U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Pribilof Project Office
7600 Sand Point Way N.E
Seattle, Washington 98115
Ph: 206-526-6965, fax: 206-526-4819

January 3, 2006

Mr. Louis Howard
Project Manager
Alaska Department of Environmental Conservation
Division of Spill Prevention and Response
Contaminated Sites Program
555 Cordova Street
Anchorage, AK 99501-2617

Subject: Technical Memorandum, Characterization Soil Sample Collection at the Former Big Polovina Hill Debris Pile

Dear Mr. Howard:

Introduction:
The Alaska Department of Environmental Conservation (ADEC) on May 24, 2001 sent NOAA a response to its May 2, 2001 *Draft Site Closure Report Big Polovina Hill Debris Staging Area (Non-Two Party Agreement Site) Pribilof Islands Site Restoration Project, St. Paul Island, Alaska* submission written by NORTECH Environmental and Engineering Consultants (NORTECH 2001). ADEC stated, "Prior to ADEC granting site closure, the sampling results will need to be below 2,000 mg/kg for DRO and RRO (Table A1 Category D) and written documentation the soils were successfully treated by NOAA's enhanced thermal conduction remediation system…" (ADEC 2001). On a telephone conversation with you on October 3, 2005, I expressed how ADEC's May 24, 2001 letter "slipped through the cracks", and that NOAA failed to meet ADEC's stipulation. I commented that on September 28, 2005 I revisited the site to look for the "stained area" described in the draft report, and how I could not relocate this area either because the surface soil was wet and/or vegetation may have overgrown the stained area. Further, while NOAA's contractor for the debris removal at the site took six soil samples, the contractor did not take locational data for the sample locations. Therefore, finding the "stained area" appeared no longer possible. ADEC agreed that NOAA should take samples at three locations within the approximate 400 ft^2 former debris pile site, and that the findings would determine the need justification for further removal. The accompanying Technical Memorandum documents the field investigation and the subsequent analytical results followed by a request for confirmation of no further action.

TECHNICAL MEMORANDUM
CHARACTERIZATION SOIL SAMPLE COLLECTION AT THE FORMER BIG POLOVINA HILL DEBRIS PILE, ST. PAUL ISLAND, ALASKA

The St. Paul Island, Alaska, Big Polovina Hill Debris Site (debris site) on Tract 38 is owned by the National Oceanic and Atmospheric Administration (NOAA). The site is also known as NOAA Site 44, a non-Two Party Agreement (TPA) site (NOAA 1996). St. Paul Island is approximately 800 miles southwest of Anchorage in the Bering Sea (Figure 1). Big Polovina Hill is located at the easterly end of the island, approximately 2 miles northeast of the airport, at Latitude: 57 11 7.40 N Longitude: 170 11 36.38 W. The east edge of this approximate 400 square foot site is located within approximately three feet of a covered petroleum contaminated soil (PCS) stockpile placed by Tanadgusix (TDX) Corporation in 1997 (NOAA 2003a).

NOAA work at the Big Polovina Hill Debris Site began in 1999 with a small area at the base of Polovina Hill where several rusted drums, some wooden cable spools, and some miscellaneous items were relocated to within tract 38, and placed on a 60-mil ethylene diene propylene monomer liner (Tetra Tech 1999). In 2000, NORTECH consolidated additional inert items to this area within Tract 38 and performed confirmation sampling following their subsequent removal and off island disposal (NORTECH 2001). NORTECH's confirmation sampling described in their 2001 *Draft Site Closure Report,* targeted a visibly stained area recognized following the removal of the pile and the liner. Among the confirmation samples taken by NORTECH, only the stained area demonstrated PCS in the form of diesel range organics (DRO) above the 18 AAC 75.341 Method Two cleanup standard applied to the site. Residual range organics (RRO) co-occurred with the DRO, but at a concentration below the Method Two cleanup standard. The NORTECH report recommended a limited field screening and soil cleanup action for the site, which was agreed to by ADEC (2001). During the fall of 2005, NOAA submitted a sampling plan (NOAA 2005) for the collection of soil samples at the site to characterize potential petroleum contamination identified in an earlier sampling effort by NORTECH (2001). Following ADEC approval (ADEC 2005), NOAA carried out its sampling plan in October 2005.

