

Request for Conditional Closure

Site: School AST, also known as National Oceanic and Atmospheric Administration (NOAA) Site 33 (not listed in NOAA's Two Party Agreement (TPA) with the Alaska Department of Environmental Conservation (ADEC)). The site will be referred to as the "site" herein.

Location: St. George Island, Alaska is approximately 800 miles southwest of Anchorage in the Bering Sea. On the island, the site is located in the eastern section of the City of St. George, approximately 620 feet (ft) south of the Bering Sea ($56^{\circ} 36' 8.87''$ N latitude, $169^{\circ} 32' 38.98''$ W longitude; Figures 1 and 2).

Legal Property Description: The area of excavation is located at Lot 2 of Tract 41, East Landing Subdivision, Seward Meridian, Alaska, Latitude $56^{\circ} 36' 8.87''$ N, Longitude $169^{\circ} 32' 38.98''$ W, WGS 84, as shown on the plat of rectangular net survey, officially filed February 15, 1985 (Black-Smith & Richards 1985; Figure 2). The federal government currently owns the surface and subsurface estate of this site. At its discretion, NOAA established a boundary for this TPA site based on site characterization data and historic information.

Type of Release: Potential release mechanisms include: 1) leaks associated with the filling, storage and dispensation of heating oil in an aboveground fuel storage tank (AST) and its appurtenances; and 2) heating oil leaks from the tank.

History and Background:

The construction of the current St. George School began in 1954, with the main classroom area completed in September 1955 (U.S. Fish and Wildlife Service 1956). A heating oil UST and approximately 10 cubic yards of PCS were removed from the southwest corner of the school in 1997 (Polarconsult 1997), and approximately 30 cubic yards of PCS were removed from the area adjacent to the former UST location in 2002 (Figure 2); this site is referred to as the School UST, TPA Site 22-1/NOAA Site 22. The site is approximately 75 feet (ft) east of the School UST site. NOAA subsequently determined that PCS may be present below and near the current AST, based on known fuel storage tank overfueling practices on St. George Island and the poor physical condition of the AST. The AST was in service prior to March 15, 2001, and any contamination due to releases at the site prior to that date are the responsibility of the U.S. Government pursuant to Public Law 106-562. The Pribilof Islands School District decided to decommission the AST as part of a large renovation project in 2003. NOAA, in consultation with the District, decided to remediate PCS associated with the AST subsequent to the AST decommissioning.

The site is currently used as a K-12 public school, and the nearest residence is approximately 150 ft south of the site (Figure 2).

Summary of Site Investigations:

No entities performed site characterization at the site. The School UST Site, is approximately 75 ft west of the School AST Site. St. George Tanaq Corporation (Tanaq) and Polarconsult Alaska Inc. (Polarconsult), under a grant with NOAA, characterized the School UST Site in 1997 (Polarconsult 1997). Tanaq removed the UST and approximately 10 cubic yards of PCS, and backfilled and restored the site with clean fill, in 1997. Confirmation sampling indicated that elevated levels of DRO remained in the UST excavation (Polarconsult 1997).

The AST at NOAA Site 33 replaced the UST prior to 1997, though the date of initial AST installation is not known. Another AST was potentially at or near the site of the current AST, though documentation of the existence of the older AST is incomplete.

NOAA tasked Chadux to remove remaining PCS at the School UST Site in 2002. Chadux removed approximately 30 cubic yards of PCS, and backfilled and restored the School UST Site with clean fill. During the School UST PCS removal, NOAA staff observed corrosion and the overall poor condition of the School AST, as well as visible staining of the surface soil about the AST. NOAA did not observe leaks from the AST, however overfilling fuel storage tanks occurs frequently on St. George Island.

In 2001, TTEMI installed one groundwater monitoring well at School UST Site to address potential impacts to groundwater caused by PCS (Figure 3). This well, TPA22.1-MW-1, is immediately upgradient of the site. Three monitoring wells installed in 2001 and 2002 by TTEMI at the Inactive Gasoline Tank Farm Site (TPA 24/NOAA Site 28) are located 350 ft northeast and downgradient from the site (TPA24-MW-1, TPA24-MW-2, and TPA24-MW-3; Figure 3). Groundwater at the site begins approximately 39 ft bgs (TTEMI 2002).

