

## **Request for Conditional Closure**

**Site:** The Saltwater Wells, also known as the National Oceanic and Atmospheric Administration (NOAA) Site 28 and Two Party Agreement (TPA) Site 9m. The site will be referred to as the Saltwater Wells herein.

**Location:** St. Paul Island, Alaska is approximately 800 miles southwest of Anchorage in the Bering Sea. On the island, the Salt Water Wells are 5 wells located at the northern extent of the old village area of St. Paul near the shores of the village harbor entrance, near the Former Diesel Power Plant. (Figures 1 and 2). The 5 wells are named and located as described below:

- West Old Sealing Plant (WOSP) well: 57 07 24.83 N 170 16 56.00 W
- East Old Sealing Plant (EOSP) well: 57 07 24.88 N 170 16 55.69 W
- West Decommissioned Power Plant (WDPP) well: 57 07 25.63 N 170 16 58.27 W
- East Decommissioned Power Plant (EDPP) well: 57 07 25.56 N 170 16 58.11 W
- Pump House-2 (PH-2) well: 57 07 24.91 N 170 16 58.35 W.

**Legal Property Description:** The Saltwater Wells are located in 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. The surface and subsurface is owned by the US Government.

**Type of Release:** NOAA has measured petroleum compounds at levels exceeding ADEC Table C cleanup levels in every one of these wells, with reports of free product having been found in the past in every well either as a floating layer or entrained in the groundwater, except PH-2 (ADEC 1998, CESI 1999). However, no free product has been found in these wells since 1999, except for a viscous paint like liquid found in EDPP in 1999 (Colombia Environmental Sciences, Inc. [CESI] 1999). NOAA believes that the presence of petroleum in groundwater mostly originates from releases at other adjacent facilities including underground storage tanks and associated piping systems or from surface spills. The viscous, paint like material found in the EDPP was removed in 2000, and empty containers of motor oil were retrieved from WOSP. However, the EDPP well may have been used for disposal of some wastes, and may be a source of groundwater contamination (CESI 1999, and CESI 2001).

## **History and Background:**

NOAA believes that several production wells existed within the City of St. Paul, originally intended as sources of both fresh and salt water. Only the 5 wells listed above have been proven to exist. The oldest of the wells may be two "Old Sealing Plant" wells, WOSP and EOSP, which may date from 1961 to 1962 based on dates found on the electrical panels inside the pump house that contains them. Two other wells (EDPP and WDPP) were installed in the fall of 1963 reportedly intended to provide water for processing fur seal pelts, or as coolant for the Decommissioned Power Plant that was in service at the time (CESI 1999). However, other documents suggest that EDPP and WDPP may have been used for fish processing water (NOAA 1990). NOAA reported that EDPP and WDPP had been abandoned in 1984 or 1985 because they became contaminated with diesel fuel (E&E 1993). The well in Pump House -2, known as PH-2 has not been described or a date of construction identified in available sources, but appears to be several decades old judging on the apparent age of the pump house itself. It is possible that this well was constructed in 1955, based on a photograph from that year that shows a drilling rig set

up in that area, said to be showing the installation one of the saltwater wells (CESI 1998).

**Summary of Site Investigations and Removals:**

August 1990, NOAA Environmental Compliance Survey: In early August 1990, NOAA Western Administrative Support Center Civil Engineer Steve Buckel P.E. conducted an environmental survey at the request of the NOAA National Marine Fisheries Service (NMFS) on St. Paul and St. George Islands. NMFS requested the survey after receiving letters from the City of St. George, the St. Paul Tanadgusix Corporation, and the St. George Tanaq Corporation. The letters had requested that NOAA address several sites that the letter writers believed to be in violation of environmental regulations. The resulting compliance survey report (NOAA 1990) stated that a city official, John R. Mercurief, had told NOAA that “two salt water wells near the power plant...had become contaminated with petroleum products and are no longer used.” The NOAA environmental compliance survey report went on to recommend site and risk assessments to determine if further action was necessary.

