Request for No Further Remedial Action Planned

Site: Old Sealing Plant/Barreling Shed, also known as Two Party Agreement (TPA) Site 9ℓ and National Oceanic and Atmospheric Administration (NOAA) Site 27

Location: St. Paul Island, Alaska is approximately 800 miles southwest of Anchorage in the Bering Sea. On St. Paul Island, the Old Sealing Plant/Barreling Shed is situated at the bottom of Village Hill, just north of Sandy Lane and northeast of the community grocery store (57 07'21" N latitude, 170 16'49" W longitude; Figure 1).

Legal Property Description: The location of the former building and the area of excavation is within the southern portion of Tract 46, Township 35 South, Range 132 West, of the Seward Meridian, Alaska, as shown on the dependent resurvey of a portion of U.S. Survey No. 4943, Alaska, Tract "A", St. Paul Townsite, officially filed June 3, 1997 (Figure 2).

Type of Release:
No historical sources of contamination are believed to be present at the Old Sealing Plant/Barreling Shed. Potential release mechanisms contributing to the observed contamination include miscellaneous spills and leaks from vehicles and equipment that may have been staged at the Old Sealing Plant/Barreling Shed.

History and Background:
At the Barreling Shed, fur seal skins were packed into wooden barrels or boxes for shipment off-island. The building was a two-story wooden structure with a metal corrugated roof constructed on a cement pad. Built in 1923, the building was used until 1984 and demolished in 2000 (Nortech 2001). NOAA took measures to preserve historically significant structural elements of the building and to photo-document the building prior to demolition.

Summary of Site Investigations:
Columbia Environmental Sciences, Inc. (CESI) conducted a building assessment in August 2000 (CESI 2001b). The exterior paint of the Old Sealing Plant/Barreling Shed was severely weathered and determined to contain 9 wt% total lead. The floor of the abandoned building was filled with wooden and metal debris. Nortech Environmental & Engineering Consultants (Nortech) removed materials and wastes from the building, including 15 drums of hazardous and non-hazardous chemical materials, which were manifested and shipped off-island for disposal on November 22, 2000 (Nortech 2001). On November 2, 2000, the building was demolished (Nortech 2001).

During the summer of 2000, CESI also conducted site characterization activities in the City of St. Paul. These activities included the installation of monitoring wells and the advancement of soil borings at various locations. Soil samples collected from a boring located just north of the Old Sealing Plant/Barreling Shed (FBSB-2) revealed the presence of diesel-range organic compounds (DRO) in the 2 to 4 foot interval at a concentration of 310 milligrams per kilogram (mg/kg), exceeding the Alaska Department of Environmental Conservation (ADEC) Method Two cleanup levels of 250 mg/kg (CESI 2001; Figure 2).

NOAA contractors conducted quarterly groundwater monitoring from September 2000 to September 2001 and from October 2003 to July 2004 at monitoring well MW46-8, located north of and down gradient (Mitretek Systems 2002) from the Old Sealing Plant/Barreling Shed (Figure 4). During 2000-2001 sampling events, DRO were detected above their Alaska Department of Environmental Conservation (ADEC) Table C cleanup level of 1,500 micrograms per liter (µg/L), with a maximum detection of 2,400 µg/L (IT Alaska Corp. 2002). Lead was also detected above its Table C cleanup level of 15 µg/L, with a maximum detection of 106 µg/L. During the first three quarters of the 2003-2004 sampling, DRO were detected, but at a much lower concentration and below the Table C clean up level. The maximum concentration detected was 630 µg/L. Lead was not detected. Contaminants have not been detected above Table C cleanup levels at MWA-5 located 5 meters east of and up gradient of the site (Figure 4). [Note that NOAA's contractor for the 2001 sampling analyzed for residual-range organic compounds (RRO) by adapting soil analytical method AK103. The adapted method was never approved by ADEC, and no ADEC approved method exists. Thus, although the contractor reported detecting RRO above its ADEC Table C cleanup level in MW46-8, ADEC has indicated it does not consider this data to be valid, and the results are not included herein.]

Mitretek Systems (2002) evaluated the 2000-2001 groundwater data for wells in the St. Paul Village area, which includes the Old Sealing Plant/Barreling Shed site. The Mitretek Systems report demonstrated that groundwater in the vicinity of St. Paul Village has high total dissolved solids and can be brackish. Consequently, the groundwater in the area is not suitable for drinking water. The evaluation, in part, provided a rationale for using alternative groundwater cleanup levels that are protective of human health and the environment where the groundwater is not potable. Mitretek concluded in accordance with 18 Alaska Administrative Code (AAC) 75.350 (ADEC 2000) that groundwater in the Village area is not currently used and does not afford any potential future use as a drinking water source. Subsequently, NOAA proposed and ADEC approved (REF) NOAA to proceed with corrective actions at the Old Sealing Plant/Barreling Shed site under the guidelines of 18 AAC 75.345 and 18 AAC 350, commonly referred to as the Ten Times Rule. These findings provided the basis for the application of the Ten Times Rule discussed below.

