Pribilofs Restoration Advisory Board (RAB)
Recreation Hall
St. George, Alaska
Wednesday, June 16, 2004

Final Meeting Notes

Participants:
Mr. Alvin Merculief (co-chair, St. George)
Mr. Bernie Denno (co-chair, NOAA)
John Lindsay, NOAA
Louis Howard, ADEC
Anthony Merculief, St. George
Karen Holser, Pribilof Public Steward Program
Michael Abersausern, Vice President Traditional Council
Andronik Kashevarof, Tanaq
Mark Merculief Sr, Tanaq
David Kennedy, NOAA
Minh Trinh, NOAA
Andrew Malavansky, St. George
Paula Souik, NOAA
Ellen Clark, NOAA
Greg Gervais, NOAA

WELCOME AND INTRODUCTIONS

- The meeting was called to order at 9:15 a.m., and St. George Mayor and RAB Co-Chair Alvin Merculief welcomed participants to the meeting.
- Introductions were offered around the table and a sign-in sheet was circulated.

DISTRIBUTION OF MARCH 4, 2004, RAB NOTES FOR REVIEW AND APPROVAL

- March 4, 2004 notes had previously been distributed by email, and copies were again circulated for review
- March 4, 2004 notes approved subject to one correction on page 6, regarding spelling of Anthony Merculief's name.

UPDATE ON SEASON'S FIELD ACTIVITIES

Overview of Lead Removal

- TPA-19 (Old Carpenter Shop), TPA-9 (Old Power Plant), and TPA-3 (Inactive Gas Station) sites were remediated for lead-contaminated soils. Soil screening was conducted using an x-ray fluorescence (XRF) detector.
- TPA-19. Met refusal at 8.5 feet. Most of the contamination was below 4 feet deep. Near the southwest corner of the foundation, had to stop when encountered a water main and an active sewage line.
- The main concern with lead is the ingestion and inhalation, which should be alleviated if the first one to two feet of soil are clean.
- Several samples have been sent off-island for confirmation analysis.

Q. How much does the XRF cost?
A. $60,000. This instrument is on loan from the EPA.

Q. What does XRF stand for?
A. X-ray fluorescence. The machine allows NOAA to conduct in-field analysis of the soil contamination.

Q. Where was the sewer line?
A. It ran to the church. NOAA took GPS readings as they do for all unmarked utilities. NOAA can provide the City with the GPS readings for their records.

Q. When you hit refusal were you still getting readings for lead?
A. At TPA-19, 3 confirmation samples taken from the bottom near 8.5 feet. Two screened below cleanup levels, and 1 from near the eastern foundation screened above cleanup levels.

Q. When do you expect the results of the confirmation samples?
A. Preliminary results in 2 weeks. Final results in a month to month and a half. Once these are received, NOAA determines if cleanup is complete or if additional remediation needs to occur.

Q. Is there a concern with the public drinking water line and it breaking in the area where there is lead contamination?
A. State- The state does not require chasing under utility lines.

Q. How deep is the water line?
A. Not sure.

Comment: The water line runs through the site. It is not clear whether there is lead contamination near or around the water line.

Q. Through analysis can you determine what the lead was used for, paint, batteries?
A. NOAA is not requesting speciation of the lead by the lab, so it is not possible to tell the origin of the lead based on our analyses.

- Awaiting confirmation that the scoria NOAA plans to use as backfill is clean.

TPA-9 (Old Power Plant)

- NOAA has estimated the scope of diesel contaminated soils around the old power plant.
- The potential area of contaminated soils goes close to the cliff line. NOAA does not want to erode the cliff any further and will be cautious in proceeding when excavation begins.
- NOAA intends to begin the site in July and will hopefully complete it during the same month.

Q. Are you able to determine if there is kerosene in the soil?
A. The analysis will show if there is kerosene in the soil.

Q. Are there monitoring wells on the site?
A. There are some wells on the site. Excavation will occur around the wells so as not to disturb them. Refusal is so shallow at the site that these wells will not be disturbed.

Public Health Service Septic System Installation:Open Pits Site Stockpile

- During the installation of the septic system, suspected petroleum-contaminated soils (PCS) were dumped at the open pits site. NOAA is not exactly sure where the soils were dumped, but Mayor Alvin Merculief identified the pile he believes to have come from the Public Health Service septic system installation.
- NOAA is going to work with Chadux to take samples in the area where the pile is thought to be, and to analyze samples with thin-layer chromatography for diesel content, as well as sending samples to an off-island lab for analysis. If there is contamination then NOAA will excavate contaminated soils.
- NOAA will mostly be looking for surface soils and contamination.
- The volume of soil involved is approximately 540 cubic yards.

Revegetation

- During the spring of 2004, several sites were re-vegetated following excavation, including the former fuel storage area, port fuel supply line n-s, inactive gasoline tank farms, and abandoned diesel tank farm.
- Erosion mats were placed down before seeding.
- NOAA is not sure how the Old Carpenter Shop will be re-vegetated

PCS DISPOSAL UPDATE

NOAA is looking at alternative means for disposing of PCS. NOAA tasked Mitretek Systems with evaluating alternative methods for disposal of PCS. Mitretek looked at bio-piling, land-farming, soil washing, monofill, air rotary kiln system, shipment off-island, andland spreading,

- NOAA has a PCS stockpile by the north rookery, and has been treating these soils with the ETC system. However, given the time and cost associated with this approach, Congress has told NOAA it cannot continue to fund use of the ETC system.
- Encapsulating soils, as would be done in a monofill, would inhibit natural degradation of the contaminants in the soil.
- Shipment of soils off-island was determined to be the highest cost option, and, in the past, the community has wanted soils to remain on island.
- NOAA has determined that land-spreading is the most practical, low cost option. Also, the State prefers the land-spreading alternative, especially on St. Paul where NOAA owns sufficient land for this purpose.
- NOAA continues to look at the fur seal rookeries as a potential location for disposing of the PCS in case other options do not come to fruition.
- The State conducted a risk evaluation for PCS on St. Paul based on an average DRO concentration of 1700 ppm., and no unacceptable risk to human health or drinking water was found.
- The State has conducted a risk assessment of the current PCS stockpile, and also considered PCS not yet removed from the sites in its evaluation. For soil in the stockpile the DRO concentration averages 800 ppm, although soils to be excavated later this year and next year are expected to have average concentrations around 3500 ppm.
    - Q. Can we get copies of the State's risk assessment letter circulated to RAB members?
    - A. Yes. (The letter was circulated to RAB participants, and a copy of the letter is attached to these minutes.)
- The City has made an offer to NOAA to allow disposal of PCS at the new landfill. NOAA and the City are currently negotiating the aspects of this agreement.

- The City wants to make sure that the State approves of NOAA's approach to PCS disposal and that future PCS removed is sampled according to ADEC regulations.
- It is estimated that it would take 700 years for the diesel range organics to migrate to the groundwater.

Q. Who is liable for the migration of contamination from the site to adjacent lands?
A. NOAA does not think that this PCS will pose a threat to anyone. NOAA believes that the agency would be liable for the occurrence of such a scenario.

Q. Why are we spending all the money digging up the soil if we are not treating the soil?
A. Treating the soil would be the ideal approach. However, we are being told by the Alaskan Congressional delegation that we will not be receiving the same levels of money in the future. Therefore we need to find alternative means to dispose of the PCS. In one sense we are treating, where it is removed from areas where it poses a threat, and moved to a place that is not a threat. There will be attenuation of the contaminant concentrations over time; there is evaporation and a reduction in levels of contamination.

Comment: It just seems like in 10 years we will learn that this option poses a threat and is not a permanent solution. This just seems ridiculous we are moving the contamination from one area and placing it in another.