October 1992, Ecology and Environment Preliminary Assessment: On October 5 through October 8, 1992, Ecology and Environment, Inc. (E&E) conducted a Preliminary Assessment of several sites on St. Paul and St. George Islands, including the Contaminated Saltwater Wells Site (E&E 1993). The report describes WDPP and EDPP and a third salt water well said to exist to the north of the diesel power plant closer to the waterfront. It is not clear from the report whether any of these wells was actually visited or verified by E&E. The report states that the wells were abandoned in 1984 or 1985 because they had become contaminated with diesel fuel.

December 1998, ADEC Sampling of EOSP: On December 4, 1998, Ray Dronenburg of ADEC collected a sample from a saltwater well “near the power house” (ADEC 1998). From the description provided, the well sampled is most likely EOSP, though it is not identified as such. A later report by CESI states that the well sampled by ADEC was EOSP (CESI 1999). ADEC stated that the well they sampled was next to a second well, contained in a flat roofed, concrete building, one well to the west, and one well to the east side of the building, with a large pump installed in the west well. ADEC removed the pump and sampled the groundwater with a bailer, noting the presence of “approximately 2 to 3 inches of a black substance inside the bailer floating on approximately 12 inches of water.” ADEC collected a sample of this material. Although the ADEC report did not report the results of the analysis of the sample, CESI apparently obtained those results from ADEC and reported them in their 1999 site investigation (CESI 1999). Although CESI did not provide a reference from the actual document they obtained these results from, they stated that GRO was not measured, RRO was absent, and DRO was simply reported as “present”. The analytical results determined that two VOCs exceeded ADEC Table C cleanup levels (ethylbenzene and xylenes). The ADEC report also mentions that a city employee had informed Mr. Dronenburg that another salt water well existed at the “south east corner of the old power plant” and that “a wooden floor was built over the well”. ADEC did not attempt to inspect this well.

January 1999, CESI Site Investigation: NOAA’s contractor CESI conducted a site investigation on St. Paul Island from January 25 to February 4, 1999. The scope of work called for the contractor to measure the construction details and sample the water from two wells known to exist (WOSP and EOSP), and to search for five other wells thought to exist, measuring construction details and collecting groundwater samples at these wells if they were found. The site visit succeeded in locating the two known wells, and verifying the existence of 2 of the 3 suspected wells (WDPP and EDPP). However, CESI did not locate

several other saltwater wells that were suspected to exist in or near town. CESI sampled three of the four located wells and found them to contain petroleum product either entrained in the groundwater, or as a floating layer in one case (EDPP), where a viscous, paint like material was found floating in the well casing. A water sample was not collected from the EDPP. At least one petroleum constituent exceeded ADEC Table C cleanup levels in each of the three wells (Figure 3). Gasoline range organics (GRO) in water ranged from undetected to 2.6 milligrams/liter (mg/l), diesel range organics (DRO) in water ranged from 2.7 to 10.0 mg/l, and residual range organics (RRO) in water ranged from not detected to 3.1 mg/l. Floating product sampled from EDPP was found to contain 59,000 mg/l DRO and 510,000 mg/l RRO. At least 2 volatile organic compounds (VOCs) exceeded ADEC Table C cleanup levels in three of the wells.

2000-2001, CESI Site Characterization: CESI (2001) conducted a site characterization on St. Paul Island during the field seasons of 2000 and 2001, focusing on Tract 46 (TPA 9). The report describes an interim action conducted to remove the paint like product found in EDPP, and provides data from samples collected in four of the saltwater wells, EOSP, WOSP, EDPP, and PH-2 (Figure 3).

**Summary of Applied Cleanup Levels:**

Contamination associated with the saltwater wells will be addressed by NOAA along with the overall groundwater contamination of Tract 46. The objective of this report is to document the history, analytical sampling findings, and physical decommissioning of saltwater wells EOSP, WOSP, WDPP, EDPP, and PH-2.

**Summary of Decommissioning Actions:**

TTEMI decommissioned wells EOSP, WOSP, EDPP, and WDPP on September 26, 2003, and well PH-2 on 9/23/04, by filling the casings with bentonite chips or powdered bentonite. The Well Abandonment Forms documenting these procedures were submitted to the Alaska Department of Natural Resources, Drinking Water Program office on February 11, 2005 by Tetra Tech, and are included in Appendix A.