Summary of Applied Cleanup Levels:
NOAA employed ADEC Method Two cleanup criteria, discussed at 18 AAC 75.341(c) (ADEC 2000). Alternative cleanup levels were also applied for some compounds. For benzene, under the TPA, NOAA had the option to cleanup to the less stringent State of Alaska cleanup level in effect in 1991 (ADEC 1991). Additionally, NOAA proposed and ADEC approved the use of alternative cleanup levels under 18 AAC 75.345 and 18 AAC 75.350, commonly referred to as the Ten Times Rule (ADEC 2002, Mitretek Systems 2002). According to these regulations, if groundwater beneath a site contains contaminant concentrations above the cleanup levels provided in ADEC Table C, then the soil may be remediated to levels ten times higher than those provided in Method Two Tables B1 and B2 for the migration to groundwater pathway for those contaminants found in groundwater at concentrations above the cleanup levels provided in ADEC Table C; however, if the inhalation or ingestion pathway values are more stringent than the migration to groundwater pathway, then the more stringent value is to be applied. ADEC

uses 15 feet below ground surface (bgs) to define subsurface soil to which residents will have a reasonable potential to be exposed through the inhalation or ingestion pathways (ADEC 2000; 18 Alaska Administrative Code 75.340 (j)(2)). Therefore NOAA is not obligated to excavate contaminated soil occurring at depths deeper than 15 feet to address the inhalation and ingestion pathways.

Summary of Cleanup Actions:
NOAA contractor Tetra Tech EM Inc. (Tetra Tech) and its subcontractor Bering Sea Eccotech commenced excavation activities for the Old Sealing Plant/Barreling Shed on July 23, 2003, and completed them on July 24, 2003 (Tetra Tech 2004a). The initial area of excavation was selected based on suspected contamination identified during a previous investigation (CESI 2001), while the extent of excavation was based upon thin-layer chromatography (TLC) screening sample analyses as well as visual and olfactory observations.

The excavation was advanced to a maximum depth of 7 feet below ground surface (bgs). No signs of contamination were observed, and TLC screening results indicated contamination was below ADEC Method Two cleanup levels. Two confirmation samples were collected, one from the bottom and one from the side of the excavation (Figure 3). These were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), DRO, gasoline-range organic compounds (GRO), residual-range organic compounds (RRO), select polynuclear aromatic hydrocarbons (PAHs), and lead. No contaminants were identified at concentrations above ADEC Method Two cleanup levels (Tables 1 and 2). Laboratory reporting limits were below ADEC Method Two cleanup levels for all analyses except benzene. For benzene, reporting limits of 0.03 mg/kg were achieved, which is above the ADEC Method Two cleanup level of 0.02 mg/kg, but below the alternative cleanup level of 0.5 mg/kg.

During the corrective action, a total of approximately 10 cubic yards of petroleum-contaminated soil (PCS) was removed from the excavation at the Old Sealing Plant/Barreling Shed (Figure 3). The excavated PCS was transported to the lined stockpiled at Tract 42, pending final disposal at the National Weather Service land spreading site, or other ADEC approved disposal alternative. Samples collected from PCS stockpiled from this site, the Former Fouke Bunkhouse (TPA Site 9g/ Site 22), and Tract A House 102 (TPA Site 9r/Site 54) contained DRO concentrations that varied from not detected to 350 mg/kg (Tetra Tech 2004b).

The site was backfilled with clean fill material from the Telegraph Hill quarry. The material was compacted with the excavator bucket and by track-walking the excavator over the area. The area of excavation was restored to its original grade.

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 at the Old Sealing Plant/Barreling Shed, TPA Site 9ℓ/ Site 27 in accordance with the Agreement and that ADEC requires no further remedial action plan from NOAA.

References:

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

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.

ADEC. 2002. Letter from Louis Howard, Project Manager, Alaska Department of Environmental Conservation, to John Lindsay, Project Manager, NOAA Pribilof Project Office regarding ADEC conditional approval for applying the Ten Times Rule. May 30.

Columbia Environmental Sciences, Inc. 2001. *Draft Site Characterization Report, Tract 46 and Vicinity (TPA Site 9), St. Paul Island, Alaska.* Version 2.1 December 16, 2001. Columbia Environmental Sciences, Inc. Kennewick, WA.

IT Alaska Corporation. 2002. *Draft, Annual Groundwater Monitoring Report–2001 St. Paul Island, Alaska.* March.