Q. How many acres will be needed for land-farming?
A. NOAA estimates that 8 acres will be needed. Contamination could decrease 50-80% by aerating the soil.

Q. Is it necessary to conduct tilling?
A. The State will not require tilling at these levels of contamination.

Q. What type of monitoring plan do you think you will implement?
A. NOAA is not yet sure, needs to provide the State with a work plan to comment on.

Q. Would the area need to be fenced off?
A. No, the State found that the contamination poses no threat to humans or the environment.

Q. What threat is there to wildlife?
A. The State has concluded that there is no threat to wildlife.

Q. Then why is it a risk when it is in the ground?
A. It is a source for contamination to groundwater where it exists. Most of the soils could be kept in the ground were it not for the potential threat to groundwater.

Comment: The City would have to speak with Chadux about the potential contamination at the landfill before making a final decision on PCS disposal because Chadux did not include this use in the conveyance of the land to the City.

GROUNDWATER SAMPLING RESULTS

- Tetra Tech is in the process of writing a report showing results of the year of sampling. Once the report is written NOAA will speak with the State about a future monitoring plan, including the frequency and duration of sample collection.
- NOAA will circulate the report to RAB members once it is complete.
- Model and sampling results indicate no groundwater contamination below residences.
- Underground storage tanks, former tank farms, etc., are locations where we see groundwater contamination.
- We have been conducting sampling every three months.
- Tetra Tech will be writing a groundwater report, and it will be distributed to RAB members.
- Diesel, gasoline and benzene have been found in groundwater (benzene always collocated with other petroleum contaminants). Analysis was done for PAHs but none were found.
- Based on current data, groundwater in contaminated areas flows either northwest or northeast, toward the Bering Sea, which could be used to show that there is no threat to drinking water.

FREE PRODUCT REMOVAL

- There are an estimated 40-45,000 gallons of free product on groundwater.
- Chadux arranged for subcontractors to submit proposals to NOAA on how they would deal with the free product, which must be removed to the maximum extent practicable. NOAA plans shortly to make a recommendation to Chadux on which subcontractor to use.
- State regulations prohibit leaving free product on groundwater even if it does not pose any risk to drinking water.
- NOAA will not be removing dissolved-phase petroleum contaminants.
- NOAA will be following the State regulations and to the maximum extent practicable using the best advanced technology to achieve cleanup of the groundwater.
- NOAA will propose monitoring these areas in the future to ensure that the remaining diesel is not a threat to groundwater. Perhaps 8 to 10 more wells might need to be installed.
- NOAA may start this on a pilot scale to see how the technology works. Most likely the work will begin in August of this year.

Q. What about the contamination under the buildings?
A. If the contamination poses a threat to human health then NOAA would have to consider knocking the building down. Otherwise, such an approach is not practical and is not required by the State.
Comment: If the diesel can not be reused then NOAA has the burden to remove the oil from the island.

Q. How will you dispose of the extracted water from the Free Product Removal?
A. If no PAHs, simply dump it on the stockpile.

Q. Are there any requirements for the disposal of free product?

A. NOAA had IT analyze the quality of the free product, and results indicated that it is un-weathered and thus potentially usable. If free product can't be reused on-island, NOAA would have to ship it off-island.

Q. When do you plan to begin extraction?
A. Hopefully by August.

Q. How many gallons could be extracted per day?
A. Perhaps 4 gallons per well per day. We have been told the effective radius for extraction is 25 feet, which means we might need to drill 8 to 10 new wells. A drill rig would be brought over from St. Paul for that purpose.

Q. How are you disposing of water from sampling (investigation-derived waste)?
A. We test it first to see what contaminants it might contain, and if it only contains petroleum (i.e., no metals or PAHs, etc.) then we put it on our stockpile.

PUBLIC COMMENTS

An Aleutian Pribilof Island Association (APIA) study evaluated Federal contaminated sites in the Aleutians.

- John Lindsay attended an APIA meeting on this study.
- They took their document on how to clean up federal sites and tried to see how it would work in practice, with St. George was one of the two pilot cases.
- John was concerned that nobody from NOAA was present for the St. George Island site walk to explain NOAA's cleanup actions.

According to the APIA representatives, there were concerns from the St. George public that they did not understand the cleanup, and that the community was not being kept informed about cleanup efforts and issues. John Lindsay requested that RAB members work with the community to communicate what is happening. John would be willing to develop fact sheets to help the community better understand the issues that are discussed at RAB meetings. Alvin Merculief acknowledged that RAB members should be working to pass information on to the community.

Alvin Merculief expressed the City's appreciation to NOAA for donating fuel to needy members of the community (fuel once used for the ETC).

CLOSING REMARKS; TENTATIVE DATE FOR NEXT MEETING

- September 13-17 or following week. The meeting will be held on-island and is subject to change given flights, weather, etc.

12:03 adjourn

Update on Season's Field Activities

St. George Island RAB Meeting

June 16, 2004

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Areas Revegetated Spring 2004

Source: Aero Map U.S. 9/28/96
Aerial Photograph; Data from Pribilof Project Database

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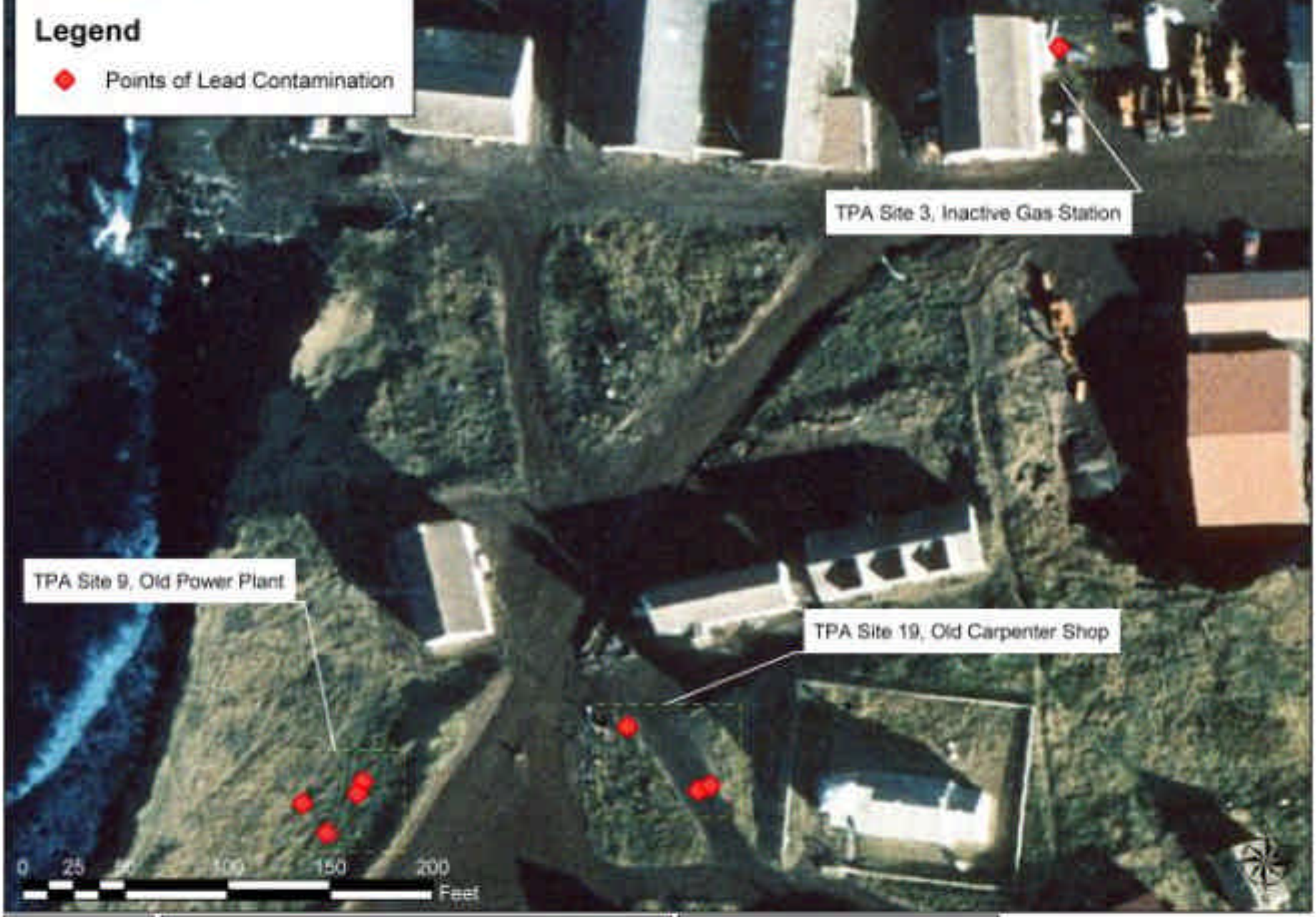