**Recommended Action:**

In accordance with paragraph 59 of the TPA (NOAA 1996), NOAA requests written confirmation that NOAA completed all appropriate corrective action, to the maximum extent practicable, at the Saltwater Wells, NOAA Site 28/TPA Site 9m, St. Paul Island, Alaska in accordance with the Agreement and that ADEC grant a conditional closure that will not require further remedial action from NOAA. 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). 1998. *Memorandum Salt Water Wells; St. Paul Island*. December 7. Ray Dronenburg. 1998.

Colombia Environmental Sciences, Inc.(CESI). 1998. Preliminary Assessment (PA) For St. Paul Former Fish Processing Plant and Gas Station Additional UST St. Paul Island, Alaska. January.

CESI. 1999. Site Investigation Report, St. Paul Groundwater and Potential Source Investigation St. Paul Island, Alaska. March.

**Request for Conditional Closure  
Saltwater Wells, NOAA Site 28/TPA Site 9m  
St. Paul Island, Alaska**

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CESI. 2001. Draft Site Characterization Report, Tract 46 and Vicinity (TPA Site 9) St. Paul Island, Alaska. May 3.

E&E. 1993. Preliminary Assessment of the National Oceanic and Atmospheric Sites, Pribilof Islands, Alaska. Ecology and Environment, Inc. February.

National Oceanic and Atmospheric Administration (NOAA). 1990. Environmental Compliance Survey Report Pribilof Islands, Alaska. National Marine Fisheries Service. S Buckel P.E. August 31.

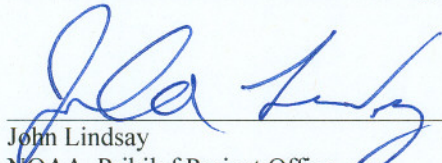
NOAA. 1996. *Pribilof Islands Environmental Restoration Two Party Agreement*, Attorney General's Office File No. 66 1-95-0126. National Oceanic and Atmospheric Administration. January 26, 1996.

NOAA. 2004. Final Corrective Action Report TPA Site 9c/Site 18 - Decommissioned Power Plant St. Paul Island, Alaska. December 21.

Request for Conditional Closure  
Saltwater Wells, NOAA Site 28/TPA Site 9m  
St. Paul Island, Alaska

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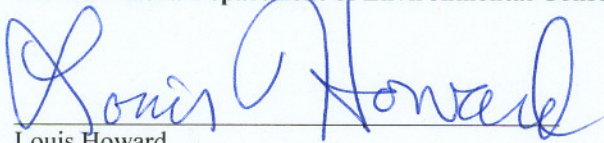
**For the National Oceanic and Atmospheric Administration**

  
\_\_\_\_\_  
John Lindsay  
NOAA, Pribilof Project Office

3/18/05  
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 Saltwater Wells, NOAA Site 28/TPA Site 9m, St. Paul Island, Alaska, 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  
Alaska Department of Environmental Conservation  
Remedial Project Manager