Mitretek Systems. 2002. *Groundwater Use and Classification in the Vicinity of Tract 46, St. Paul Island, Pribilof Islands, Alaska*. Prepared by Mitretek Systems, for the National Oceanic and Atmospheric Administration. June 5.

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. 2003. *Final Corrective Action Plan, Barreling Shed (Old Sealing Plant, TPA 9ℓ) Petroleum Contaminated Soils, St. Paul Island, Alaska.* October 8, 2003.

Nortech Environmental & Engineering Consultants. 2001. *Site Salvage and Demolition Report-Draft, Boxing/Barreling Shed Cleanup, Historical Items Salvage and Demolition (Two-Party Agreement Site 9, Tract 46), Pribilof Islands Site Restoration, St. Paul Island, Alaska.* May 23, 2001.

Tetra Tech EM Inc. (Tetra Tech). 2004a. *Final Corrective Action Report, Site 27/TPA Site 9ℓ-Old Sealing Plant/Barreling Shed, St. Paul Island, Alaska.*

Tetra Tech. 2004b. *Letter Report, Summary of 2003 Field Season Stockpile Activities, St. Paul Island, Alaska*. July 23.

For the National Oceanic and Atmospheric Administration

John Lindsay
NOAA, Pribilof Project Office

9/15/04
Date

Approvals: In accordance with Paragraph 59 of the Two Party Agreement, this is to confirm that all corrective action has been completed at the Old Sealing Plant/Barreling Shed, TPA Site 9ℓ/Site 27 in accordance with the Agreement and that no plan for further remedial action is required.

For the Alaska Department of Environmental Conservation

Louis Howard
Alaska Department of Environmental Conservation
Remedial Project Manager

9-14-04
Date

Tables and Figures

Table 1. Organic Compound and Lead Confirmation Sample Results for the Old Sealing Plant/Barreling Shed- TPA 9ℓ/Site 27, St. Paul Island, Alaska

Sample Number	Sample Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	RRO (mg/kg)	Lead (mg/kg)
Site 27/TPA Site 9L Confirmation Samples									
SP27-CS-001-060	6	0.03 U	0.03 U	0.03 U	0.03 U	2 U	10 U	50 U	3.90
SP27-CS-002-070	7	0.02 U	0.03	0.02 U	0.13	1	10 U	50 U	28.5
Site 27/TPA Site 9L Stockpile Samples									
SP22-SS-901	1.5	0.02	0.02	0.02 U	0.03	1 U	80	91	39.3
SP22-SS-902	1.5	0.03 U	0.03 U	0.03 U	0.04	2 U	110	77	46.0
SP22-SS-903	1.5	0.02 U	0.02	0.02 U	0.04	1 U	**350**	75	45.4
SP22-SS-904	1.5	0.02 U	0.04	0.02 U	0.07	1 U	250	69	62.4
SP22-SS-905	1.5	0.02 U	0.02 U	0.02 U	0.03	1	140	79	43.7
SP22-SS-906	1.5	0.02 U	0.02	0.02 U	0.03	1 U	10 U	77	21.7
Trip Blank Sample									
Trip blank	--	0.02 U	0.02 U	0.02 U	0.02 U	1 U	--	--	--
ADEC Method Two Cleanup Level [a]		*0.02*	*5.4*	*5.5*	*78*	*300*	*250*	*10,000*	*400* [e]
Alternative Cleanup Level [b]		*0.5* [c]	*54*	*NA*	*NA*	*1,400* [d]	*2,500*	*NA*	*NA*

Notes:

bold	Indicates concentration above one or both cleanup levels. Although reporting limits for benzene sometimes exceeded the ADEC Method Two cleanup level of 0.02 mg/kg, all reporting limits were equal to or below the alternative cleanup level of 0.5 mg/kg.
ADEC	Alaska Department of Environmental Conservation
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and total xylenes
DRO	Diesel-range organic compounds
GRO	Gasoline-range organic compounds
mg/kg	Milligram per kilogram
--	Not analyzed
NA	Not available
PAH	Polynuclear aromatic hydrocarbon
RRO	Residual-range organic compounds
TPA	Two-Party Agreement
U	The analyte was analyzed for, but not detected above the sample reporting limit
a	Cleanup level is from Title 18 of the *Alaska Administrative Code* 75 "Oil and Hazardous Substances Pollution Control Regulations," published by the State of Alaska and amended through October 28, 2000. Contaminants of concern for this site are limited to BTEX, DRO, and select PAHs; although not identified as contaminants of concern in the corrective action plan, GRO, RRO, and lead are included because these analyses were conducted on some samples.
b	Cleanup level obtained from ADEC Method Two based on the "Ten Times Rule" applied to the migration to groundwater pathway, as discussed in Section 5.0 of the corrective action plan (NOAA 2003a).
c	Under the TPA, NOAA is required to comply with the 1991 ADEC cleanup level for benzene (0.5 mg/kg).
d	Cleanup level selected is based on more stringent value associated with ingestion and inhalation pathways.
e	Although this site is located in an industrial area, NOAA is using the residential cleanup level for lead (400 mg/kg).