Summary of Response Activities:
On October 15, 2005, NOAA employees John Lindsay, Bernie Denno, and James P. Wright, P.E. collected 2 samples at each of 3 locations at the site as shown in Figure 2. Photographs of the sampling activities are provided in the attached Photo Log. At each sample location approximately 6 inches of soil was removed by hand shovel and pick. Then State qualified sampler, James P. Wright, P.E collected a soil sample using a new wooden survey stake and sealed the sample in a plastic bag. The sample was then mixed by agitating it the bag and placed into a 40 milliliter glass jar. The same location was then excavated to a depth of 18 inches and a second sample was collected in a like manner. A duplicate sample was taken from the 18 inch depth at the location of sample SP44-CH001. NOAA drove wooden stakes into the ground at each sample location so they may be recovered in the future if necessary.

The samples were stored in a freezer at the NOAA staff quarters until being shipped to the laboratory on Monday, October 17, 2005. The laboratory (Friedman Bruya, Seattle Washington) received the samples on Tuesday, October 18. During shipment, the two sample jars from location SP44-CH003 broke. The laboratory notified NOAA of this fact on Monday, October 24. The samples' soil had commingled in the bottom of the shipping cooler, which had not been stored in a refrigerator since being received by the lab. Since the samples were from the same location, but at different depths, NOAA directed the laboratory to combine the two samples and homogenize them into one and complete the analysis, and to note the conditions on the laboratory report. These two samples had been stored in the shipping cooler at room temperature for six days before the laboratory staff discovered the glass jars had broken in transit. The samples conditions were inconsistent with the NOAA Master Quality Assurance Plan (NOAA 2003b). However, DRO and RRO contain predominantly relatively low volatility constituents. Therefore, the analytical results of the soil samples are considered useful. This sample is considered a composite sample representing the depth of near surface to 18 inches.

Analytical Results

The analytical results show that the soil samples do not exceed ADEC soil cleanup standards under 18 AAC 75.340 Method Two, Table B-2 for DRO or RRO as shown in Table 1. DRO results ranged from undetected (with a sample quantitation limit of 10 milligrams per kilogram [mg/kg]) to a high of 97 mg/kg. RRO results ranged from undetected (with a sample quantitation limit of 50 mg/kg) to a high of 480 mg/kg. Laboratory analytical reports are provided in Appendix A.

Conclusions

The debris staging area covered a relatively small area; approximately 400 square feet. Previous confirmation samples found PCS in a much smaller portion, the visibly stained area, of that small area. The inert wood and metal debris removed in 2000 had been staged atop a non-porous liner. The debris staging area lied within three feet of a TDX PCS stockpile. No indications exist that the stained area represented anything more than either: (1) a minor lubricating oil release from a piece of equipment temporarily parked at the spot either during debris placement or removal, or during the construction of the TDX PCS stockpile; or (2) soil inadvertently spilled during construction of the TDX PCS stockpile.

Recommended Action:
NOAA requests that ADEC provide written confirmation on the attached page that NOAA completed all appropriate investigation and remediation to the maximum extent required at the Big Polovina Hill Debris Site, St. Paul Island. NOAA requests ADEC grant a conditional closure that will not require further investigation or remedial action from NOAA. NOAA understands ADEC will require additional containment, investigation, or cleanup if subsequent information indicates that the level of residual contamination does not protect human health, safety, or welfare, or the environment.

Please sign one copy of the attached Written Confirmation Page and return it to NOAA for our records. If you have any questions, please contact me either in writing or at 206/526-4560.

