Request for No Further Remedial Action Planned

Site: Vehicle Boneyard, also known as Two Party Agreement (TPA) Site 2 and National Oceanic and Atmospheric Administration (NOAA) Site 2. The site will be referred to as the Vehicle Boneyard herein.

Location: St. Paul Island, Alaska is approximately 800 miles southwest of Anchorage in the Bering Sea. On the island, the Vehicle Boneyard is located on the eastern portion of St. Paul Island north of Polovina Hill and south of Big Lake (Figures 1 and 2) (57°11'25.50" North Latitude, 170°10'44.36" West Longitude).

Legal Property Description: The area of excavation is located in Township 34 South, Range 131 West, Section 34, of the Seward Meridian, Alaska as shown on the plat of rectangular survey officially filed May 14, 1986 (Figure 2). Tanadgusix Corporation (TDX) owns the surface property and The Aleut Corporation owns the subsurface property at the Vehicle Boneyard.

Type of Release: Potential release mechanisms include: 1) petroleum, oil and lubricant (POL) leaks associated with drums and vehicles disposed at this former "boneyard" and 2) asbestos-containing material (ACM) buried at the site.

History and Background:
The major portion of the site, the Vehicle Boneyard proper, was used for disposal of old vehicles, drums, and debris. The northwestern portion of the site is a Formerly Used Defense Site (FUDS). The FUDS area was also used as a disposal site for drums and debris. The Vehicle Boneyard and FUDS area border (to the south and east) the proposed location for a new solid waste landfill for Saint Paul Island (Figure 2). The Vehicle Boneyard is currently not in use.

Summary of Site Investigations and Removals:
October 1992, Harding Lawson Associates Phase I Environmental Assessment: In September and October 1992, Harding Lawson Associates (HLA) inventoried and drained fluid from 240 vehicles at the Vehicle Boneyard as part of a Phase I Environmental Assessment. These fluids included diesel fuel, oil, oil and water mixtures, hydraulic fluid, transmission fluid, brake fluid, and antifreeze. The fluids were bulked into four drums and subsequently removed from the site (HLA 1993).

October 1992, Ecology & Environment Preliminary Assessment: In October 1992, Ecology & Environment, Inc. (E&E) performed a preliminary assessment at the Vehicle Boneyard. Site inspectors noted that the site contained construction debris, tanks, cement trucks, cranes, engine blocks, pipes, assorted heavy equipment, automobiles, and household waste (E&E 1993).

Summer of 1994, Oil Spill Consultants Inspection: In the summer of 1994, Oil Spill Consultants (OSC) conducted an inspection of the Vehicle Boneyard and identified 213 drums at the site, 211 of which were mostly empty. The other two drums were filled with petroleum product. Field screening of the petroleum product revealed that it was noncombustible and nonreactive and did not contain polychlorinated biphenyls (PCBs) or chlorinated hydrocarbons. OSC removed all

drums at the Vehicle Boneyard and shipped them to Basin Oil Company in Seattle, Washington, for disposal (OSC 1995).

1997, Bering Sea Eccotech, Inc. Phase 1: In 1997, Bering Sea Eccotech, Inc. (BSE) removed bulk surface debris from the Vehicle Boneyard and smaller amounts from several other sites as part of a Phase I cooperative agreement with NOAA (Aleutian Enterprises 1998). During the debris removal, NOAA removed 2,359.3 tons of steel, 88.2 tons of tires, and 8.75 tons of batteries for off island recycling and disposal (BSE 1997). Soil samples were not collected during the debris removal. No visually stained soils were identified during the debris removal project. After the surface debris was removed, BSE attempted to revegetate the area using native flora.

1999, Tetra Tech EM, Inc. Closure Confirmation Study: In 1999, Tetra Tech EM, Inc. (TTEMI), conducted closure confirmation activities at the Vehicle Boneyard site (TTEMI 2000). TTEMI initially performed a visual site reconnaissance. After the visual site reconnaissance, TTEMI personnel completed a site walk through the southwestern half of the site. During the site walk, TTEMI consolidated metal, wood, plastic, and rubber debris (mostly former car parts and heavy machinery). In total, TTEMI consolidated about 18,500 pounds (lbs.) of debris. Any debris requiring the use of heavy equipment to conduct a removal action was left in place. Tetra Tech transported all removed debris to the designated debris staging area at Tract 38, along the northern side of Polovina Hill. Tetra Tech then used a direct-push sampler to collect 20 soil samples from ten locations (02SS01-02SS10, Figure 3). (Note that there is a discrepancy with the location of one Geoprobe sample, 02SS02 as explained on Figure 3). Soil samples were collected from depths of 2 to 25 feet (ft) below ground surface (bgs). Groundwater was not encountered during this investigation. All of the samples submitted to the laboratory were analyzed for gasoline range organics (GRO); diesel range organics (DRO); residual range organics (RRO); and benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, 12 soil samples were analyzed for polynuclear aromatic hydrocarbons (PAHs), chlorinated solvents, and heavy metals.