Figure 1

2004 Field Season
Lead Cleanup Locations

Source: Aero Map 9/28/96 Aerial Photograph; Samples from Pribilof Project Office Database

Pribilof Islands Restoration Project

Figure 1

City of St. Geroge/Public Health Service Septic System Installation

Source: Aero Map U.S. 9/28/06
Aerial Photograph; Data from Pribilof Project Database

Pribilof Islands Restoration Project

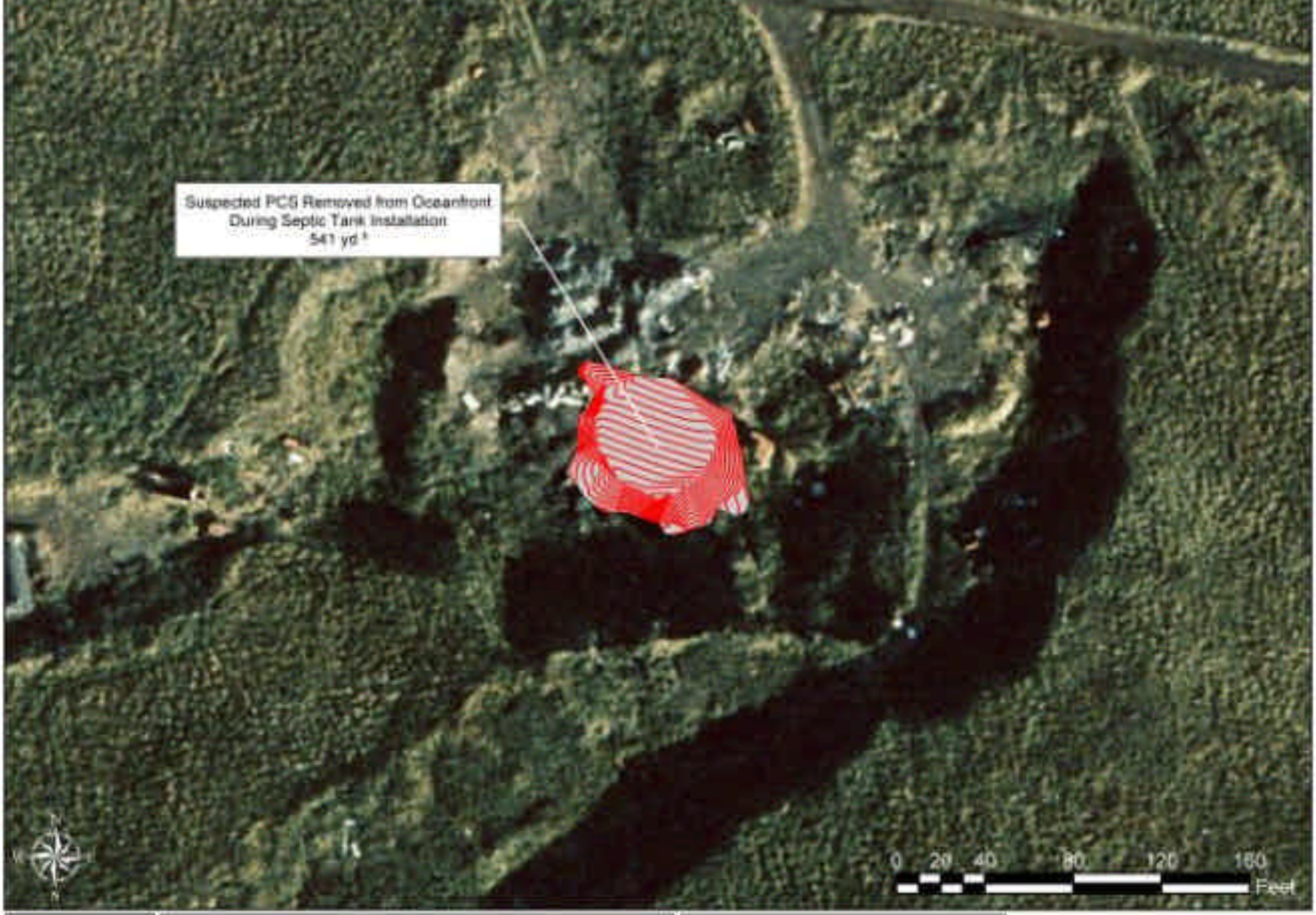

Figure 2

City of St. Geroge/Public Health Service Septic System Installation Open Pits PCS Stockpile

Source: Aero Map U.S. 9/28/06
Aerial Photograph; Data from Pribilof Project Database