3/22/05  
Date

**FIGURES**

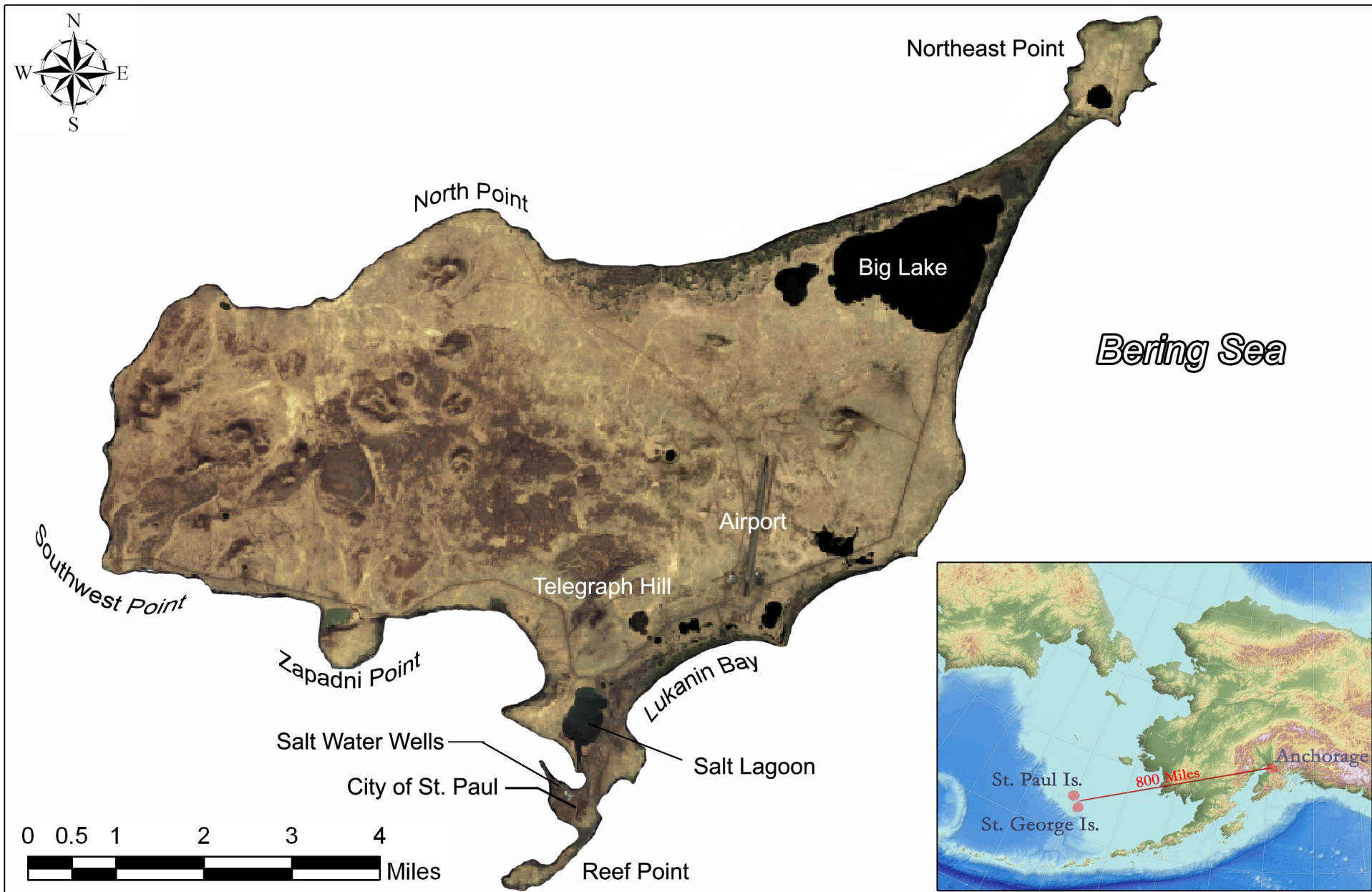


Figure  
1

St. Paul Island Vicinity Map  
Salt Water Wells  
NOAA Site 28/TPA Site 9m  
St. Paul Island, Alaska

Source: Ikonos Satellite  
Imagery, 2001





Figure  
2

Legal Property Description Map  
Saltwater Wells  
NOAA Site 28/TPA Site 9m  
St. Paul Island, Alaska

Source: BLM Tracts (BLM MTPs 1983), Aerial Photo (Aeromap US 1996)







Figure  
3

Salt Water Well 2000 Sample Results  
NOAA Site 28/TPA Site 9m  
St. Paul Island, Alaska

Source: Aerial Photograph (Aeromap US 1996); CESI Draft Site Characterization Report Tract 46 & Vicinity (TPA Site 9) Dec. 16, 2001



**Request for Conditional Closure  
Saltwater Wells, NOAA Site 28/TPA Site 9m  
St. Paul Island, Alaska**

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**APPENDIX A  
WELL DECOMMISSIONING FORMS**

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### WELL ABANDONMENT FORM

CONTRACTOR/AGENT: ITEMI REGISTRATION NO. \_\_\_\_\_

DATE: 9/26/03 TYPE OF SITE OR PROGRAM: \_\_\_\_\_

1. WELL LOCATION: (Show sketch of location on back of this form.) Salt water well

Municipality \_\_\_\_\_ County \_\_\_\_\_

Quadrangle \_\_\_\_\_

(Road, community, subdivision, lot no.)