Sincerely,

John Lindsay
Pribilof Project Office Manager

cc St. Paul Island RAB Members

REFERENCES

Alaska Department of Environmental Conservation (ADEC). 2001. *Draft Site Closure Report Big Polovina Hill Debris Staging Area (Non-Two Party Agreement Site) Pribilof Islands Restoration Project St. Paul Island, AK.* May 2.

ADEC. 2005. *Sampling Plan Big Polovina Hill Debris Site 44, St. Paul Island, Alaska.* Letter from Louis Howard, Project Manager, ADEC to John Lindsay, NOAA. October 6.

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

NOAA. 2003a. *Big Polovina Scoria Pit PCS Stockpile Removal.* Letter from John Lindsay, NOAA Pribilof Project Office Project Manager, to Ron Philemonoff, CEO Tanadgusix Corporation. October 8.

NOAA. 2003b. *Master Quality Assurance Plan. Pribilof Islands Environmental Restoration Project.* May.

NOAA. 2005. *Sampling Plan and Waiver Request for Third Party Sampler, Big Polovina Hill Debris Site, Site 44/Non-Two Party Agreement*. Letter to Mr. Louis Howard, Environmental Specialist, Department of Environmental Conservation, Contaminated Sites Program. October 6.

NORTECH Environmental & Engineering Consultants (NORTECH). 2001. *Big Polovina Hill Debris Staging Area (Non Two-Party Agreement Site)*. May 2.

WRITTEN CONFIRMATION PAGE

For the National Oceanic and Atmospheric Administration:

John Lindsay
NOAA, Pribilof Project Office

Date

Approvals: This is to confirm that all investigative and corrective action has been completed to the maximum extent required at the Big Polovina Hill Debris Site, St. Paul Island, Alaska, with cleanup criteria applied to the maximum extent practicable (18 AAC 75.325 (f), 18 AAC 75.990) and that no further investigation or 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

TABLE 1

TABLE 1
SOIL CHARACTERIZATION SAMPLING RESULTS
BIG POLOVINA HILL DEBRIS PILE
ST. PAUL ISLAND, ALASKA

Sample Identification	Analytical Results	
	AK102 DRO (mg/kg)	**AK103 RRO (mg/kg)**
SP44-CH001-005	97	480
SP44-CH001-015	12	115
SP44-CH001-100 (duplicate of SP44-CH001-015)	24	115
SP44-CH002-005	<10	72
SP44-CH002-015	<10	94
SP44-CH003-005*		
SP44-CH003-015*	<10	93
Table B2 Method Two migration to groundwater cleanup levels	250	11,000
Table B2 Method Two Inhalation cleanup levels	12,500	22,000
Table B2 Method Two Ingestion cleanup levels	10,250	10,000

AK 102 DRO -State of Alaska method 102 for analysis of Diesel Range Organics
AK 103 RRO -State of Alaska method 102 for analysis of Diesel Range Organics
ADEC -Alaska Department of Environmental Conservation
Table B2 Method Two -Cleanup levels under 18 AAC 75.340
* Samples SP44-CH003-005 and SP44-CH003-015 composited together, and were stored for 6 days at room temperature prior to analysis.