Table 2. Polynuclear Aromatic Hydrocarbon Confirmation Sample Results for the Old Sealing Plant/Barreling Shed- TPA 9ℓ/Site 27, St. Paul Island, Alaska

Sample Number	Sample Depth (feet bgs)	Naphthalene (mg/kg)	Acenaphthylene (mg/kg)	Acenaphthene (mg/kg)	Fluorene (mg/kg)	Phenanthrene (mg/kg)	Anthracene (mg/kg)	Fluoranthene (mg/kg)	Pyrene (mg/kg)	Benz(a) anthracene (mg/kg)	Chrysene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Benzo(a) pyrene (mg/kg)
Site 27/TPA Site 9L Confirmation Samples														
SP27-CS-001-060	6	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
SP27-CS-002-070	7	0.006	0.005 U	0.005 U	0.005 U	0.008	0.005 U	0.005	0.006	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Site 27/TPA Site 9L Stockpile Samples														
SP22-SS-901	1.5	0.016 J	0.005 U	0.005 U	0.005 U	0.039 J	0.006	0.035 J	0.044 J	0.015 J	0.016 J	0.022	0.006	0.017
SP22-SS-902	1.5	0.012	0.005 U	0.005 U	0.005 U	0.021	0.005 U	0.016	0.024	0.008	0.009	0.017	0.005 U	0.017
SP22-SS-903	1.5	0.069	0.005 U	0.005 U	0.005 U	0.017	0.005 U	0.014	0.021	0.005 U	0.006	0.008	0.005 U	0.006
SP22-SS-904	1.5	0.006	0.005 U	0.005 U	0.005 U	0.010	0.005 U	0.013	0.015	0.007	0.007	0.010	0.005 U	0.007
SP22-SS-905	1.5	0.029	0.005 U	0.005 U	0.005 U	0.015	0.005 U	0.010	0.015	0.005 U	0.005	0.008	0.005 U	0.005
SP22-SS-906	1.5	0.012	0.005 U	0.005 U	0.005 U	0.021	0.005 U	0.015	0.016	0.009	0.008	0.013	0.005 U	0.009
ADEC Method Two Cleanup Level[a]		*43*	*NA*	*210*	*270*	*NA*	*4,300*	*NA*	*1,500*	*6*	*620*	*11*	*110*	*1*

Notes:

bgs Below ground surface
J Analyte was positively identified, but numerical value is estimated concentration. Result is considered qualitatively acceptable, but qualitatively unreliable.
mg/kg Milligrams per kilogram
NA Not available
TPA Two-Party Agreement
U The analyte was analyzed for but not detected above the sample reporting limit.

a Cleanup level is from Title 18 of the *Alaska Administrative Code* 75, "Oil and Hazardous Substances Pollution Control Regulations," published by the State of Alaska and amended through October 28, 2000.