Pribilof Islands Restoration Project

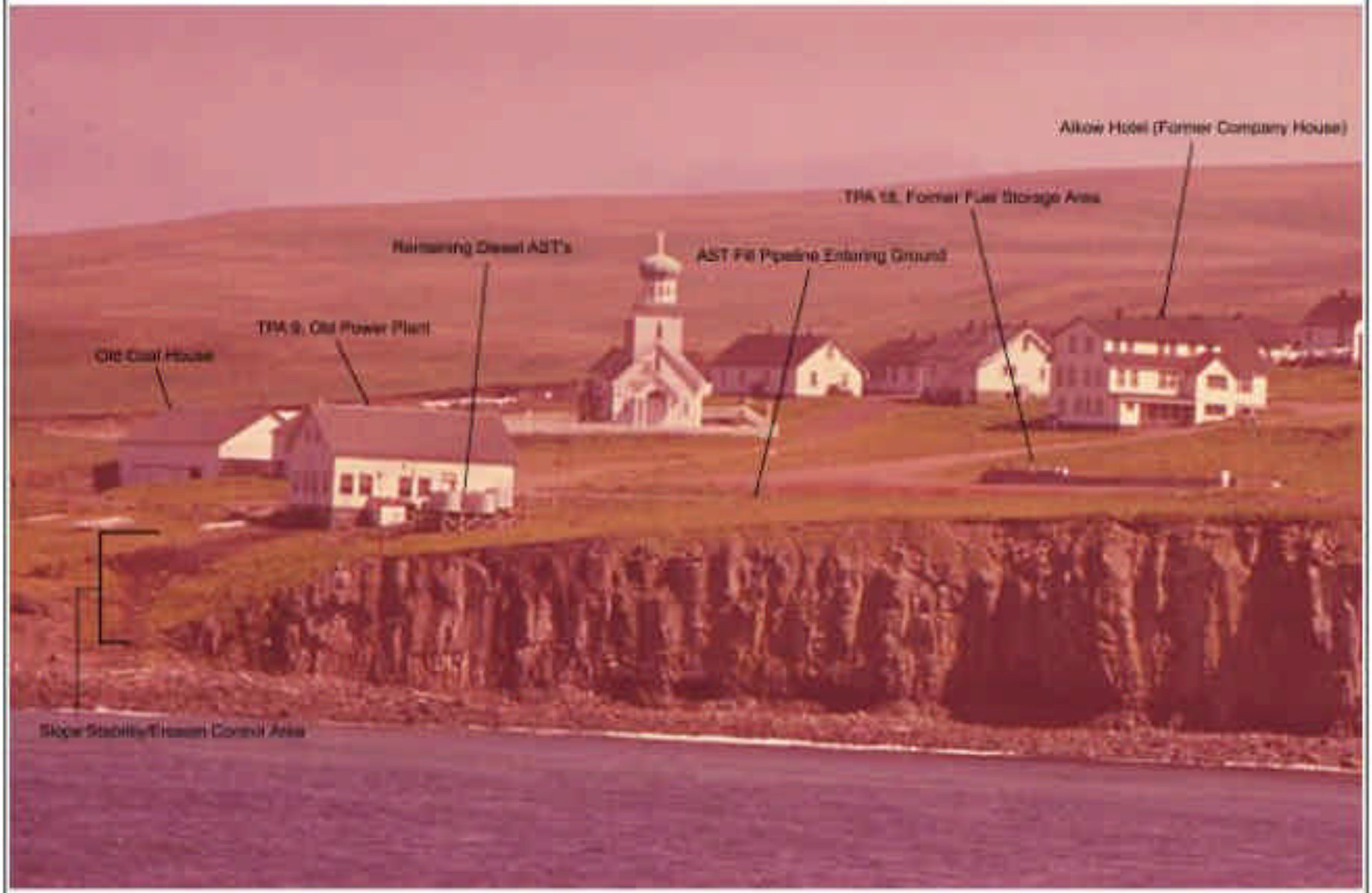

Figure 9

Historic Site Profile
TPA 9, Old Power Plant
St. George Island, Alaska

Source: 1961 Photo from NOAA Pribilof Project Archives

Pribilof Islands Restoration Project

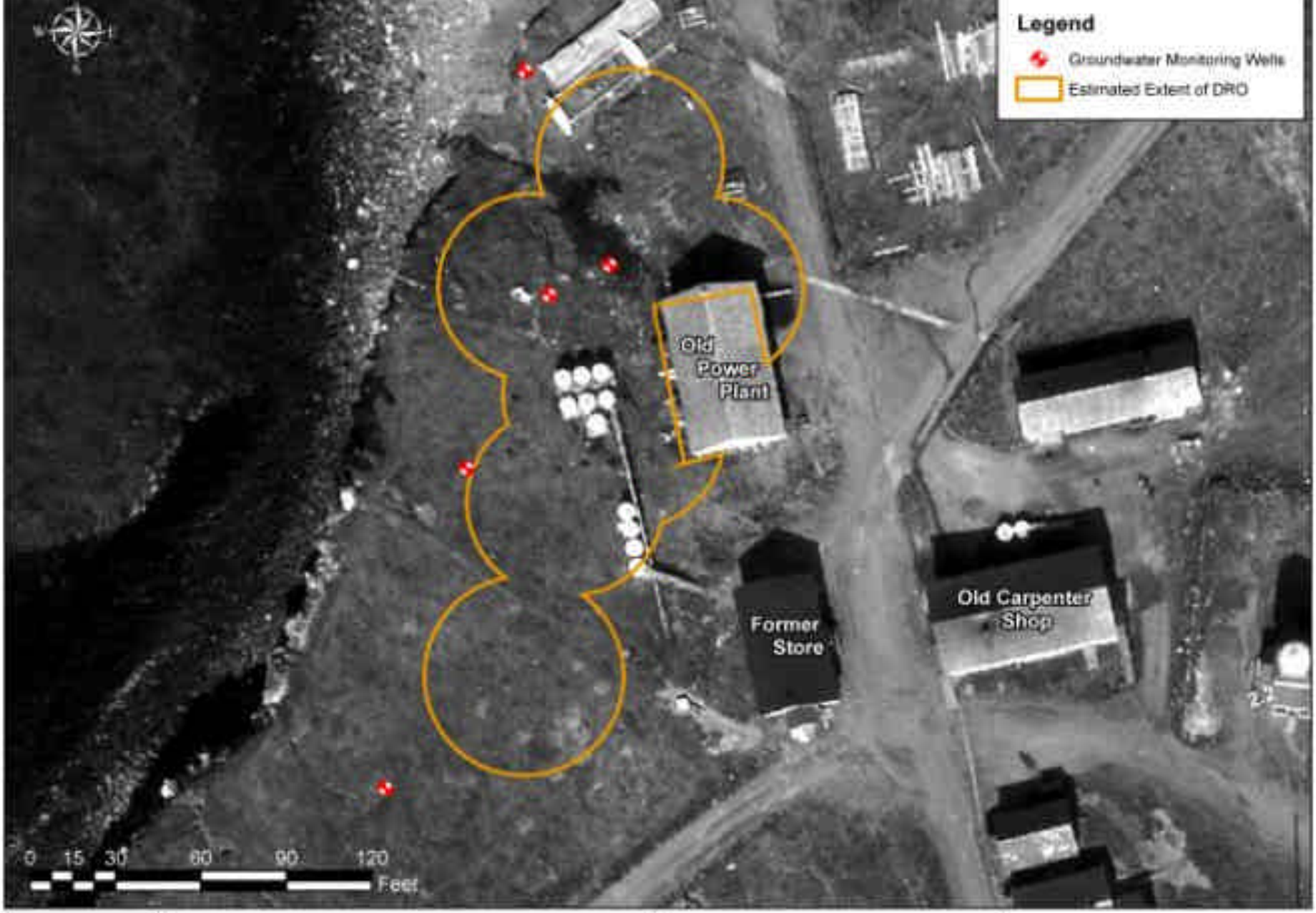

Figure 7

Estimated Extent of Contamination TPA 9 (Old Power Plant) Over 1948 Ground Conditions

Source: 1948 Victor Scheffer Aerial Photograph; DRO Estimated Extent from Pribilof Project Database

