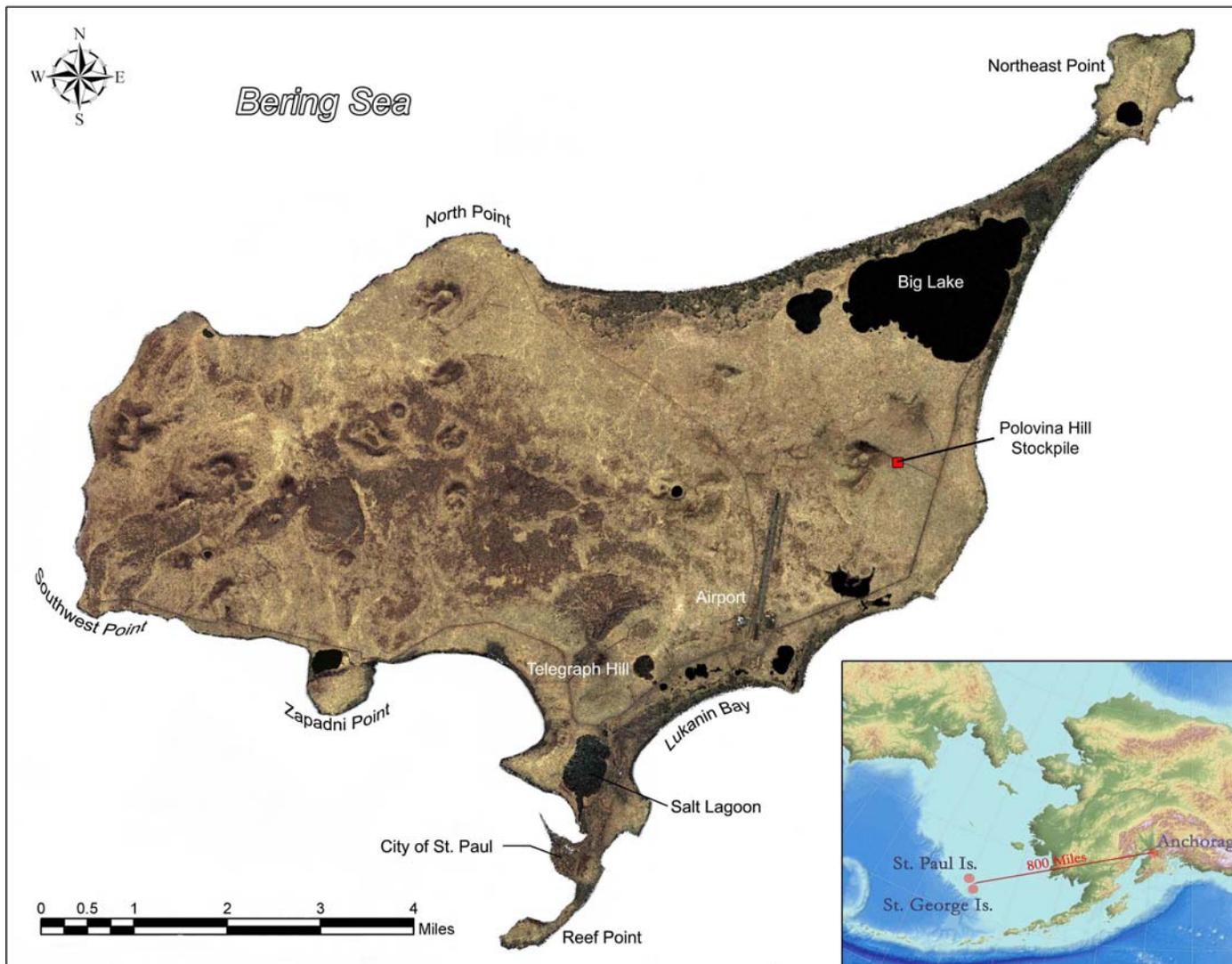
Sample #	Lead	GRO	DRO	RRO	Benzene	Ethyl-benzene	Toluene	P&M -Xylene	o-Xylene	Total Xylenes	Location
SNPPSS01-020	1.39	ND(3.52)	ND(22.6)	ND(22.6)	ND(0.0176)	ND(0.0703)	ND(0.0703)	ND(0.103)	ND(0.0703)	ND(0.1733)	surface
SNPPSS02-015	1.98	ND(3.87)	ND(23.6)	27.1	ND(0.0194)	ND(0.0775)	ND(0.0775)	ND(0.0775)	ND(0.0775)	ND(0.155)	surface
SNPPSS03-015	1.89	ND(3.23)	ND(21.9)	ND(21.9)	ND(0.0162)	ND(0.0646)	ND(0.0646)	ND(0.0646)	ND(0.0646)	ND(0.1292)	surface
SNPPSS04-015	2.49	ND(3.3)	ND(23.2)	30.4	ND(0.165)	ND(0.066)	ND(0.066)	ND(0.066)	ND(0.066)	ND(0.132)	surface
SNPPSS05-015	1.56	ND(3.85)	ND(22.6)	25.3	ND(0.0193)	ND(0.0771)	ND(0.0771)	ND(0.0771)	ND(0.0771)	ND(0.1542)	surface
SNPPSS06-015	2.03	ND(4.39)	ND(23.7)	44.2	ND(0.0219)	ND(0.0877)	ND(0.0877)	ND(0.0877)	ND(0.0877)	ND(0.1754)	surface
SNPPSS07-020	3.67	ND(3.95)	ND(23.8)	28.8	ND(0.0198)	ND(0.0791)	ND(0.0791)	ND(0.0791)	ND(0.0791)	ND(0.1582)	surface
SNPPSS08-015	1.79	ND(3.04)	ND(22.5)	34.5	ND(0.0152)	ND(0.0609)	ND(0.0609)	ND(0.0609)	ND(0.0609)	ND(0.1218)	surface
SNPPSS09-015	1.67	ND(4.25)	ND(22.4)	28.4	ND(0.0214)	ND(0.0855)	ND(0.0855)	ND(0.0855)	ND(0.0855)	ND(0.171)	surface
SNPPSS10-015	1.23	ND(3.52)	ND(20)	ND(20)	ND(0.0176)	ND(0.0703)	ND(0.0703)	ND(0.0703)	ND(0.0703)	ND(0.1406)	surface
SNPPSS11-020	2.91	ND(4.28)	ND(23.3)	25.9	ND(0.0214)	ND(0.0856)	ND(0.0856)	ND(0.0856)	ND(0.0856)	ND(0.1712)	surface, duplicate of SNPPSS07-020
SNPPHS2SS01	NA	ND(5.7)	ND(24)	36.4	ND(0.0285)	ND(0.114)	ND(0.114)	ND(0.114)	ND(0.114)	ND(0.228)	resample of SNPPSS08-015
SNPPHS2SS02	NA	ND(3.51)	ND(22.7)	23.3	ND(0.0176)	ND(0.0703)	ND(0.0703)	ND(0.0703)	ND(0.0703)	ND(0.1406)	resample of SNPPSS08-015