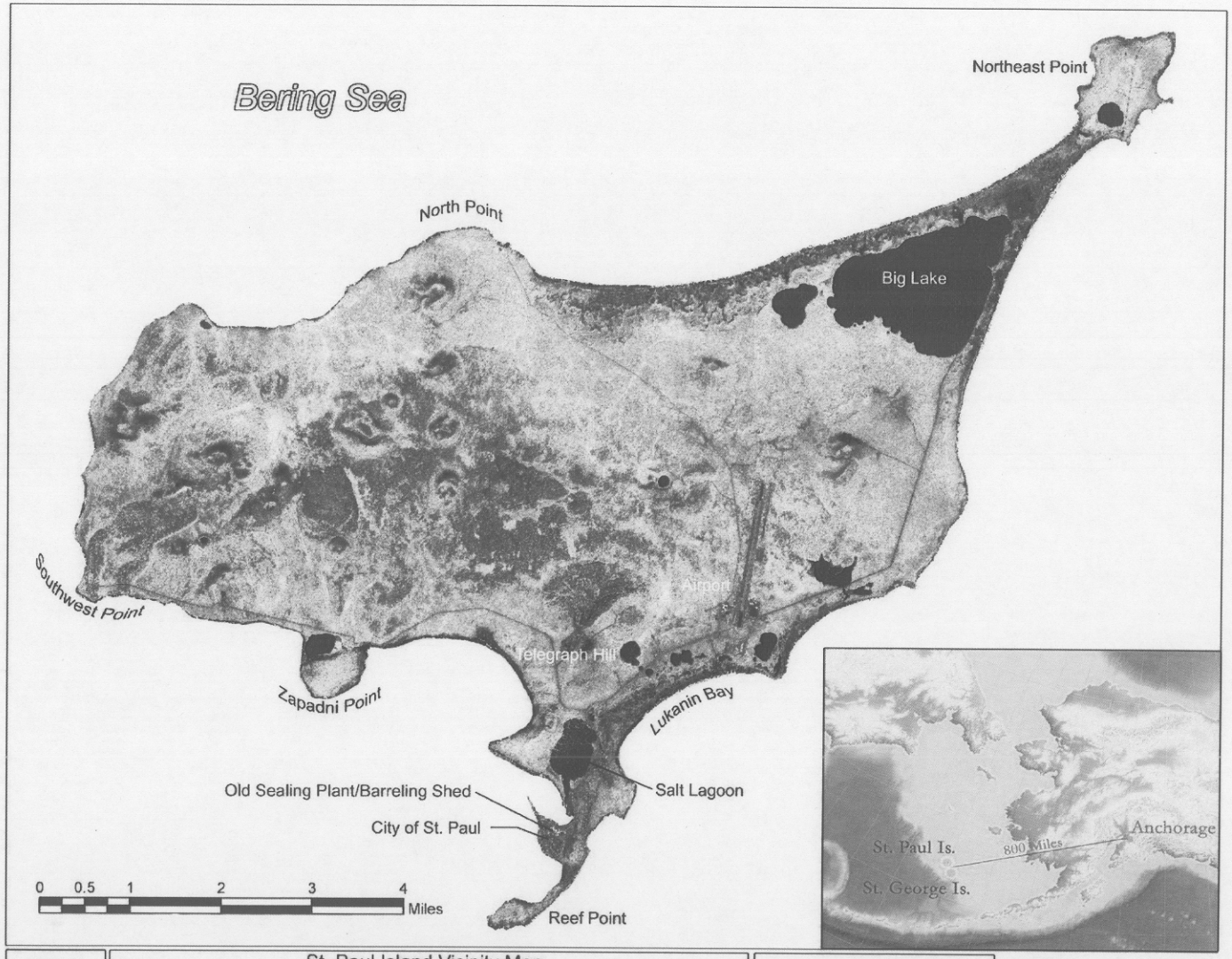

Figure 1	St. Paul Island Vicinity Map Old Sealing Plant/Barreling Shed Site 27/TPA Site 9l St. Paul Island, Alaska	Source: Ikonos Satellite Imagery, 2001

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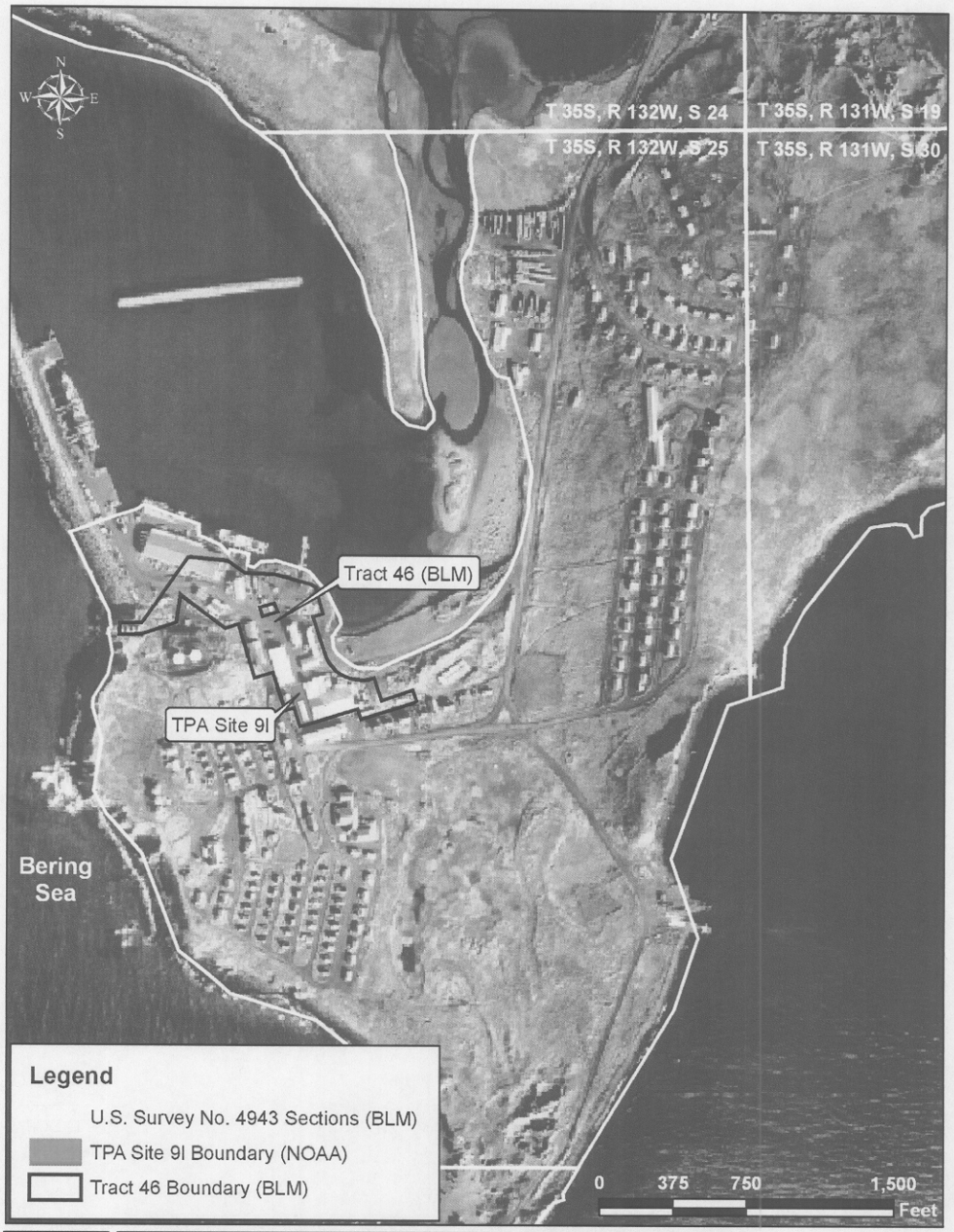