Pribilof Islands Restoration Project

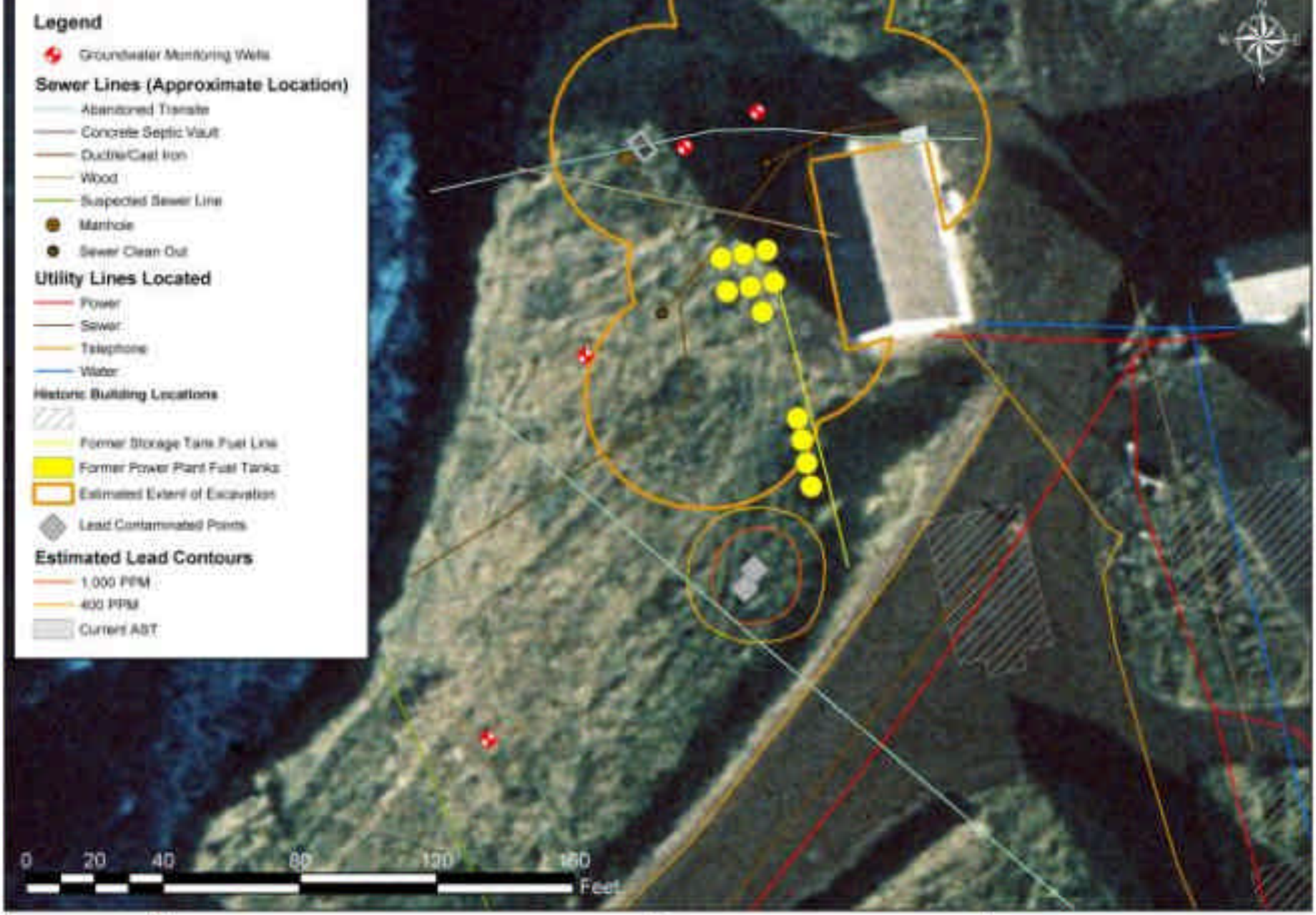

Figure 5

Site Utility Plan
TPA 9, Old Power Plant
St. George Island, Alaska

Source: Hart Crowser 1996 Expanded Site Inspection; Historic Aerial Photos; Pribilof Project Database