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

2. OWNER AND ADDRESS: WDPP

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, flat

4. USE OF WELL: \_\_\_\_\_

5. DEPTH OF WELL: 35.5'

DIAMETER OF WELL: 8" cement

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

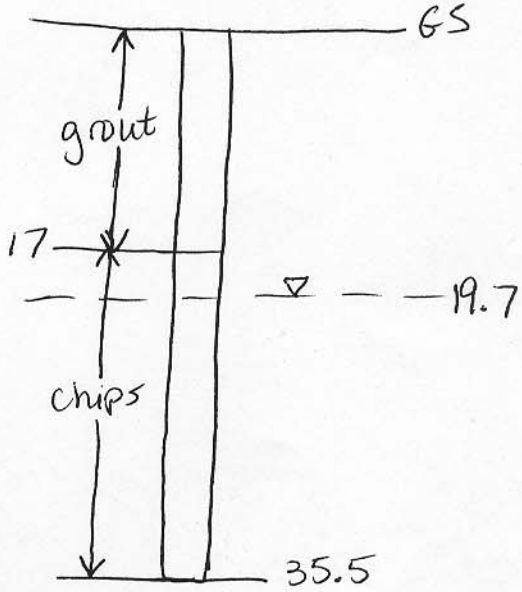
6. AMOUNT OF CASING REMOVED: \_\_\_\_\_

DIAMETER: \_\_\_\_\_

see reverse

7. SEALING MATERIAL:  
bags (94 lb): \_\_\_\_\_  
gals of water: \_\_\_\_\_  
yds of sand: \_\_\_\_\_

Bentonite neat cement chips 9 bags  
Bentonite sand grout cement 1 1/2 bags



OTHER MATERIAL: \_\_\_\_\_ amount: \_\_\_\_\_

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

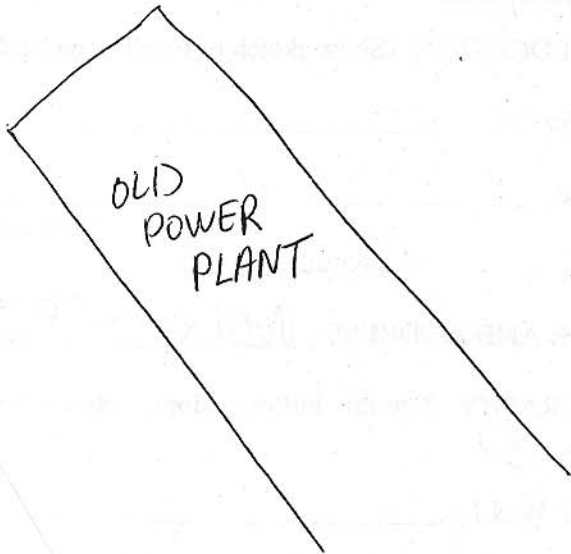
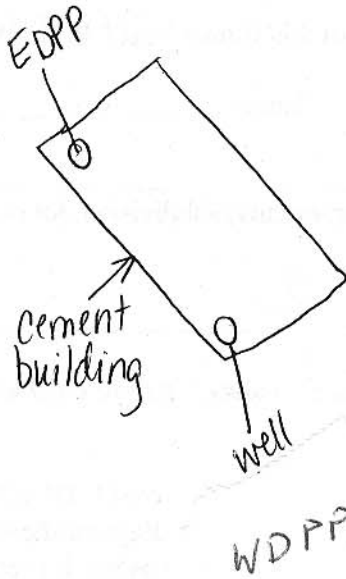
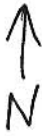
paired

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 26<sup>th</sup> day of the month of September, 2003, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: Maaron Gelinias 2. Signature of Participant: \_\_\_\_\_

Date: \_\_\_\_\_ Address: \_\_\_\_\_ Date: \_\_\_\_\_ Address: \_\_\_\_\_

WDPP



10/10

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: TIEMI REGISTRATION NO. \_\_\_\_\_

EDPP

DATE: 9/26/03 TYPE OF SITE OR PROGRAM: \_\_\_\_\_

1. WELL LOCATION: (Show sketch of location on back of this form.) Salt water well

Municipality \_\_\_\_\_ County \_\_\_\_\_

Quadrangle \_\_\_\_\_ (Road, community, subdivision, lot no.)