TTEMI conducted groundwater monitoring in October 2001, October 2002, August 2003, November 2003, January 2004, and April 2004. DRO was the only site contaminant of concern detected in upgradient monitoring well MW22.1-MW-1. The maximum DRO concentration during the sampling events was 880 micrograms per liter ($\mu\text{g/L}$), less than the ADEC Table C DRO cleanup level of 1,500 $\mu\text{g/L}$. No site contaminants of concern were detected in downgradient monitoring wells TPA24-MW-1 or TPA24-MW-2. The maximum DRO concentration at downgradient monitoring well TPA24-MW-3 during sampling events was 250 $\mu\text{g/L}$, which is less than the ADEC Table C DRO cleanup level (Figure 3).

Summary of Applied Cleanup Levels:

NOAA employed ADEC Method Two cleanup criteria, discussed at 18 AAC 75.341(c) (ADEC 2003) when evaluating site conditions relative to the need for remedial action. Cleanup criteria were applied to the maximum extent practicable (18 AAC 75.325(f), 18 AAC 75.990).

Summary of Cleanup Actions:

Chadux removed the AST and appurtenances from the site at NOAA's direction, providing the AST's heating oil to the District for the replacement AST. Chadux relocated the removed AST and appurtenances to the Tanaq Shop parking lot for temporary staging, prior to decommissioning. Chadux subsequently removed residual liquids and tank bottom sludges from the tank, disposing of less than 55 gallons of residual liquids and sludges using NOAA's Smart Ash burner. Chadux cut the AST and appurtenances smaller, transportable pieces of steel. The cut steel tank and appurtenances were temporarily staged with other NOAA metal debris at the Grey Scoria Pit, and then later staged near St. George Harbor for eventual off-island recycling.

NOAA representatives collected three "pre-qualification" samples on July 30, 2003 for training a thin-layer chromatography (TLC) technician and screening for the presence of DRO in near-surface soil near the AST's former location. NOAA collected these three samples from 0.5 ft bgs, NOAA surveyed the locations of each sample. NOAA analyzed the samples on-island for DRO using a semi-quantitative TLC method. One sample did not contain DRO at or above the quantitation limit of 100 mg/kg, a second sample contained DRO between 100 mg/kg and 250 mg/kg. The third sample contained DRO at 250 mg/kg.

Chadux initiated excavation activities for the site on August 13, 2003, and completed them on September 4, 2003 with the placement of clean backfill into the excavation (Figure 4). Chadux initially excavated soil in the area beneath and immediately adjacent to the former AST, advancing to a maximum depth of 4 ft bgs where there were no visual or olfactory signs of PCS. Chadux encountered buried water supply and sewer lines during excavation. Chadux removed these utilities in the vicinity of the excavation. The District subsequently removed the remaining portions of these utilities during their renovation project.

Chadux removed a total of approximately 21 cubic yards of PCS from the excavation at the site transported directly to NOAA's long-term PCS stockpile (Figure 1). Chadux did not temporarily stockpile soil at the site

Polarconsult collected three field screening samples from the excavation bottom NOAA analyzed these samples using TLC and determined DRO concentrations in the samples were at or less than the quantitation limit of 100 mg/kg. Polarconsult collected two confirmation soil samples from the same locations as two of the field screening samples, collecting a blind field quality control (QC) duplicate from one of the two confirmation samples. Polarconsult shipped the confirmation samples off-island for fixed laboratory analyses for BTEX, DRO, GRO, RRO, and select PAHs, consistent with the site's corrective action plan (NOAA 2003). Confirmation samples collected from the bottom and sidewall of the excavation at all site-specific contaminants of concern were below the ADEC Method Two cleanup levels (Table 1 and Figure 4).

NOAA directed Chadux not to collect and analyze characterization samples for the site's removed PCS. NOAA ceased soil treatment using its Enhanced Thermal Conduction system in 2002, and NOAA elected to postpone characterization of PCS stockpiled in 2003 at the long-term PCS stockpile until a new disposal alternative was selected and PCS characterization requirements for the new disposal method were negotiated with ADEC. NOAA proposed and

ADEC approved in 2004 beneficial industrial use of the PCS as earthen berm construction material for the City of St. George's new landfill (ADEC 2004). NOAA characterized the long-term PCS stockpile, including PCS from the site, in May 2004 (NOAA 2005).