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PCS Disposal Update

Figure 2 - 1

PCS Transportation Route to New St. George Landfill

Source: Ikonos 2001 Satellite Image; Survey Data from Pribilof Project Database

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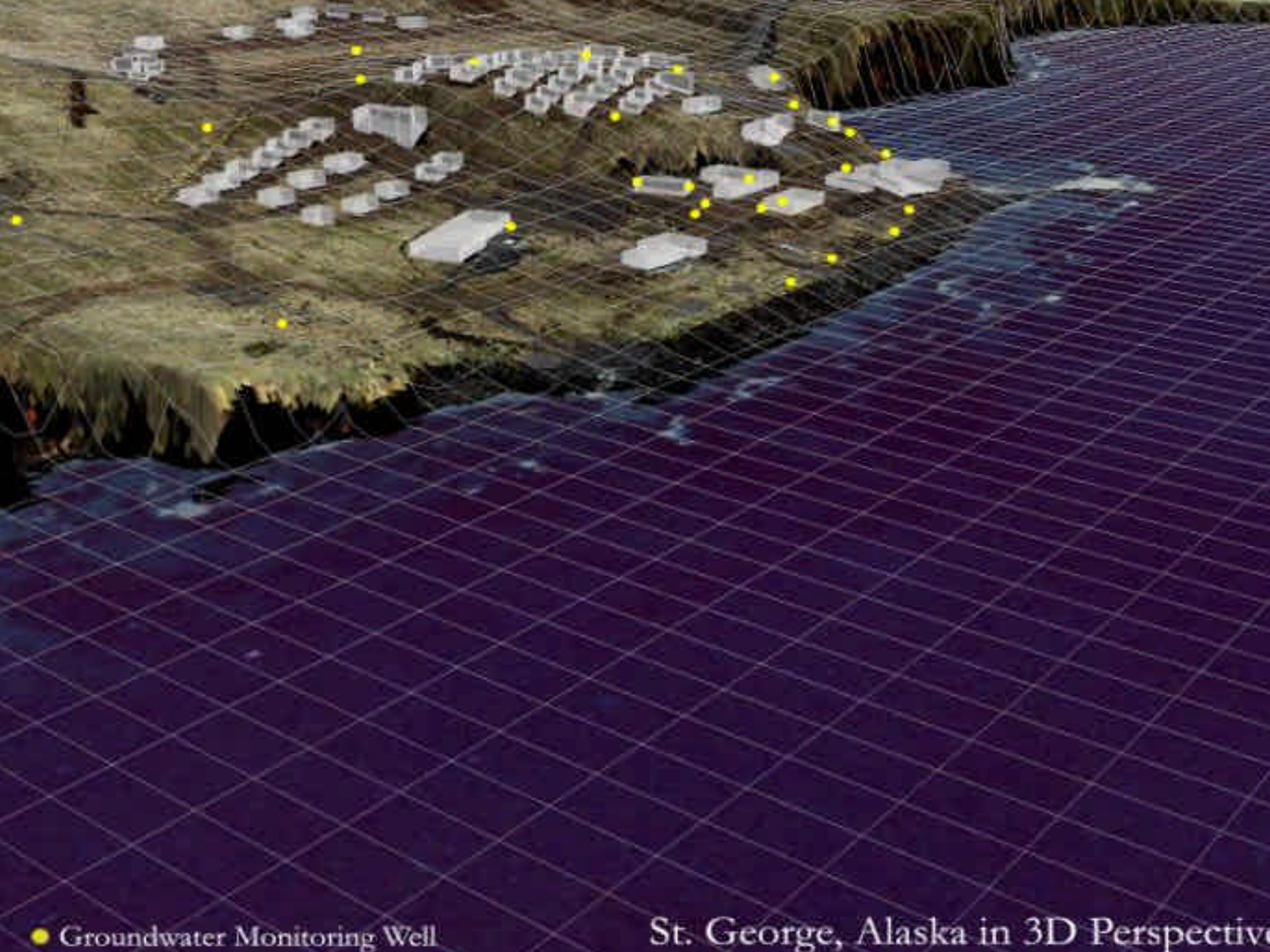
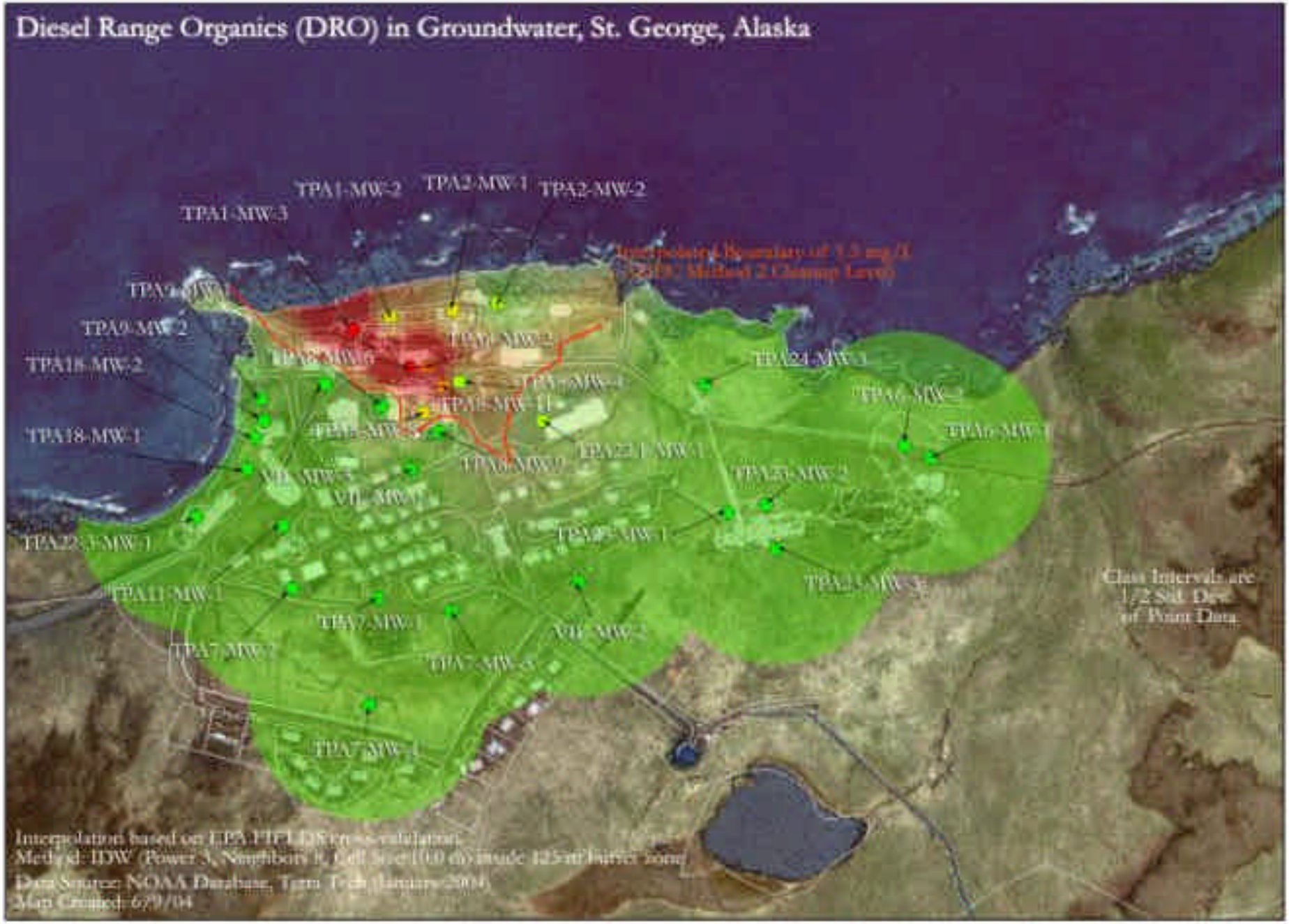
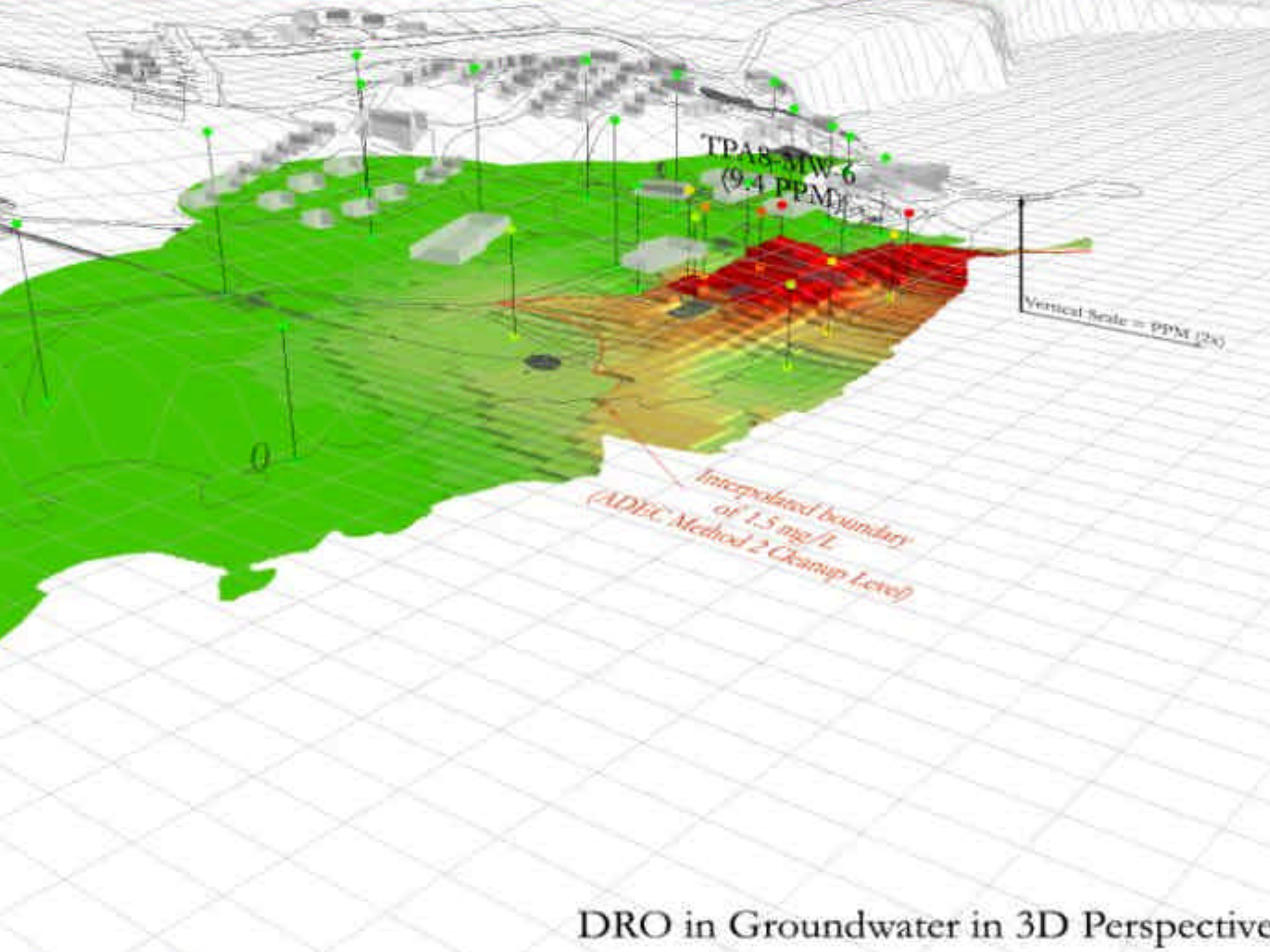
Groundwater Sampling Results



St. George, Alaska in 3D Perspective


Diesel Range Organics (DRO) in Groundwater, St. George, Alaska
TPA1-MW-2
TPA2-MW-1
TPA2-MW-2
TPA1-MW-3
TPA9-MW-2
TPA18-MW-2
TPA18-MW-1
TPA24-MW-3
TPA6-MW-2
TPA6-MW-1
TPA22-3-MW-1
TPA11-MW-1
TPA7-MW-1
TPA7-MW-2
TPA7-MW-3
TPA7-MW-4
Class Intervals are
1/2 Std. Dev.
of Point Data
Data Source: NOAA Database, Term Tech (January 2004)
Map Created: 6/29/04



DRO in Groundwater in 3D Perspective

St. Paul Critical Water Management Area (CWMA)

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Introduction

- What is a CWMA?
- What water management regulations are used?
- Why is the CWMA being established?
- What waters will be included?
- What is the process?
- How can the public participate?
- What is the end result?