NA: Not analyzed

ND: Analyte was analyzed for but not detected above method reporting limit (method reporting limit provided in parentheses)

Re-sampled on 11/4/02 (All other samples collected on 7/21/02)

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Figure

1

St. Paul Island Vicinity Map  
Polovina Hill Stockpile Site  
St. Paul Island, Alaska

Source: Ikonos Satellite  
Imagery, 2001



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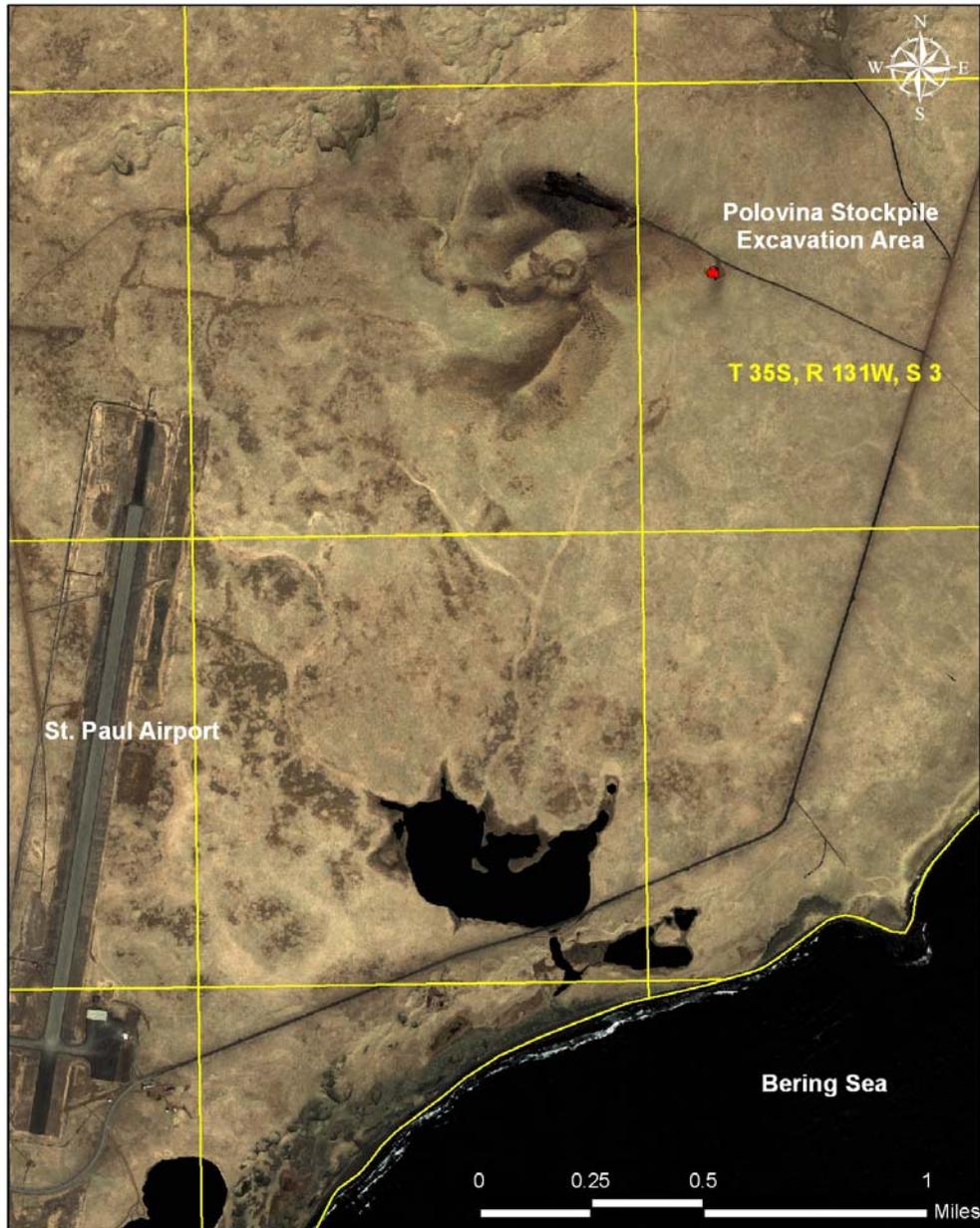