Figure 2	Legal Property Description Map Old Sealing Plant/Barreling Shed Site 27/TPA Site 9I St. Paul Island, Alaska	Sources: BLM Tract (BLM MTPs 1983), TPA 9I Boundary (NOAA GIS 2004), Aerial Photo (Aeromap US 1996).

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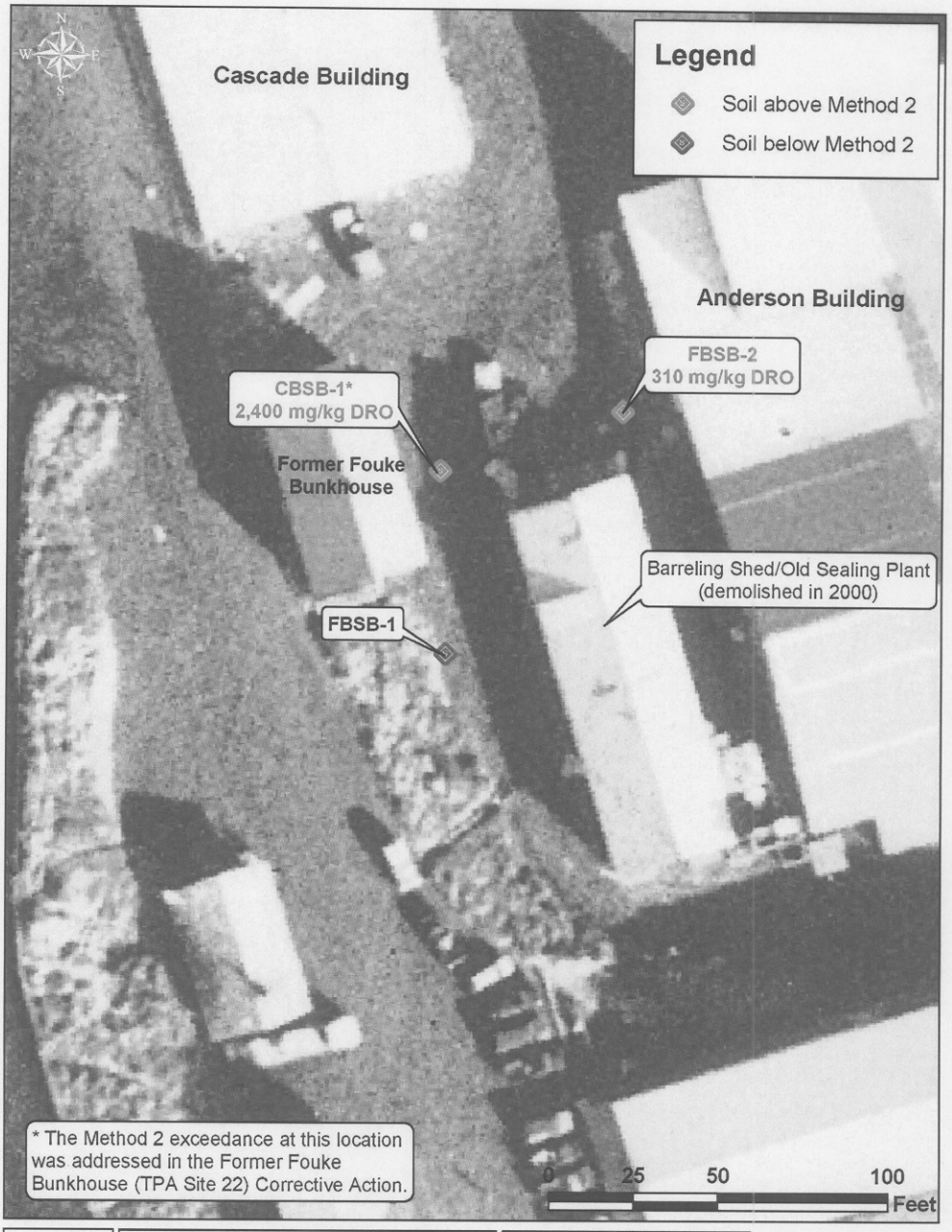