The results of the Geoprobe samples indicated that elevated levels of DRO and RRO were present at one of the sampling locations in shallow soil (02SS09), with DRO at 4,460 milligrams per kilogram (mg/kg) and RRO at 15,000 mg/kg (Figure 3). These levels exceed the ADEC Method Two cleanup levels of 250 mg/kg and 10,000 mg/kg for DRO and RRO respectively (ADEC 2003). GRO, BTEX, PAHs, and chlorinated solvents were either not detected or were detected below their applicable ADEC Method One or Method Two cleanup levels. Metals were detected at levels within the range of island-specific background concentrations.

Summer of 2000, Columbia Environmental Sciences Inc. Site Characterization: During the summer of 2000, Columbia Environmental Sciences Inc. (CESI) performed site characterization work at the Vehicle Boneyard site (CESI 2002), including a geophysical investigation to locate subsurface magnetic anomalies indicative of buried debris; groundwater monitoring well installation, and soil sampling and analysis. Thirteen monitoring wells were installed (MWVB-1- MWVB-13, Figure 3), from which 35 soil samples were collected during well boring operations. CESI also drilled 3 other soil borings (SVB 1-SVB 3, Figure 3) from which 3 soil samples were collected. The soil samples were analyzed for GRO, DRO, RRO, volatile organic

compounds (VOCs), semivolatile organic compounds (SVOCs), and heavy metals. None of the soil samples exceeded any of the ADEC Method Two cleanup levels. The groundwater wells were used for hydrogeologic testing, groundwater sampling, and groundwater analyses for GRO, DRO, RRO, VOCs, SVOCs, and heavy metals (Figures 3 and 4). None of the groundwater samples exceeded any of the ADEC Table C cleanup levels (ADEC 2003). Monitoring well MWVB-5 was installed but damaged due to driller mistakenly pumping grout into the well casing, clogging up the screened interval. This well could not be repaired to allow representative sampling, so it was not included in groundwater monitoring.

CESI concluded that:

- Buried and surface debris remains at the site.
- No site-related contaminants of concern that exceeded ADEC Method One or Method Two cleanup levels were present in soil at CESI's sampling locations (Figure 3).
- No contaminants exceeded ADEC Table C cleanup levels in groundwater (Figure 4).
- Hydraulic conductivities range from 10^{-4} to 10^{-6} meters per year.
- The aquifer is tidally influenced, but the influence is damped.
- A groundwater divide is present at the site; groundwater flow west of the site is to the west; groundwater flow beneath the Vehicle Boneyard proper is to the east.

2000-2001 Groundwater Monitoring by IT Corporation and Others: Five rounds of groundwater monitoring were conducted at the Vehicle Boneyard as reported by IT Alaska Inc. (IT 2002). Figure 2-1 shows the location of the monitoring wells relative to the Vehicle Boneyard site and soil sample locations there. Figure 2-2 shows the highest DRO results of groundwater samples collected at each well in 2000 and 2001 (IT 2002). Neither DRO nor any other contaminant was found to be present above it's ADEC Table C groundwater cleanup level during any of the sampling events.

2001 NOAA Test Pit Investigation: In 2001, NOAA excavated approximately 75 test pits to an average depth of six feet bgs, to determine the locations of buried debris. NOAA surveyed the locations of all the test pits, and recorded which pits contained and did not contain buried debris (Figure 5). The area of buried debris was estimated at 0.9 acres. NOAA also recognized a larger area of small-sized surface debris (less than 6 inches), estimated at 3.4 acres.

October 2004 NOAA Geoprobe Sampling. NOAA conducted an additional round of soil sampling on October 9, 2004 at the sample location where the investigation conducted by Tetra Tech in 1999 (discussed above) had collected a soil sample (02SS09) exceeding the ADEC Method Two soil cleanup standards for DRO and RRO, as shown on Figure 3 (NOAA 2005). NOAA returned to the location of this sample using the NOAA GPS unit, resampling the exact same location and depth as the Tetra Tech sample (02SS09 at 2 feet bgs) as well as 4 others locations describing a square with approximately 10 foot sides around the original sample location (Figure 6). NOAA chose not to use it's larger, track mounted Geoprobe because the area of concern is densely vegetated and the use of tracked vehicles in this area would cause extensive vegetative injury. NOAA instead used a hand-operated geoprobe to collect 2 samples at each location, one from the 6-inch to 2-foot, and one from the 2- to 4-foot intervals. All of these samples were analyzed by NOAA using thin layer chromatography (TLC). The TLC analysis indicated DRO in 4 of these samples at levels potentially above the ADEC Method Two

cleanup level. NOAA sent aliquots of these 4 samples (with one duplicate) to an offsite laboratory for DRO and RRO analyses. In order to eliminate potential high bias of the analytical results due to the presence of other organic compounds in the samples, NOAA had the laboratory perform a "silica gel cleanup" on the samples prior to analysis. This step had not been performed during the previous lab analysis by Tetra Tech (TTEMI 2000). The NOAA off site lab results indicated that DRO exceeds the ADEC Method Two cleanup level only at the location and depth of the original Tetra Tech 1999 sample. NOAA's results were significantly lower than the TTEMI 2000 results, with DRO at 1,700 mg/kg and RRO at 10,000 mg/kg (Table 1), and these levels did not exceed the site specific ADEC Method Three cleanup levels.