FIGURES

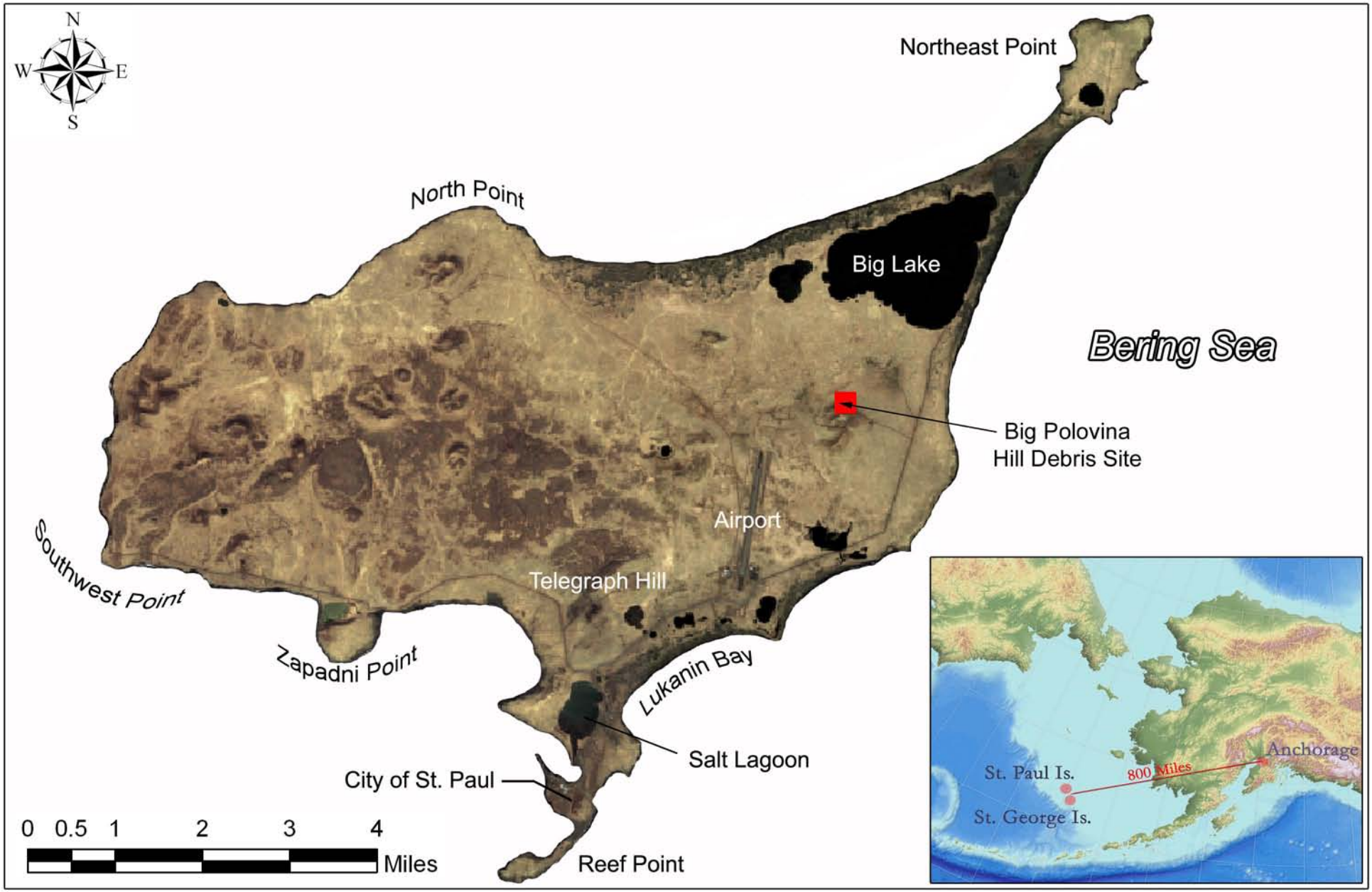

Figure 1	St. Paul Island Vicinity Map Big Polovina Hill Debris Site NOAA Site 44 St. Paul Island, Alaska	Source: Ikonos Satellite Imagery, 2001