Figure 3	Historical Sampling Results Old Sealing Plant/Barreling Shed Site 27/TPA Site 9l St. Paul Island, Alaska	Sources: Historical Sampling Locations (Pribilof Islands GIS Project 2003), Aerial Photo (Aeromap US, 1996).

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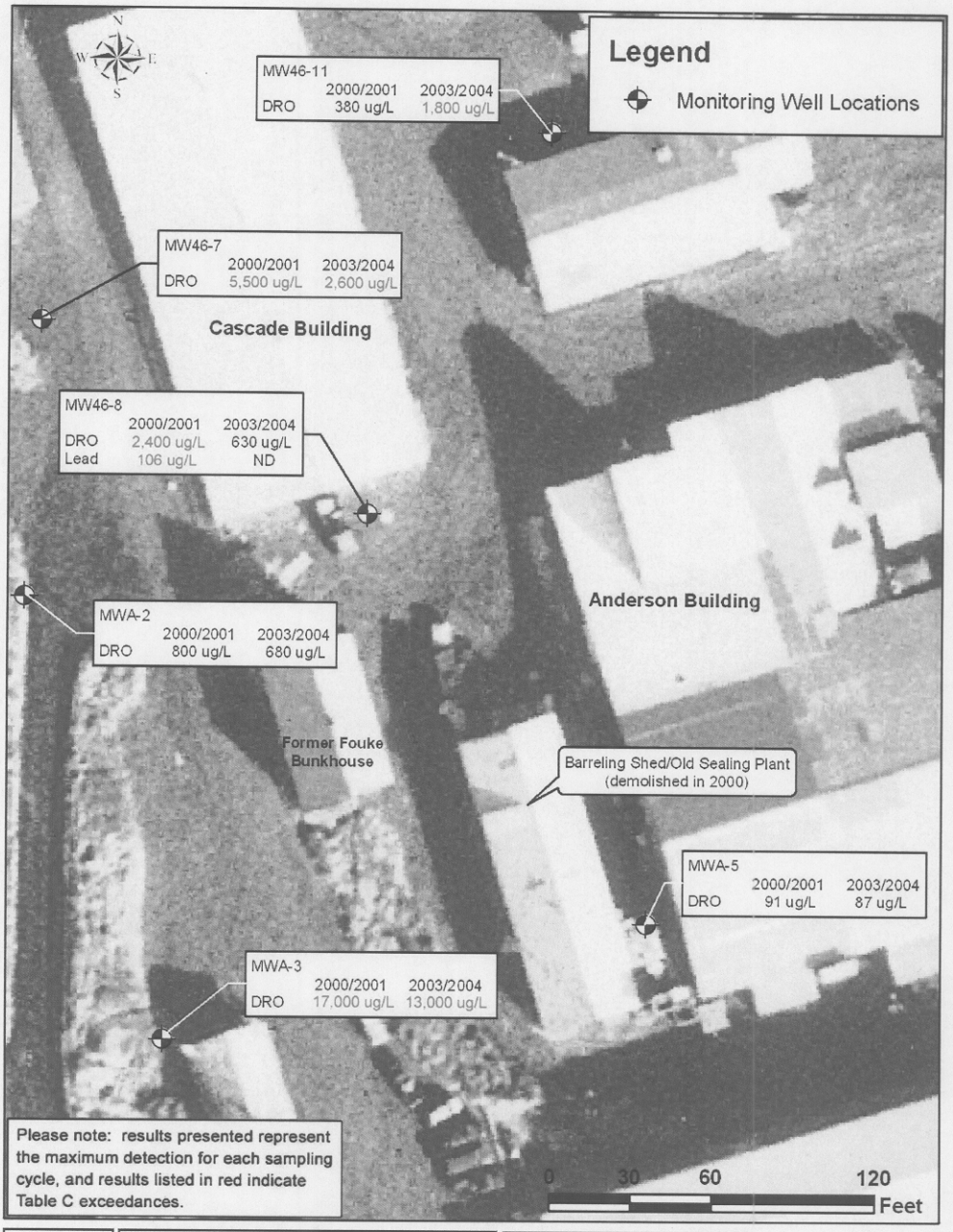

Figure 4	Groundwater Sampling Results Old Sealing Plant/Barreling Shed TPA Site 9l/Site 27 St. Paul Island, Alaska	Sources: Monitoring Well Location and Historical Sampling Locations (Pribilof Islands GIS Project 2003). Aerial Photo (Aeromap US, 1996).