Summary of Applied Cleanup Levels:
NOAA first employed ADEC Method One cleanup criteria, discussed at 18 AAC 75.341(a) (ADEC 2003) to screen the severity of the contamination at the site. 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).

Once NOAA determined that the area of contamination around sample 02SS09 was limited to a depth of 2 feet bgs, within a 100 square foot area, NOAA decided to use site specific data to calculate a cleanup level using the ADEC on line Method Three calculator (ADEC 2003). Based on ADEC Method Three, NOAA determined that the highest soil concentration of DRO and RRO allowable at the Vehicle Boneyard site is 2,920 mg/kg and 22,000 mg/kg (NOAA 2005). Cleanup criteria were applied to the maximum extent practicable (18 AAC 75.325 (f), 18 AAC 75.990).

Summary of Cleanup Actions:
In October 2003 NOAA contractor TTEMI, with subcontractor Kelly-Ryan Incorporated (KRI), performed site capping preparatory work by bulldozing surface debris in areas of potential dump truck operation to reduce the likelihood of dump trucks containing surface debris or capping material puncturing their tires. An estimated 2,750 cubic yards (yd^3) of surface debris and soil were relocated to the area of subsurface debris. The bulldozer also graded the surface debris areas to roughly match the grade of the adjacent undisturbed areas. This component of the corrective action was completed on November 3, 2003. During bulldozing operations, KRI encountered a discrete area containing apparent asbestos-cement pipes within six inches bgs (Figure 5). NOAA and TTEMI staff investigated this location and found that it contained both asbestos-cement pipes and broken Transite shingles. NOAA staff, certified in handling this type of ACM, removed the loose ACM and containerized it. The loose ACM was subsequently disposed off-island. NOAA staff noted that the remaining ACM extends to an approximate depth of three ft bgs and is somewhat intermingled with inert demolition debris, like plywood. NOAA video-documented and surveyed the remaining ACM area and temporarily covered over the ACM with plywood and soil until a two feet thick soil cover could be placed atop the combined debris area.

On November 9, 2003 TTEMI, BSE and KRI began capping subsurface debris area as shown in Figure 5. An estimated 1,350 yd^3 of clean scoria was placed atop the subsurface debris area, including the area of asbestos debris. TTEMI, BSE and KRI also hauled an estimated 2,750 yd^3 of clean sand from Vic's Sand Pit and placed it atop the subsurface debris area, bringing the

thickness of the cap to at least 2 feet. Subsurface debris soil cover activities were completed on November 15, 2003.

NOAA conducted revegetation activities for the subsurface debris cover area from May 24, to June 1, 2004. NOAA spread a mixture of boreal red fescue, Bering hairgrass, and beach wild rye seeds and fertilizer. Erosion control mat was then installed over the seed and fertilizer atop the soil cover. Figure 7 shows how the grass seeds had taken root and begun to grow by September of 2004.

During the summer of 2004, NOAA determined that the 2-foot thick soil cover applied in 2003 had inadvertently missed a small area at the south end of the area of sub-surface debris. Therefore, NOAA mobilized again to the site on October 11, 2004, to haul an additional 330 yd^3 of sand and 100 yd^3 of topsoil to the vehicle boneyard and extend the cover. This cover extension was completed on October 12, 2004. On October 27, 2004, NOAA completed revegetating the cover extension, using the same mixture of native grasses and fertilizer, covered with erosion control mat as before. The full extent of the cover is that shown in Figure 5.

No removal of contaminated soil occurred at this site. Soil contamination above ADEC Method Method Two levels for DRO and RRO exists at one sampling location northwest of the cover area. Site groundwater does not contain contamination above ADEC Table C cleanup levels, demonstrating that the one soil sampling location with elevated DRO and RRO does not represent a risk to groundwater. No further groundwater monitoring is necessary for the Vehicle Boneyard. NOAA used the ADEC Method Three calculator to calculate a site specific cleanup level for the Vehicle Boneyard site. NOAA believes that contaminant levels at the site are most accurately depicted by the soil samples collected by NOAA in 2004. These samples do not exceed the ADEC Method Three 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 Vehicle Boneyard, TPA Site 2/NOAA Site 2 in accordance with the Agreement and that ADEC grant a conditional closure that will not require further remedial action from NOAA. ADEC will 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:
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E&E. 1993. *Preliminary Assessment of the National Oceanic and Atmospheric Sites, Pribilof Islands, Alaska.* Ecology and Environment, Inc. February.

Harding Lawson Associates (HLA). 1993. *Final Report, Phase I Environmental Assessment, Pribilof Islands, Alaska.* March 5.

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

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NOAA. 2005. Initial Draft Corrective Action Report Site 2/TPA Site 2 – Vehicle Boneyard St. Paul Island, Alaska. January.

Oil Spill Consultants (OSC). 1995. *Final Report for St. Paul Island Drum Removal Project, St. Paul Island.* January 31.

Tetra Tech EM Inc. (TTEMI) 2000. *Closure Confirmation Report, Vehicle Boneyard,* Tetra Tech EM Inc. December.