Critical Water Management Area

A CWMA is a a geographic or hydrologic area that may be designated by the Commissioner of DNR if:

there is or maybe a water shortage due to drought, over appropriation, salt water intrusion or chemical or toxic contamination rendering the water source unusable.

REGULATIONS TO DEAL WITH CWMA

- 11 AAC 93.500. Initiating Designation Proceedings
- 11 AAC 93.510. Public Notice and Hearing
- 11 AAC 93.520. Department Order
- 11 AAC 93.530. Effect of the Order
- 11 AAC 93.540. Appeals

PUBLIC INTEREST CRITERIA

(a) The commissioner shall issue a permit if the commissioner finds that
(1) rights of a prior appropriator will not be unduly affected;
(2) the proposed means of diversion or construction are adequate;
(3) the proposed use of water is beneficial; and
(4) the proposed appropriation is in the public interest.
(b) In determining the public interest, the commissioner shall consider
(1) the benefit to the applicant resulting from the proposed appropriation;
(2) the effect of the economic activity resulting from the proposed appropriation;
(3) the effect on fish and game resources and on public recreational opportunities;
(4) the effect on public health;
(5) the effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation;
(6) harm to other persons resulting from the proposed appropriation;
(7) the intent and ability of the applicant to complete the appropriation; and
(8) the effect upon access to navigable or public water.

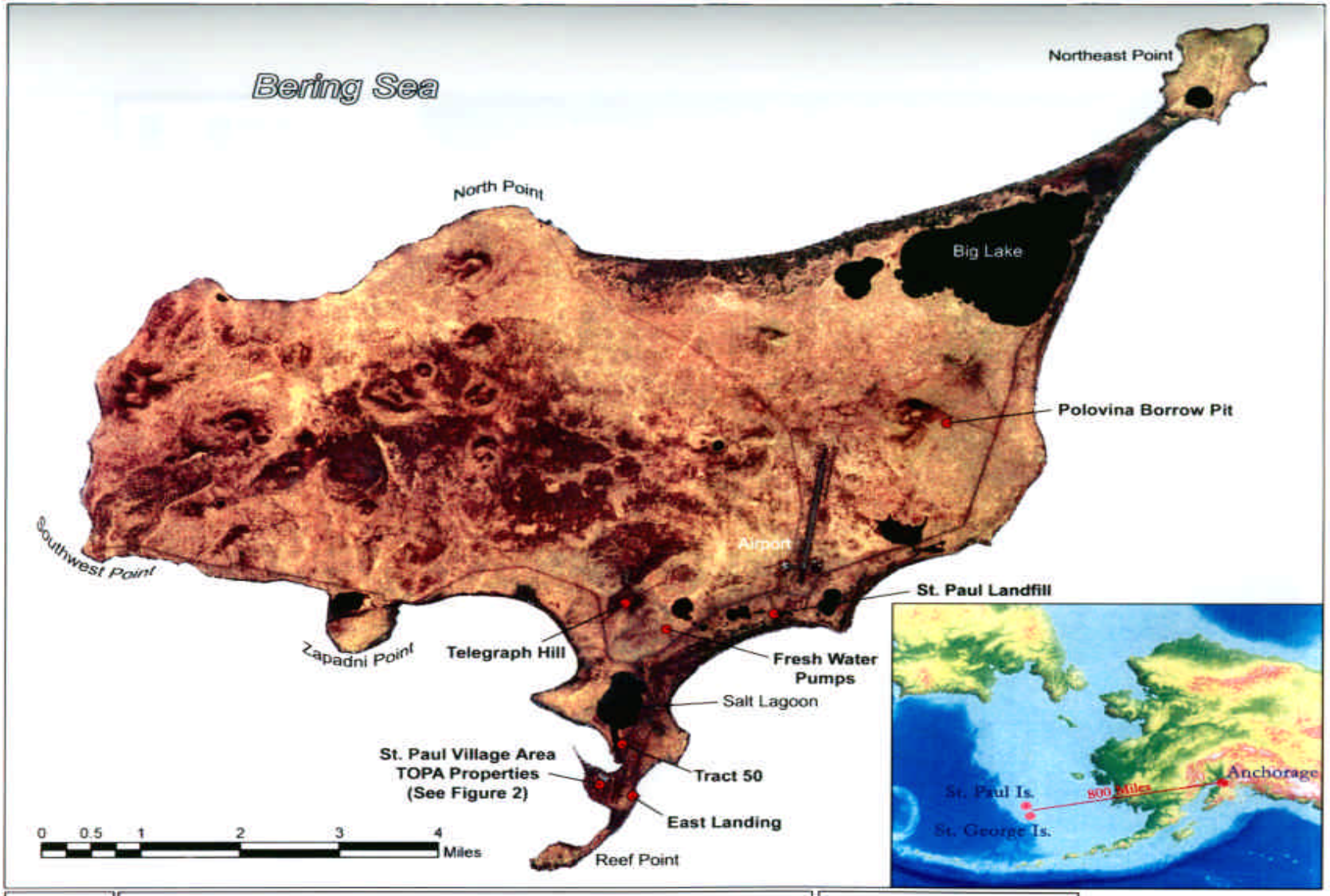

Figure 1	St. Paul Island Vicinity Map TOPA Property Locations St. Paul Island, Alaska	Source: Ikonos Satellite Imagery, 2001

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Why is this CWMA being proposed

- NOAA in conjunction with the Alaska Department of Environmental Conservation has requested that DNR establish a CWMA because of a contamination of the groundwater