Laboratory reporting limits were below ADEC Method Two cleanup levels for all analyses.

Conclusions and Recommended Action:

NOAA removed an estimated 21 cubic yards of PCS from the site, backfilling the site with clean soil. This PCS is stockpiled at NOAA's long-term PCS stockpile and awaits final disposal. No site-specific contaminants above ADEC Method Two at the site.

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 School AST, NOAA Site 33 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. *Interim Guidance for Non-UST Contaminated Soil Cleanup Levels*. Contaminated Sites Program. State of Alaska. July 17.

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ADEC. 2003. *Title 18 of the Alaska Administrative Code 75, Articles 3 and 9*. Oil and Hazardous Substances Pollution Control Regulations. State of Alaska. January 30.

ADEC. 2004. *St. George Landspreading Worker Risk and Ecological Risk Evaluation*. August 6.

Black-Smith & Richards. 1985. *Appraisal Report, Parcels on St. George and St. Paul Islands, Pribilof Islands, Alaska*. File No. 11-85-0650. Appraisal dates: September 9, 10, and 11, 1985, and October 1 and 2, 1985. Prepared for NOAA, WASC Procurement Division, Seattle, Washington. November.

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 for School AST (Site 33), St. George Island, Alaska*. May 29.

NOAA. 2005. *Final Corrective Action Report, Site 33 – School AST, St. George Island, Alaska*. Prepared by NOAA. May 27.

Polarconsult Alaska, Inc. (Polarconsult). 1997. *Environmental Site Investigation, St. George Debris Removal Report, Pribilof Islands Environmental Restoration Project*. Polarconsult Alaska, Inc. December 31.

Tetra Tech EM Inc. (TTEMI). 2002. *Final Site Characterization Report, Inactive/Abandoned Diesel Tank Farm, Two-Party Agreement Site No. 23*. Pribilof Islands Site Restoration. St. George Island, Alaska. March 18.

U.S. Environmental Protection Agency (EPA). 1996. *Test Methods for Evaluating Solid Waste*. EPA/SW-846. Third Edition and Updates. December.

U.S. Fish and Wildlife Service. 1956. *Agent's 1955 Annual Report for St. George Island, Alaska for the year ending December 31, 1955*. January 27.

For the National Oceanic and Atmospheric Administration




John Lindsay
NOAA, Pribilof Project Office

6/16/05
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 School AST, NOAA Site 33 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



Lotis Howard
Alaska Department of Environmental Conservation
Remedial Project Manager

6-20-05
Date

Tables

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Table 1 – 2003 Corrective Action Confirmation Sample Results

Sample Number	Sample Depth (feet bgs)	Diesel-Range Organics (mg/kg)	Residual-Range Organics (mg/kg)
Site 33 Confirmation Samples			
SG33-CS-001-040	4	97.2	24.5 U
SG33-CS-001-020 ^a	4	113	32.5
SG33-CS-002-040	4	38.2	24.1 U
ADEC Method Two Cleanup Level^b			
		250	10,000

Notes:

- bold** Indicates detection above the sample practical quantitation limit.
- 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
- NOAA National Oceanic and Atmospheric Administration
- 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 practical quantitation limit.

a Blind field duplicate of SG33-CS-001-040.

b 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 January 30, 2003. Contaminants of concern for this site are limited to GRO, BTEX.