For the National Oceanic and Atmospheric Administration

6/15/05

John Lindsay — Date
NOAA, Pribilof Project Office

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 Vehicle Boneyard, NOAA Site 2/TPA Site 2, 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 6/20/05

Louis Howard — Date
Alaska Department of Environmental Conservation
Remedial Project Manager

Figures

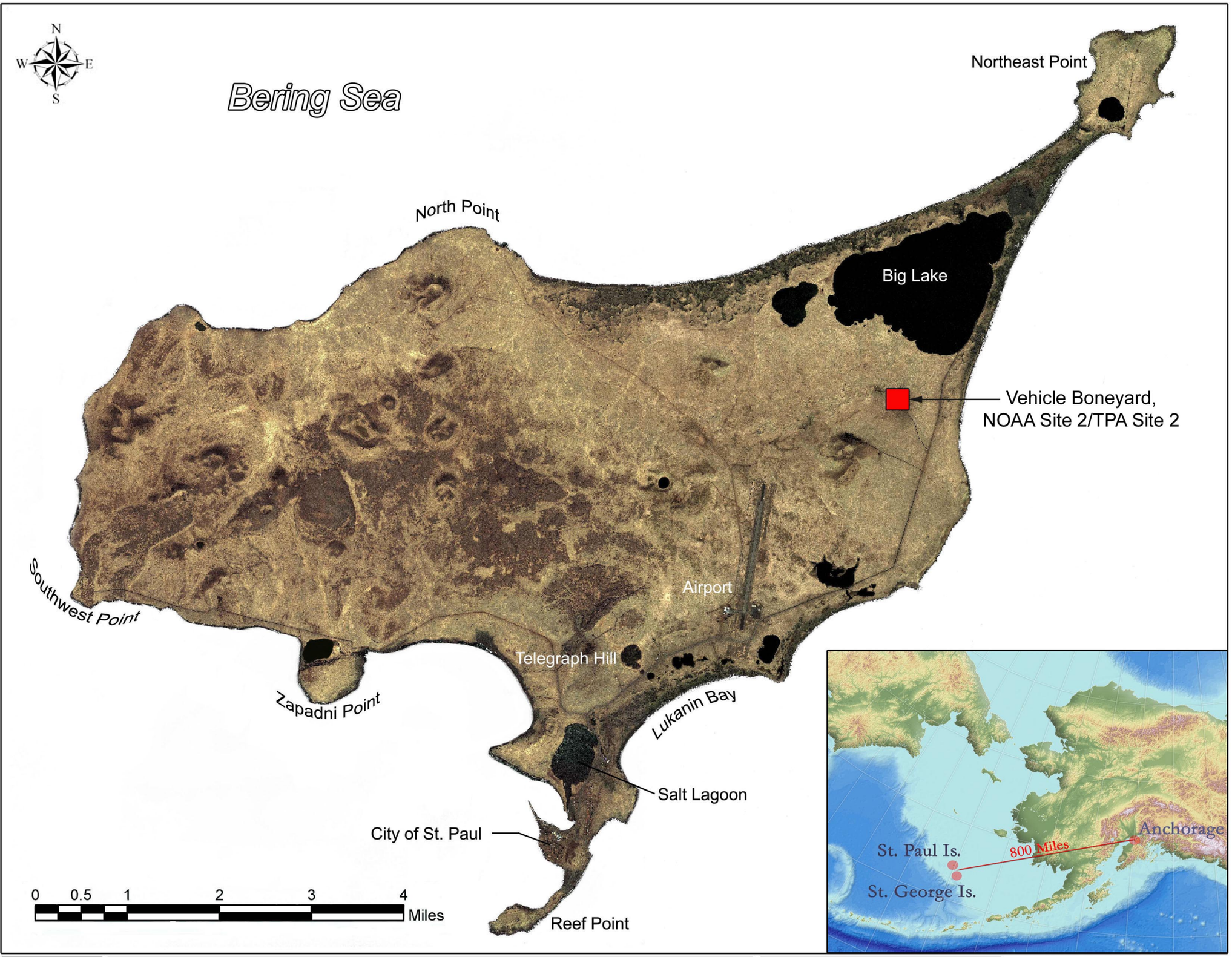

Figure 1	St. Paul Island Vicinity Map Vehicle Boneyard NOAA Site 2/TPA Site 2 St. Paul Island, Alaska	Source: Ikonos Satellite Imagery, 2001	Pribilof Islands Restoration Project