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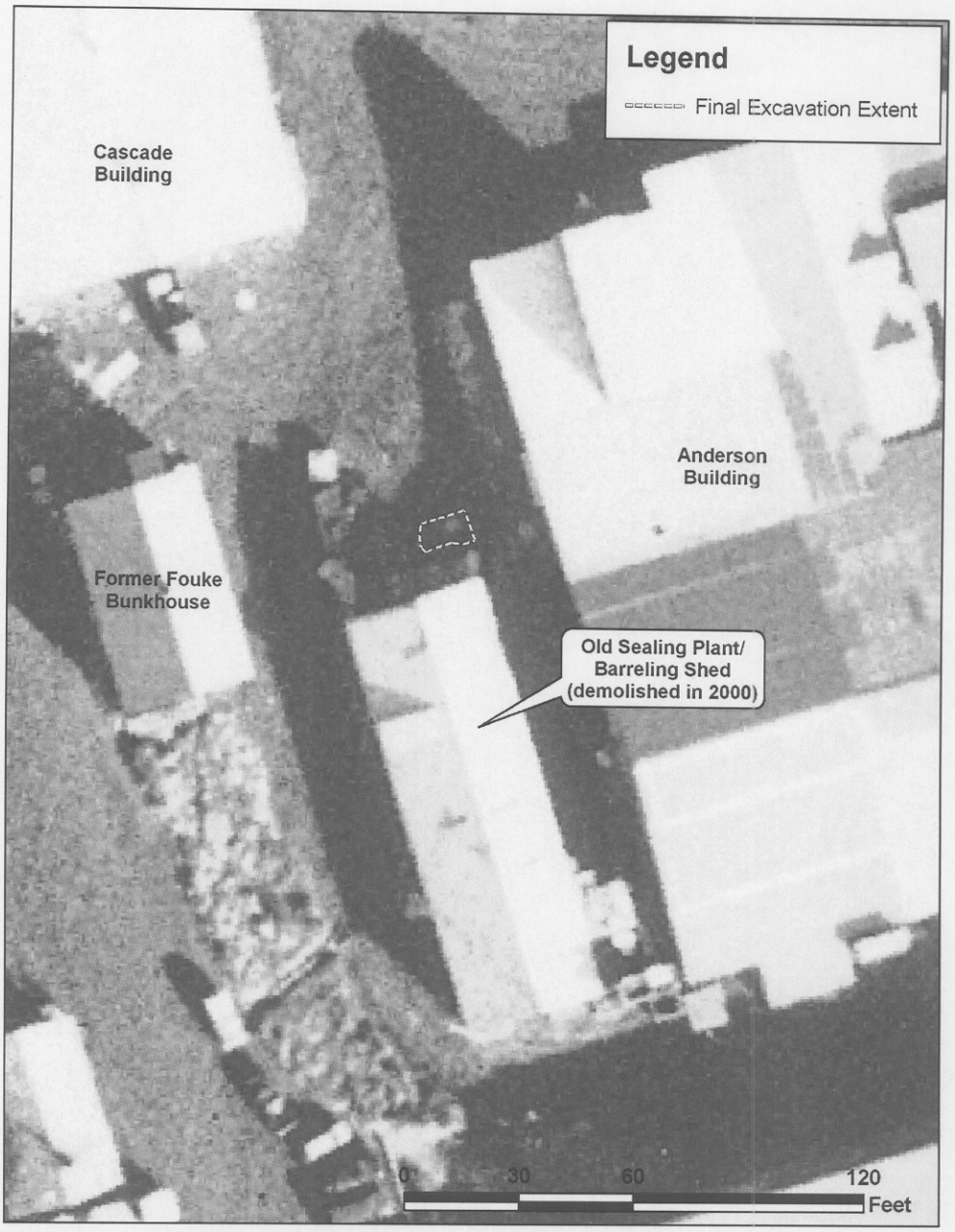

Figure 5	Area of Excavation Old Sealing Plant/Barreling Shed Site 27/TPA Site 9l St. Paul Island, Alaska	Sources: Excavation Extent (NOAA GPS 2003), Aerial Photo (Aeromap US, 1996).

Pribilof Islands Restoration Project