Figures

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School AST, NOAA Site 33
St. George Island, Alaska

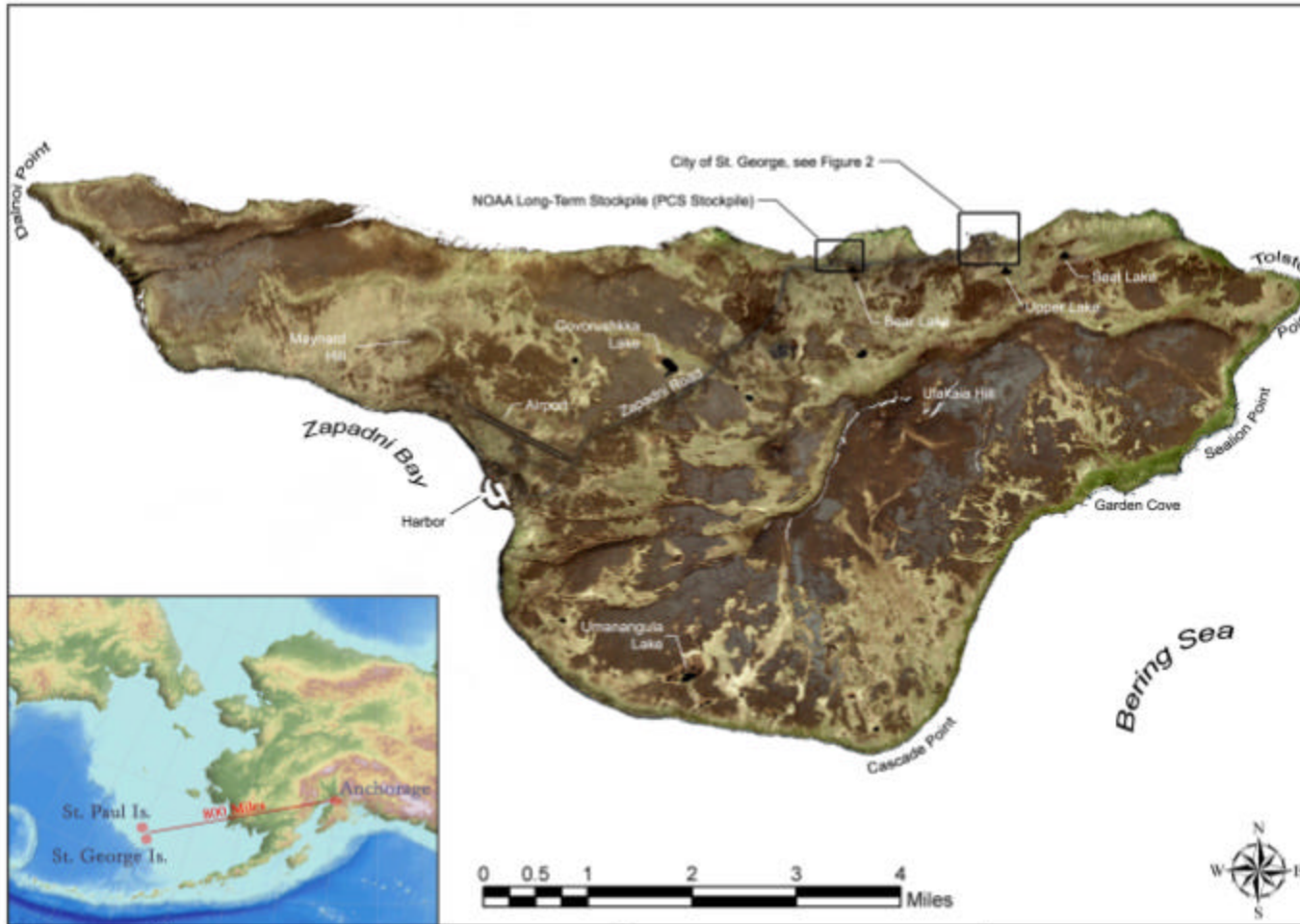


Figure
1

**Island and Vicinity Map
School AST, NOAA Site 33
St. George Island, Alaska**

Source: Ikonos 2001 Satellite Image



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School AST, NOAA Site 33
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Figure
2

**Site Location
School AST, NOAA Site 33
St. George Island, Alaska**

Source: AeroMap U.S. 9/28/96 Aerial
Photograph; Bureau of Land
Management Land Survey Filed
February 15, 1985