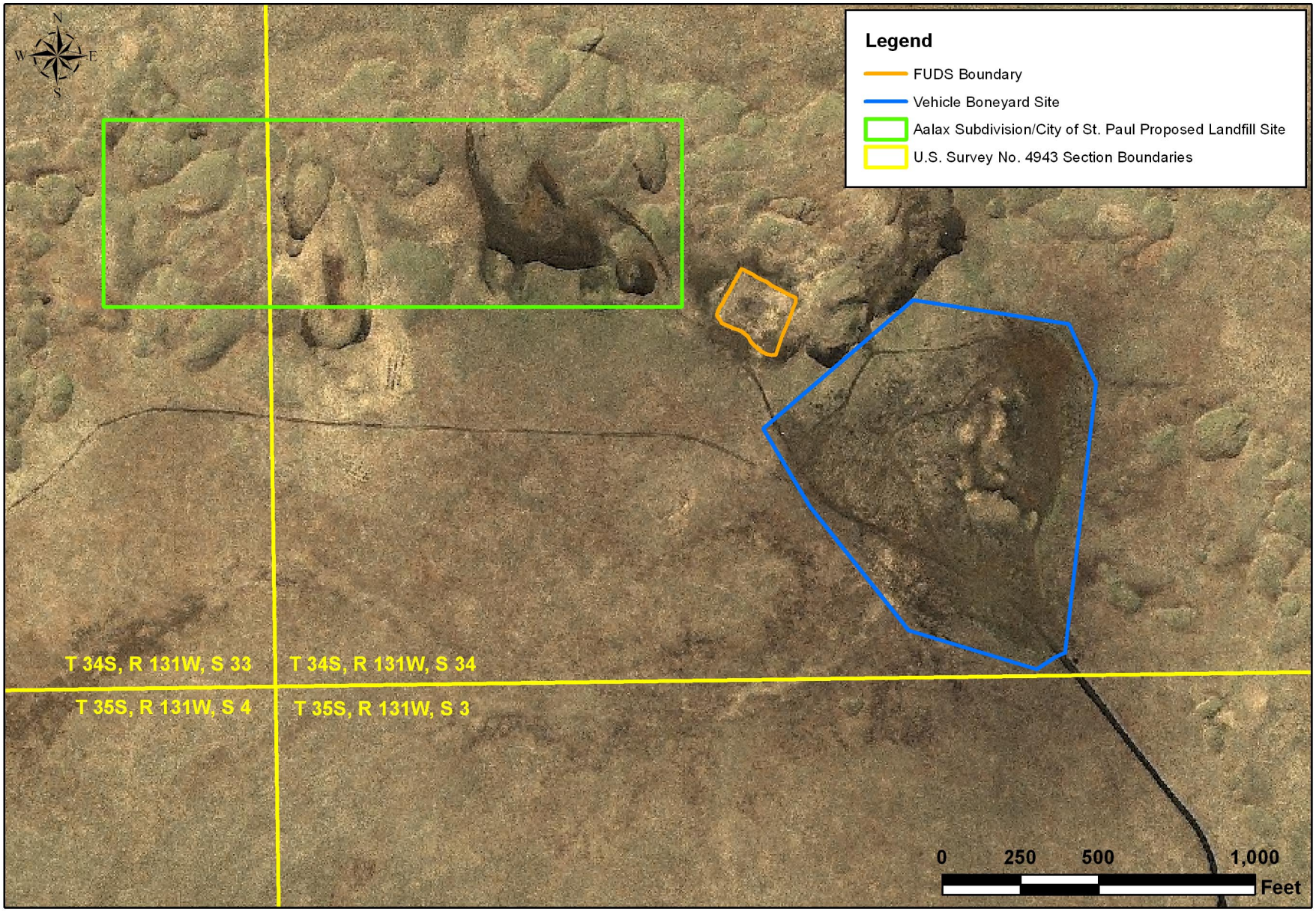

Figure 2	Legal Property Description Map Vehicle Boneyard NOAA Site 2/TPA Site 2 St. Paul Island, Alaska	Sources: Public Land Survey Sections (BLM MTPs 1983), Vehicle Boneyard Site and FUDS Site (NOAA GPS 2000), Aalax Subdivision (NOAA GIS 2003), Satellite Imagery (Ikonos 2001).