Pribilof Islands Restoration Project

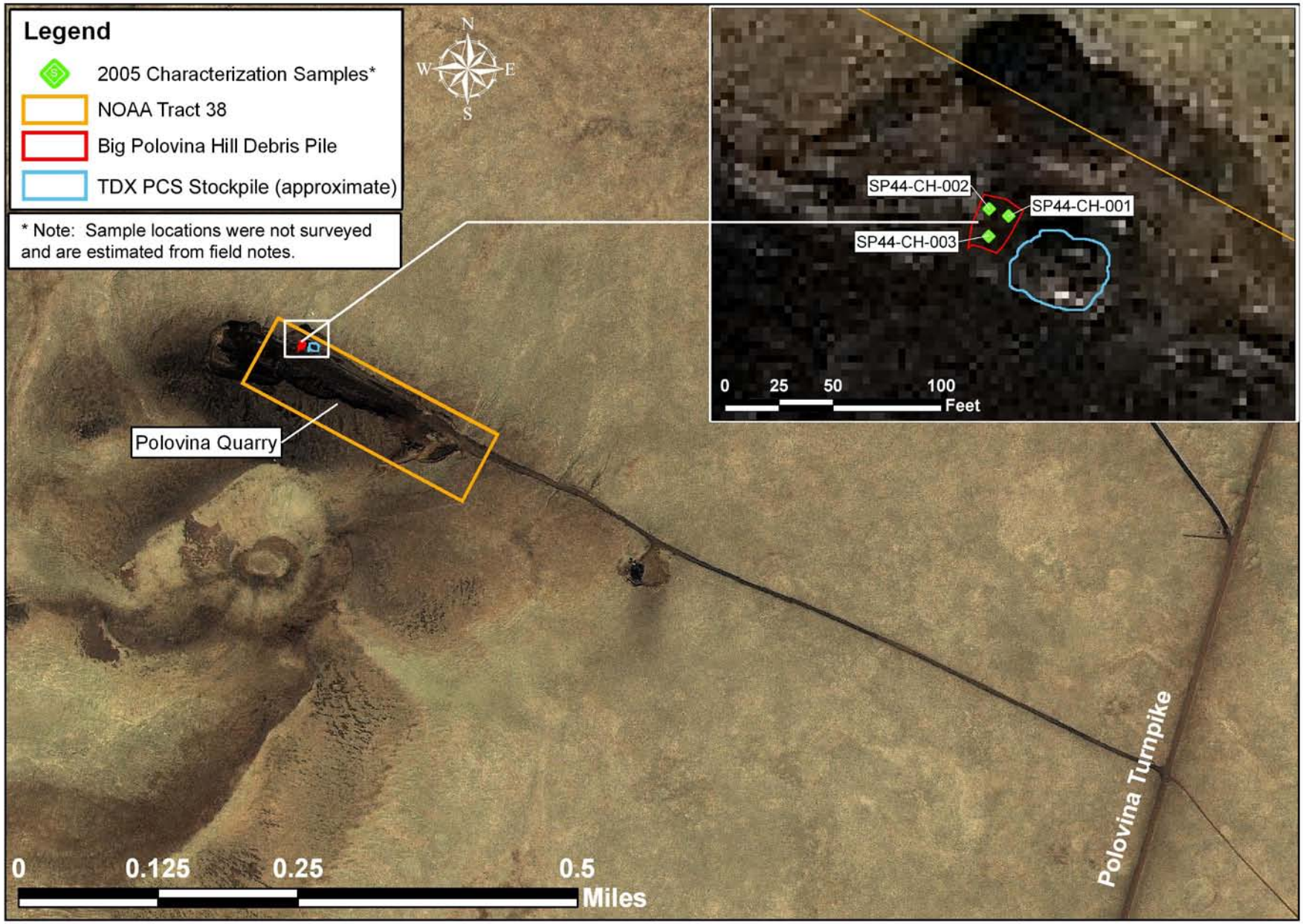

Figure 2	Site Vicinity Map and Sampling Locations Big Polovina Hill Debris Site NOAA Site 44 St. Paul Island, Alaska	Sources: Tract 38 (BLM MTPs 1983), Debris Pile (TTEMI 2000), Sample Locations (NOAA 2005), Satellite Imagery (Ikonos 2001).