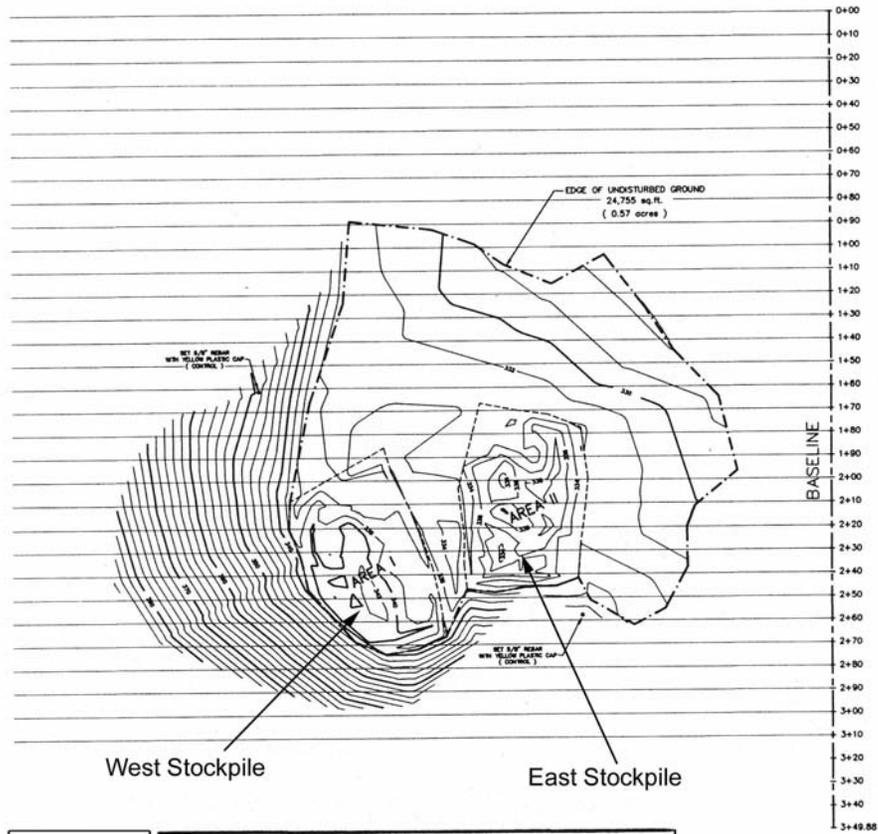
Figure  
2

Legal Property Description Map  
Polovina Stockpile Excavation  
St. Paul Island, Alaska

Sources: NOAA  
Pribilof Project GIS,  
Ikonos Satellite  
Imagery (2001).