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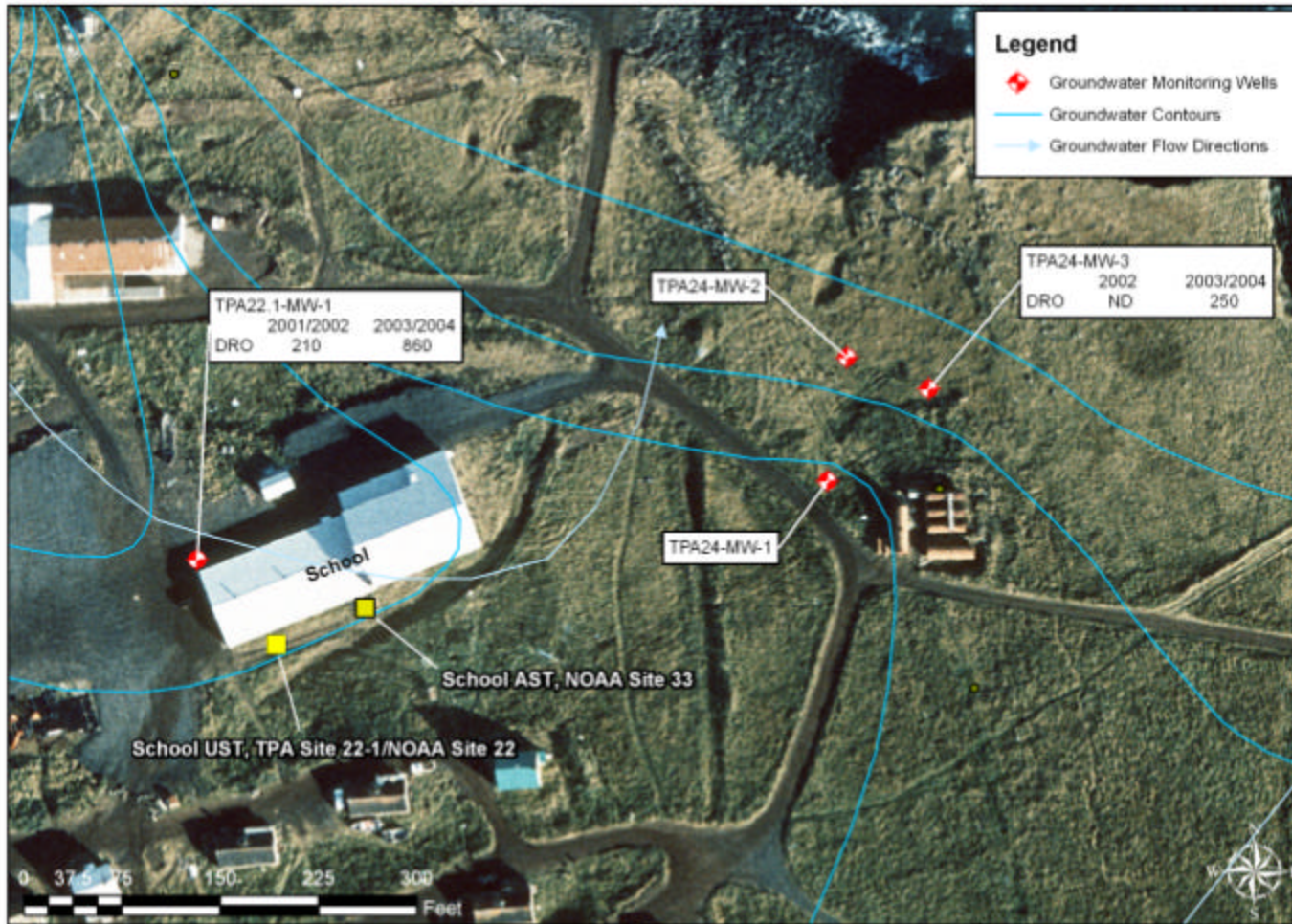