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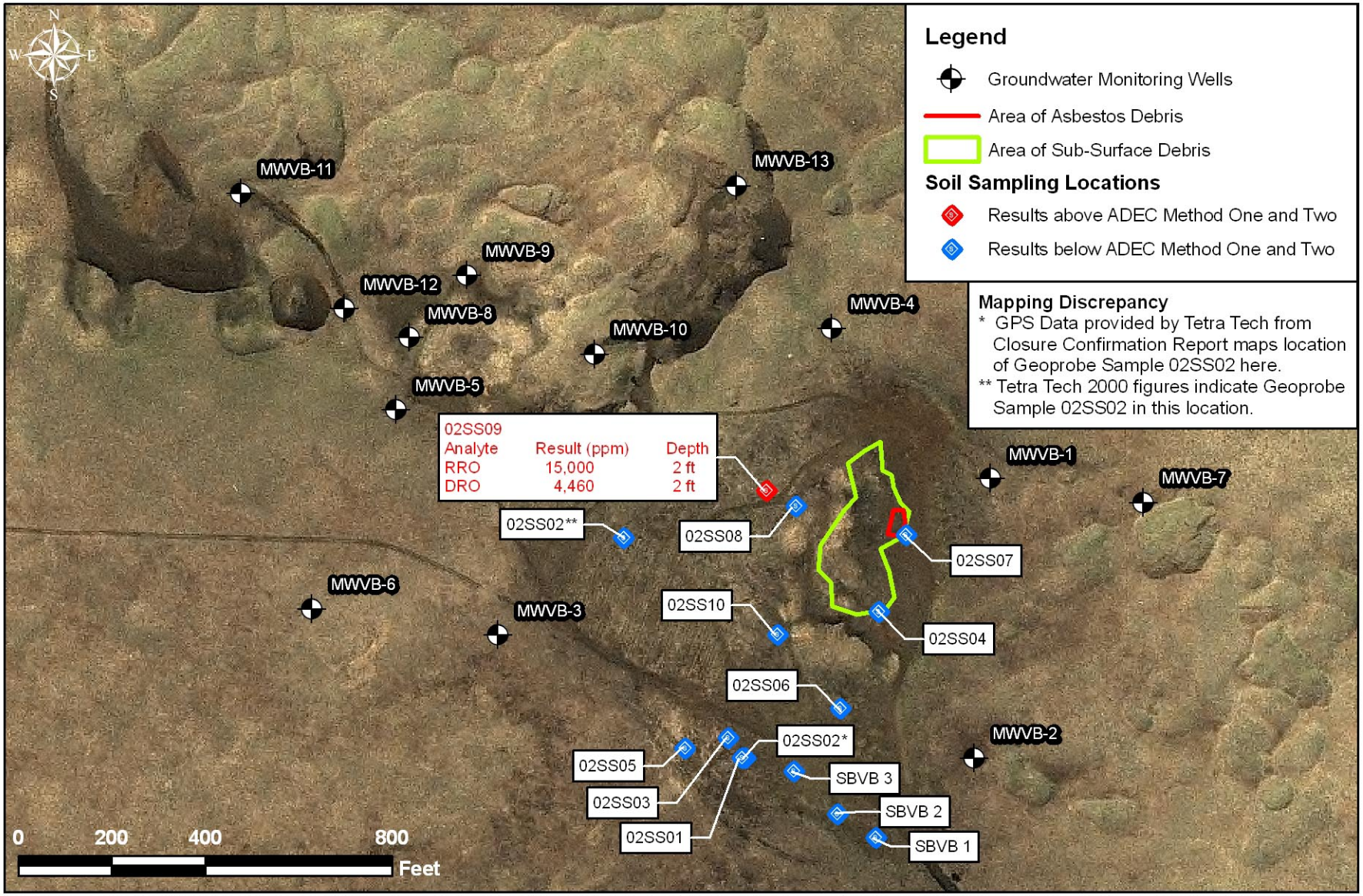

Figure 3	Sampling and Well Installation Events CESI 2000 and TTEMI 1999 Vehicle Boneyard, NOAA Site 2/TPA Site 2 St. Paul Island, Alaska	Sources: Ikonos 2001 Satellite Image & Pribilof Project Database