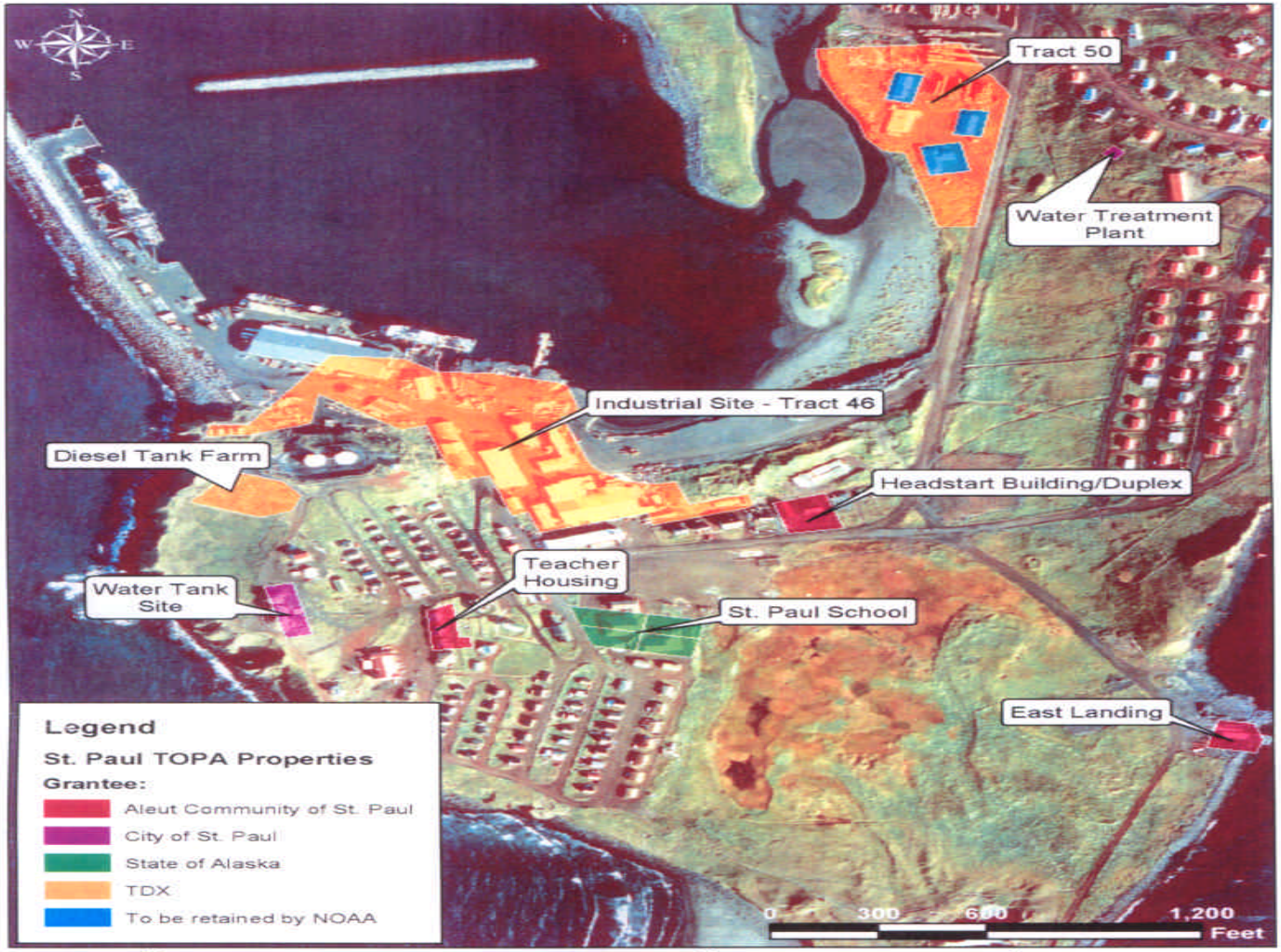

Figure 2	TOPA Property Locations St. Paul Village Area St. Paul, Alaska	Sources: TOPA Properties (NOAA Pribilof Islands ERP GIS 2004), Aerial Photo (Aeromap US 1996).

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What Waters will be included in this proposed CWMA

- The contamination is confined to the groundwater and at this point only the groundwater in the designated area will be included.

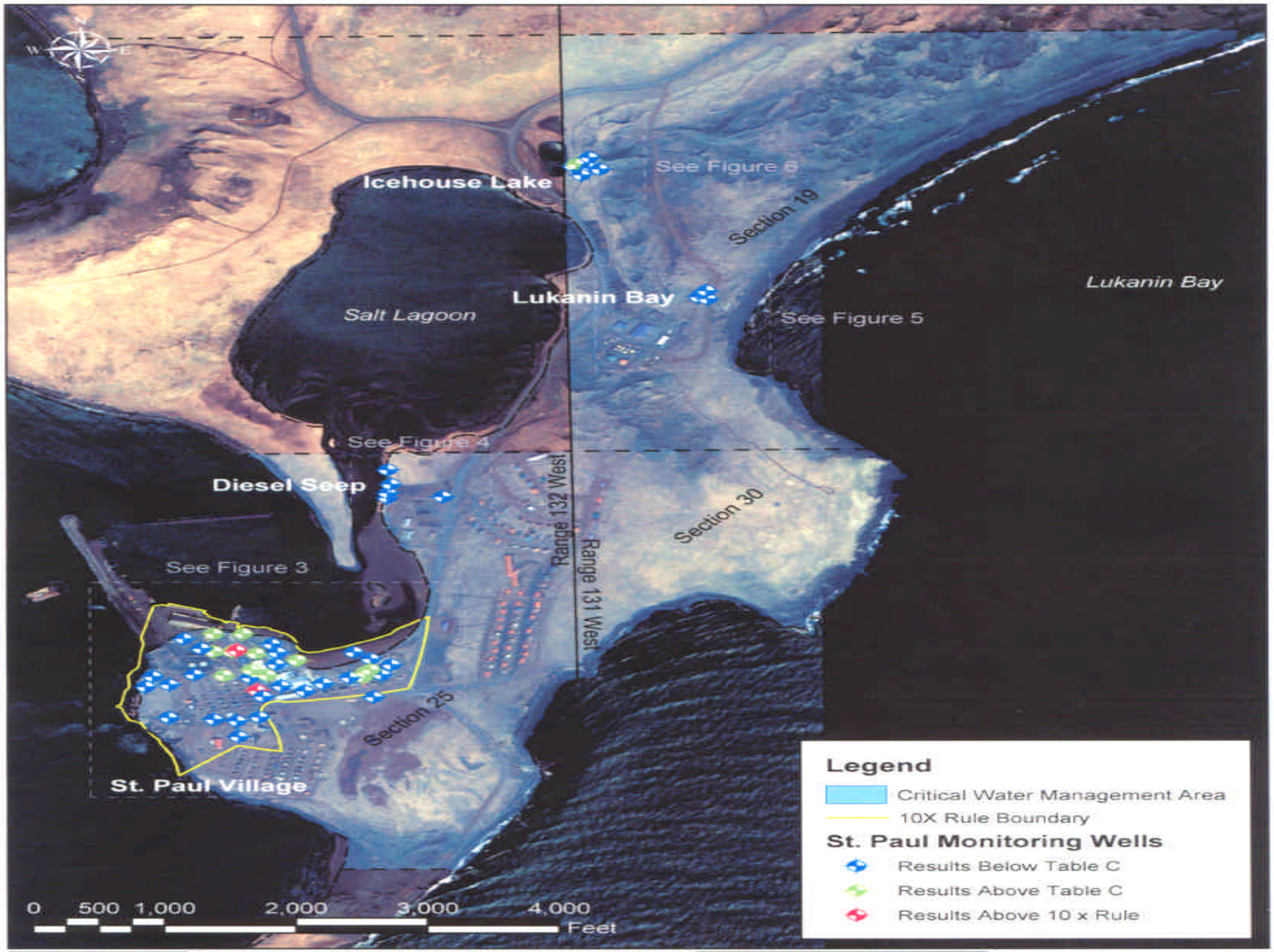

Figure 2	**Proposed Critical Water Management Area**	Source: Ikonos 2001 Satellite Image; Vector Data from Pribilof Project Office

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Figure 3	**St. Paul Village Groundwater Monitoring Network**	Source: Ikonos 2001 Satellite Image; Vector and Point Data from Pribilof Project Office

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The process for Creating a CWMA

- Public Notice

  Newspaper notice of the proposed designation once a week for four weeks;

  Certified mail notice to all landowners with the proposed CWMA; and

  Notice to state, federal and local governments and affected regional and village corporations notice.

The process for Creating a CWMA

- Public Hearing

  DNR is required to hold a public hearing in the area of the proposed CWMA and take written and oral comments.

  DNR must accept additional written comments submitted up to 30 days after the hearing.

Decision Process

- Written decision must include the reason for the designation of the CWMA;
- Boundary of the CWMA;
- Likelihood of continued problems due to the contamination;
- DNR must make a public interest determination under AS 46.15.080
- Decision to accept or stop accepting additional water rights in the area; and
- Publish in newspaper once a week of four weeks the decision to create a CWMA.

Effect of the CWMA Order

Upon adoption of the designation, the Commissioner will take the following actions:

- Deny acceptance of new water right applications;
- Elimination of water right exemptions (less than a significant amount of water);
- Establish the CWMA on State Status plats
- Record the decision in the state recorders office in the area of the CWMA;
- Take any other action to fully inform the public of the order; and
- Enforcement actions under 11 ACC 93.280 and 290 and AS 46.15.255 and .256.