Figure 3

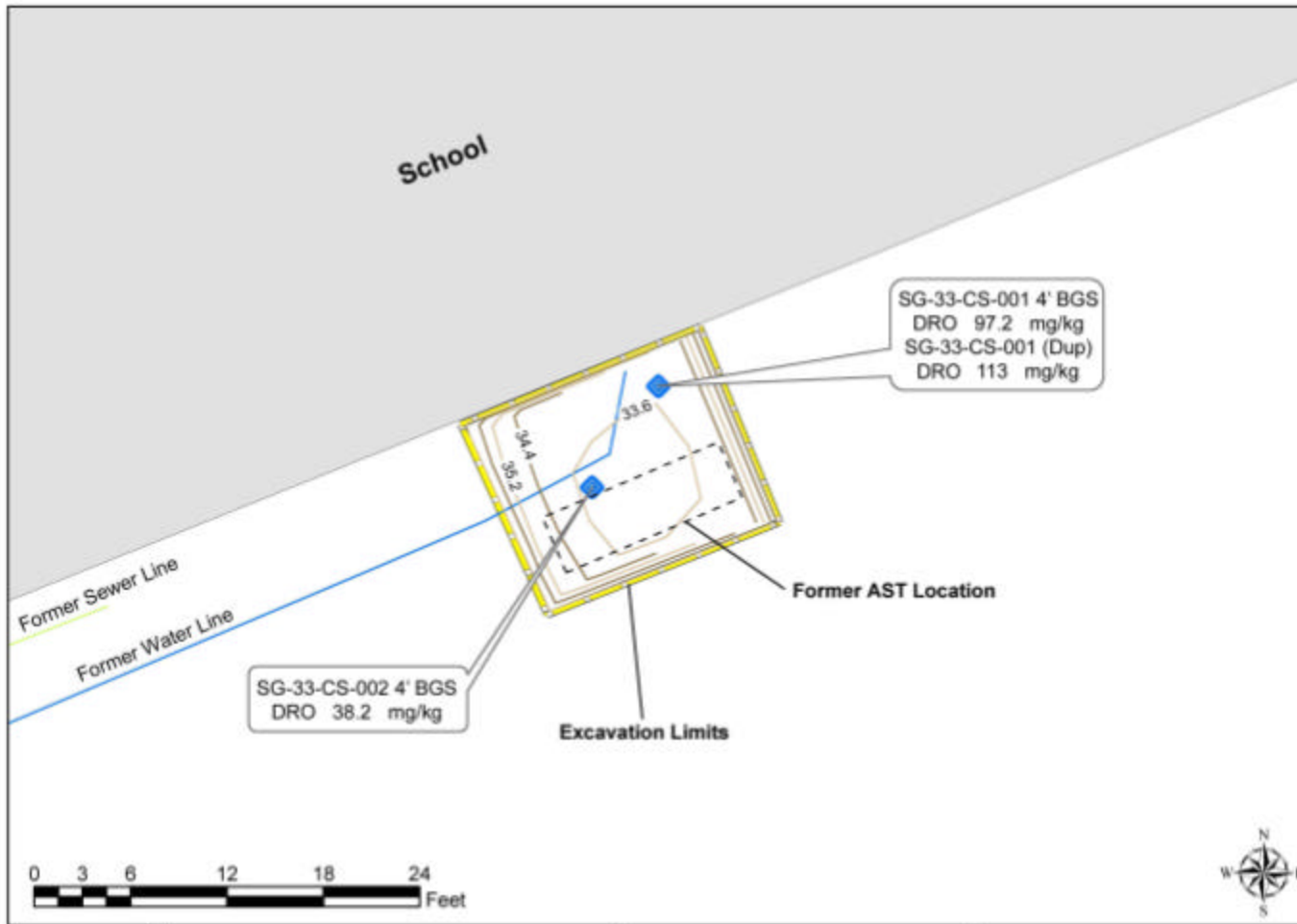
Groundwater Sampling Results for Petroleum Hydrocarbons
 School AST, NOAA Site 33
 St. George Island, Alaska

Source: TTEM Initial Draft Field Investigation Report St. George Island, Alaska April 26, 2005. Aerialmap U.S. 8/25/04 Aerial Photograph

Note: Results in µg/L (Microgram per liter); ND (analyte was analyzed for but was not detected); Results presented represent the maximum detection for the sampling cycle. Where no results are listed, DRO, GRO & BTEX were not detected.



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Figure

4

**Excavation and Sample Location Plan
School AST, NOAA Site 33
St. George Island, Alaska**

Source: Survey Data From Pribilof
Project Database
Note: (BGS) Below Ground Surface;
(Dup) Duplicate Sample; Contour
Elevations In Feet Above Mean
Sea Level