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Figure

3



<b>Plan</b> <b>Polovina Pit Materials Survey</b> St. Paul Island, Alaska			
<b>SENTEC Inc.</b>			
SURVEY	ENGINEERING	PLANNING	
Ph. (907) 562-9966 Fax. (907) 562-9924			
4141 Ingra Street, Suite 201 Anchorage, AK 99503			
DRAWN: 480.DWG	H. SCALE: 1" = 20'	DATE: 8/8/97	SHEET
DRAWN: VTD	V. SCALE: N/A	W.O. NO. 97480	1 OF 3

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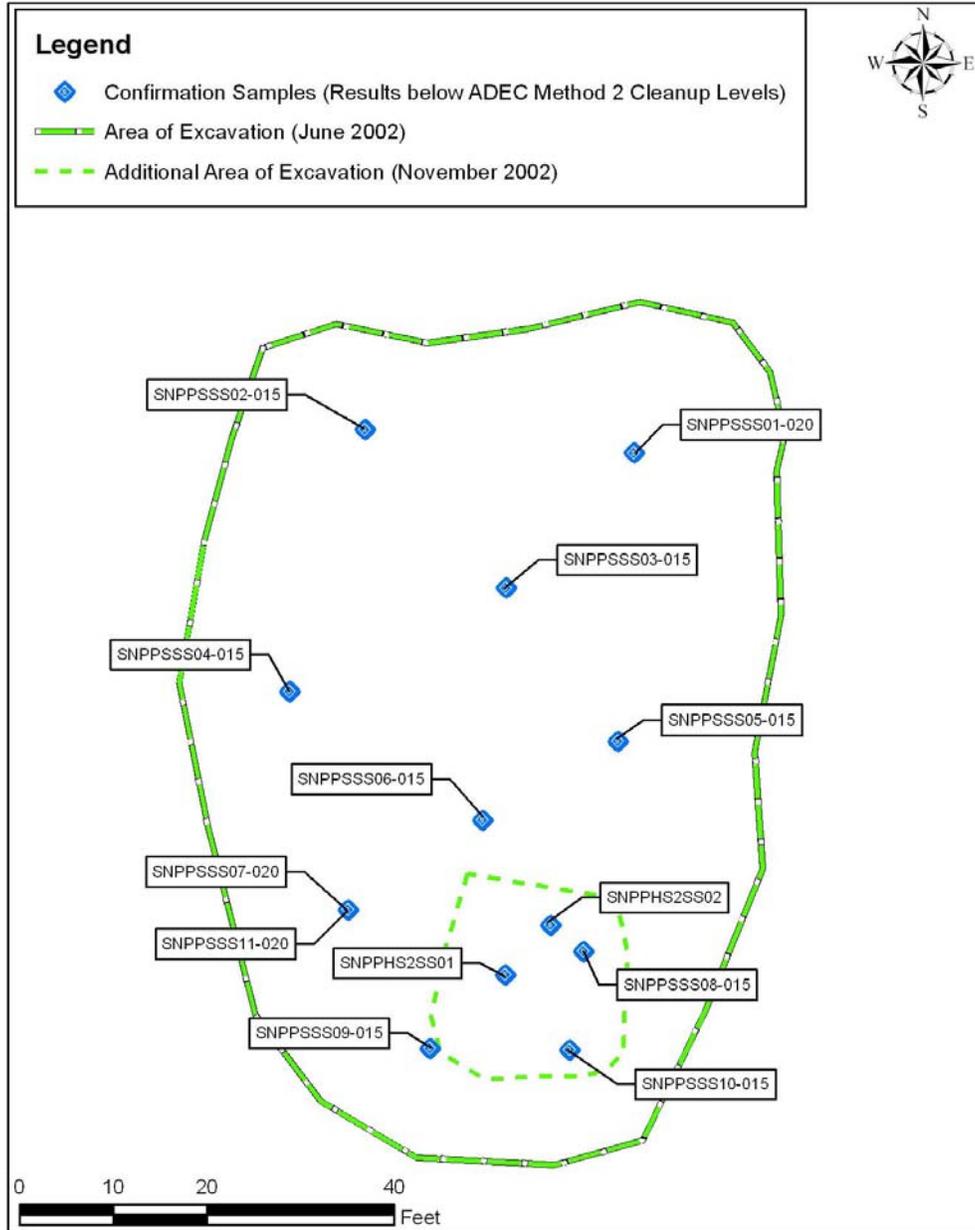


Figure  
4

Sampling Locations and Results  
Polovina Hill Stockpile Site  
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Source: NOAA Pribilof  
Project GIS & GPS, 2005.



## Photographs

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**Photograph 1.** Stockpiled soils at Polovina Hill segregated according to type of contamination (*i.e.*, diesel or gasoline).



**Photograph 2.** Polovina Hill petroleum-contaminated soil stockpile in 2002 prior to removal.

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**Photograph 3.** Polovina Hill stockpile site after cleanup actions (2003).