Pribilof Islands Restoration Project

PHOTO LOG

Photo Log
October 15, 2005 Characterization Sampling at the Big Polovina Hill Debris Pile
St. Paul Island, Alaska

Photograph 1. NOAA employees digging to 18 inches deep at sample location SP44-CH001 at the Big Polovina Hill Debris Pile site, facing north. October 15, 2005.

Photograph 2. Disturbed soil showing locations of the three characterization samples collected by NOAA on October 15, 2005. Facing Northeast.

APPENDIX A
LABORATORY REPORTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

November 4, 2005

James P. Wright, Project Manager
NOAA/NOS/ORR/PPO
7600 Sandpoint Way NE, 3/1003
Seattle, WA 98115

Dear Mr. Wright:

Included are the results from the testing of material submitted on October 19, 2005 from the Polovina Debris Site, F&BI 510190 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Morrow

Charlene Morrow
Chemist

Enclosures
NAA1104R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 19, 2005 by Friedman & Bruya, Inc. from the NOAA/NOS/ORR/PPO Polovina Debris Site, F&BI 510190 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	NOAA/NOS/ORR/PPO
510190-01	SP44-CH-001-005
510190-02	SP44-CH-001-015
510190-03	SP44-CH-001-100
510190-04	SP44-CH-002-005
510190-05	SP44-CH-002-015
510190-06	SP44-CH-003-005
510190-07	SP44-CH-003-015

All quality control requirements were acceptable.

Please note that samples SP44-CH-003-005 and SP44-CH-003-015 were received broken and mixed together, therefore a composite analysis was completed as requested.

Date of Report: 11/04/05
Date Received: 10/19/05
Project: Polovina Debris Site, F&BI 510190
Date Extracted: 10/21/05 and 10/26/05
Date Analyzed: 10/28/05

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD AK 102
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported on a Dry Weight Basis
Results Reported as µg/g (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Surrogate (% Recovery) (Limit 60-120)
SP44-CH-001-005 510190-01	97	113
SP44-CH-001-015 510190-02	12	105
SP44-CH-001-100 510190-03	24	100
SP44-CH-002-005 510190-04	<10	101
SP44-CH-002-015 510190-05	<10	102
Composite: SP44-CH-003-005/ SP44-CH-003-015 510190-06/07 Comp.	<10	101
Method Blank	<10	93
Method Blank	<10	99

Date of Report: 11/04/05
Date Received: 10/19/05
Project: Polovina Debris Site, F&BI 510190
Date Extracted: 10/21/05 and 10/26/05
Date Analyzed: 10/28/05

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING METHOD AK 103
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported on a Dry Weight Basis
Results Reported as µg/g (ppm)

Sample ID Laboratory ID	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 60-120)
SP44-CH-001-005 510190-01	480	113
SP44-CH-001-015 510190-02	62	115
SP44-CH-001-100 510190-03	120	115
SP44-CH-002-005 510190-04	<50	72
SP44-CH-002-015 510190-05	<50	94
Composite: SP44-CH-003-005/ SP44-CH-003-015 510190-06/07 Comp.	<50	93
Method Blank	<50	80
Method Blank	<50	69

Date of Report: 11/04/05
Date Received: 10/19/05
Project: Polovina Debris Site, F&BI 510190

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD AK 102

Laboratory Code: 510190-03 (Matrix Spike) Silica

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Diesel	µg/g (ppm)	500	<50	109	60-140

Laboratory Code: Laboratory Control Sample Silica

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel	µg/g (ppm)	500	104	111	75-125	7

Date of Report: 11/04/05
Date Received: 10/19/05
Project: Polovina Debris Site, F&BI 510190

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD AK 102

Laboratory Code: 510190-06/07 (Matrix Spike) Silica

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Diesel	µg/g (ppm)	250	<50	112	60-140

Laboratory Code: Laboratory Control Sample Silica

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel	µg/g (ppm)	500	119	117	75-125	2