Pribilof Islands Restoration Project

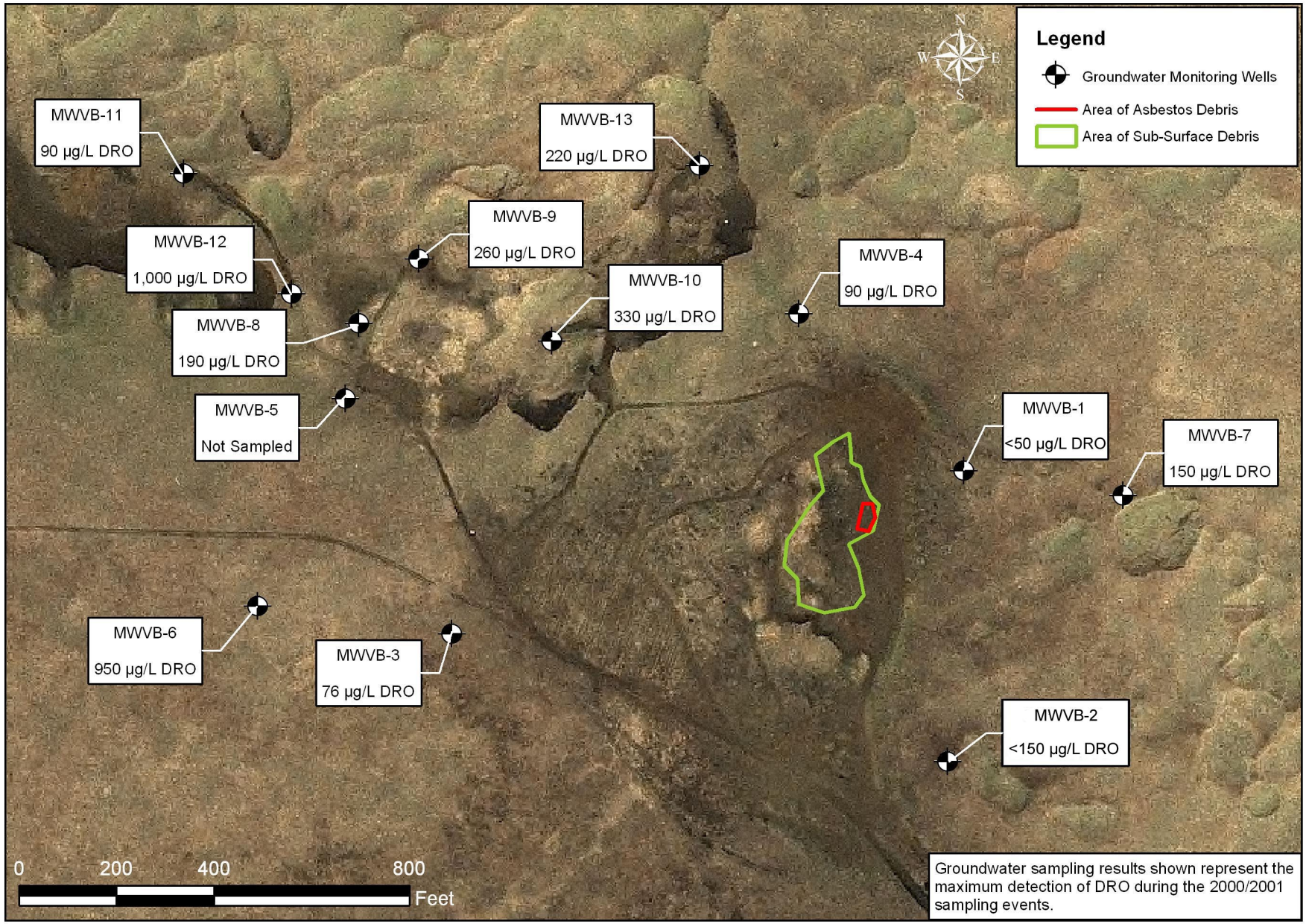

Figure 4

Maximum DRO Detection in Groundwater
Vehicle Boneyard
NOAA Site 2/TPA Site 2
St. Paul Island, Alaska