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

2. OWNER AND ADDRESS: EDPP

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, flat

4. USE OF WELL: \_\_\_\_\_

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 36.45

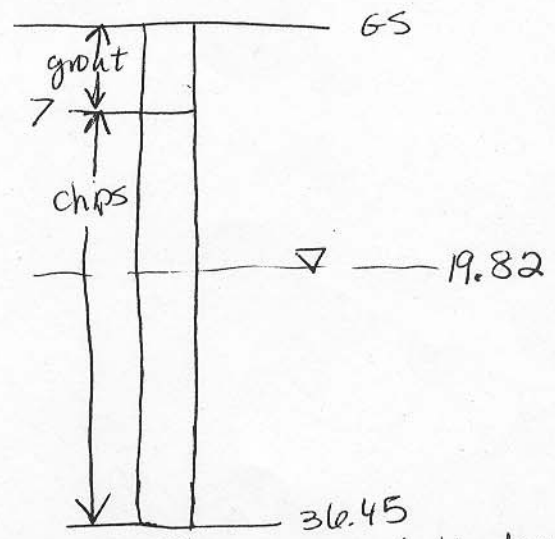
DIAMETER OF WELL: 8" cement

6. AMOUNT OF CASING REMOVED: —

DIAMETER: —

7. SEALING MATERIAL: bags (94 lb): \_\_\_\_\_ gals of water: \_\_\_\_\_ yds of sand: \_\_\_\_\_

Bentonite neat chips cement 14 1/2 bags Bentonite sand grout cement 3 1/2 bags



OTHER MATERIAL: \_\_\_\_\_ amount: \_\_\_\_\_

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL: poured

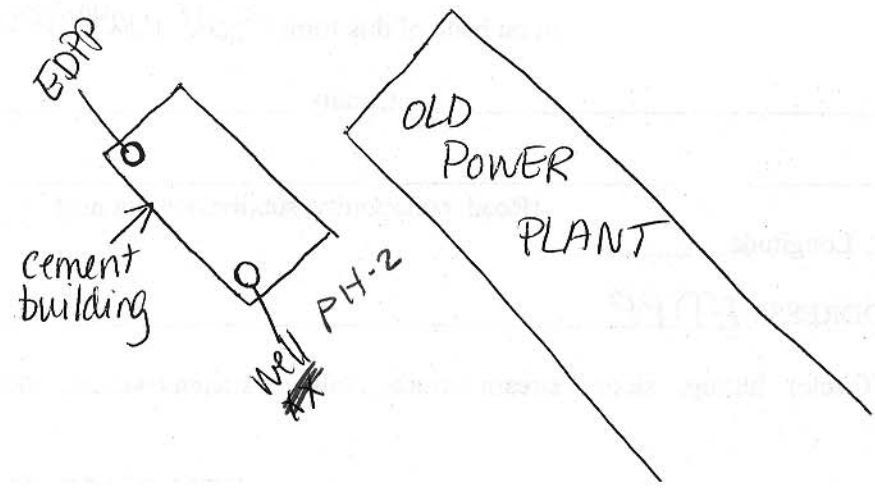
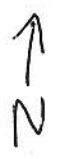
Note: chipped to 18', 2 bags grout displaced added 5 more bags of chips to 7'

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 26<sup>th</sup> day of the month of September, 2003, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: Sharon Gilinas 2. Signature of Participant: \_\_\_\_\_

Date: 9/26/03 Address: \_\_\_\_\_ Date: \_\_\_\_\_ Address: \_\_\_\_\_

# EDPP



WELL ABANDONMENT FORM

CONTRACTOR/AGENT: TetraTech EML REGISTRATION NO. \_\_\_\_\_

DATE: 8/6/04 TYPE OF SITE OR PROGRAM: \_\_\_\_\_

1. WELL LOCATION: (Show sketch of location on back of this form.) Well PH-2

Municipality St. Paul, Alaska County \_\_\_\_\_

Quadrangle \_\_\_\_\_

(Road, community, subdivision, lot no.)