Date of Report: 11/04/05
Date Received: 10/19/05
Project: Polovina Debris Site, F&BI 510190

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING METHOD AK 103

Laboratory Code: 510190-03 (Matrix Spike) Silica

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Motor Oil	µg/g (ppm)	250	<50	116	60-140

Laboratory Code: Laboratory Control Sample Silica

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Motor Oil	µg/g (ppm)	500	93	91	60-120	2

Date of Report: 11/04/05
Date Received: 10/19/05
Project: Polovina Debris Site, F&BI 510190

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL USING METHOD AK 103

Laboratory Code: 510190-06/07 (Matrix Spike) Silica

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Motor Oil	µg/g (ppm)	250	<50	125	60-140

Laboratory Code: Laboratory Control Sample Silica

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Motor Oil	µg/g (ppm)	500	102	110	60-120	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

November 4, 2005

INVOICE #05NAA1104-4

Accounts Payable
NOAA/NOS/ORR/PPO
7600 Sandpoint Way NE, 3/1003
Seattle, WA 98115

RE: Project Polovina Debris Site, F&BI 510190 - Results of testing requested by James P. Wright for material submitted on October 19, 2005.

6 sample extracts passed through a silica gel column and analyzed for DRO/RRO by Method AK 102/AK 103 @ $81 per sample	$ 486.00
Amount Due	$ 486.00

FEDERAL TAX ID #91-1287338

510190

SAMPLE CHAIN OF CUSTODY

CM 10/19/05

D01

Page # _____ of _____

Send Report To James P. Wright
Company NOAA FPO
Address 7600 Sand Point Way NE Bldg 3, room 1003
City, State, ZIP Seattle WA 98115
Phone #(206) 526 4587 Fax #206 526 4819

SAMPLERS (signature) James P. Wright
PROJECT NAME/NO. Polovina Debris Site
PO #
REMARKS test for AK 102 & 103 with Silica Gel Cleanup

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH _____
Rush charges authorized by: _____

SAMPLE DISPOSAL
☑ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	AK 102 (DRO)	AK 103 (RRO)					Notes
SP44-CH-001-005	01	10/15/05	2:00 PM	Grab	1							X	X					Silica Gel Cleanup
SP44-CH-001-015	02				1							X	X					
SP44-CH-001-100	03				1							X	X					
SP44-CH-002-005	04				1							X	X					
SP44-CH-002-015	05				1							X	X					
SP44-CH-003-005	06				1							X	X					
SP44-CH-003-015	07				1							X	X					

Composite ev James Wright 10/24/05 NP

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	James P. Wright	James P. Wright	NOAA	10/18/05	
Received by:	Nhan Pham	Nhan Pham	FEBI	10/19/05	14:00
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

SAMPLE CHAIN OF CUSTODY

Page # _____ of _____

Send Report To James P. Wright
Company NOAA PPO
Address 7600 Sand Point Way NE Bldg 3, room 1003
City, State, ZIP Seattle WA 98115
Phone # (206) 526 4583 Fax # 206 526 4849

SAMPLERS (signature) James P. Wright
PROJECT NAME/NO. Polovina Debris Site
PO #
REMARKS test for AK 102 & 103 with Silica Gel Cleanup

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH _____
Rush charges authorized by: _____

SAMPLE DISPOSAL
☑ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	AK 102 (DRO)	AK 103 (RRO)					Notes
SP44-CH-001-005		10/15/05	2:00 PM	Grab	1							X	X					Silica Gel Cleanup
SP44-CH-001-015					1							X	X					
SP44-CH-001-100					1							X	X					
SP44-CH-002-005					1							X	X					
SP44-CH-002-015					1							X	X					
SP44-CH-003-005					1							X	X					
SP44-CH-003-015					1							X	X					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: James P. Wright	James P. Wright	NOAA	10/18/05	
Received by:				
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044