Source: Ikonos 2001 Satellite Image & Pribilof Project Database

Pribilof Islands Restoration Project

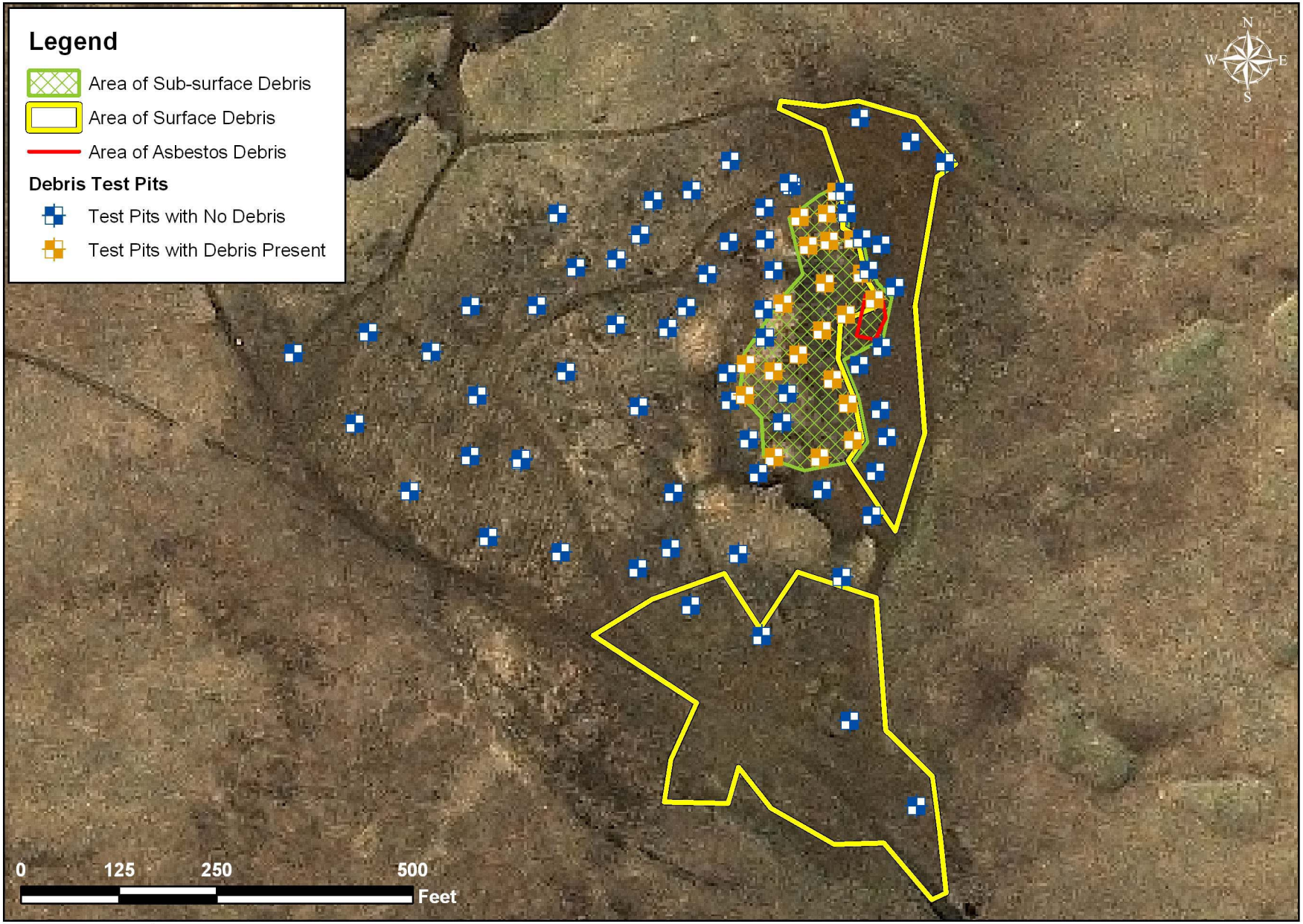

Figure 5	2001 Test Pits for Buried Debris and 2003 Survey of Surface Debris and Asbestos Debris Vehicle Boneyard NOAA Site 2/TPA Site 2 St. Paul Island, Alaska	Source: Ikonos 2001 Satellite Image & Pribilof Project Database

Pribilof Islands Restoration Project

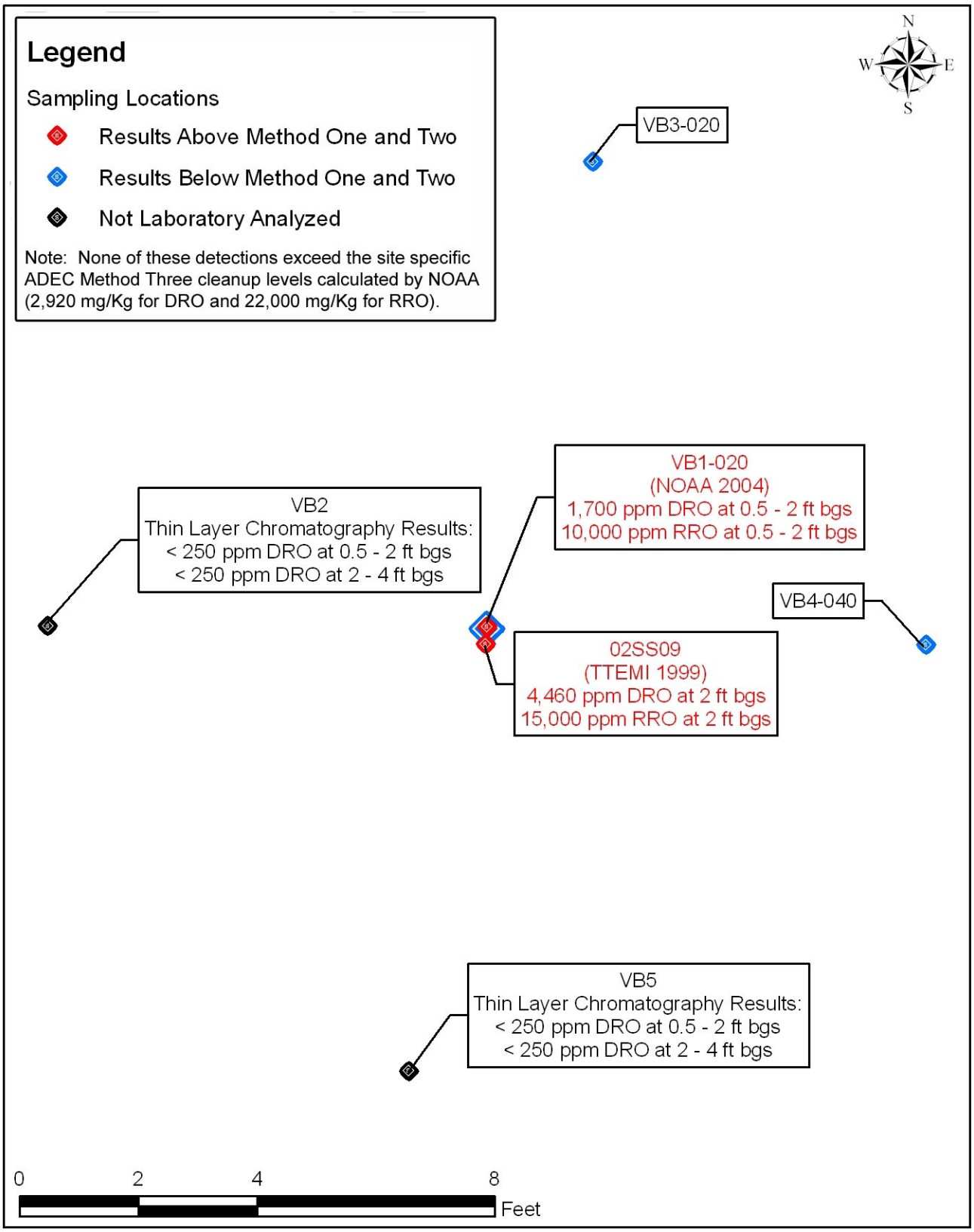

Figure 6	NOAA 2004 Soil Sampling Locations Vehicle Boneyard NOAA Site 2/TPA Site 2 St. Paul Island, Alaska	Sources: NOAA Pribilof Project GIS (2004).

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Figure	Erosion Control Matting and Revegetation (September 2004) Vehicle Boneyard NOAA Site 2/TPA Site 2 St. Paul Island, Alaska	Source: NOAA 2004.
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