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

2. OWNER AND ADDRESS: NOAA PPO,

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, flat

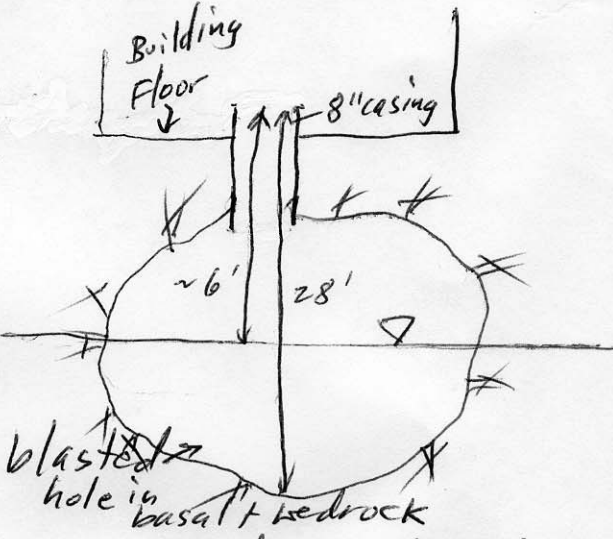
4. USE OF WELL: salt water supply

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: ~28' DIAMETER OF WELL: 8"

6. AMOUNT OF CASING REMOVED: 0 DIAMETER: \_\_\_\_\_  
well is in building; no casing removal attempted

7. SEALING MATERIAL:	bags (94 lb):	neat cement	sand cement
<u>Wyoming Bentonite 3/8" chips (hole plug)</u>	<u>53 bags</u>	_____	_____
OTHER MATERIAL:	amount:	_____	_____
<u>bentonite chips</u>	_____	_____	_____



8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:  
Well depth measured at 28' however after 18 bags, depth was up to 26'. There may have been an obstruction or centralizer at 28' or well is blasted as shown

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 6<sup>th</sup> day of the month of August, 2004, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: [Signature] 2. Signature of Participant: \_\_\_\_\_

Date: 9/23/04 Address: TetraTech EML  
6100 219th St SW  
Suite 550  
Mountlake Terr, WA  
98043

10/10

### WELL ABANDONMENT FORM

CONTRACTOR/AGENT: ITEMI REGISTRATION NO. \_\_\_\_\_ EOSP

DATE: 9/26/03 TYPE OF SITE OR PROGRAM: \_\_\_\_\_

1. WELL LOCATION: (Show sketch of location on back of this form.) Salt Water Wells

Municipality \_\_\_\_\_ County \_\_\_\_\_

Quadrangle \_\_\_\_\_  
(Road, community, subdivision, lot no.)

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

2. OWNER AND ADDRESS: EOSP

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, (flat)

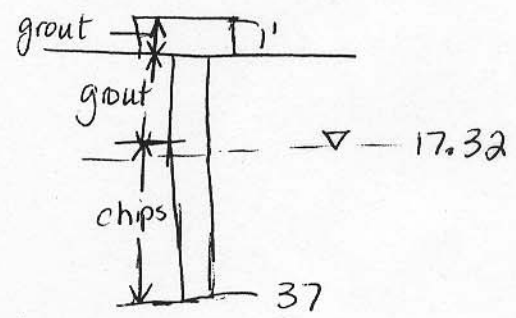
4. USE OF WELL: \_\_\_\_\_

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 36.7 DIAMETER OF WELL: 12" cement

6. AMOUNT OF CASING REMOVED: \_\_\_\_\_ DIAMETER: \_\_\_\_\_

7. SEALING MATERIAL:	bags	Bentonite	Bentonite
	(94 lb):	<u>near</u>	<u>sand</u>
	gals of water:	<u>chips</u>	<u>grout</u>
	yds of sand:	<u>cement</u>	<u>cement</u>
		<u>13 1/2 bags</u>	<u>3 bags</u>
		_____	_____
		_____	_____



OTHER MATERIAL: \_\_\_\_\_ amount: \_\_\_\_\_

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Poured

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 26<sup>th</sup> day of the month of September, 2003, with our active participation and that we are qualified to participate in such abandonment actions.

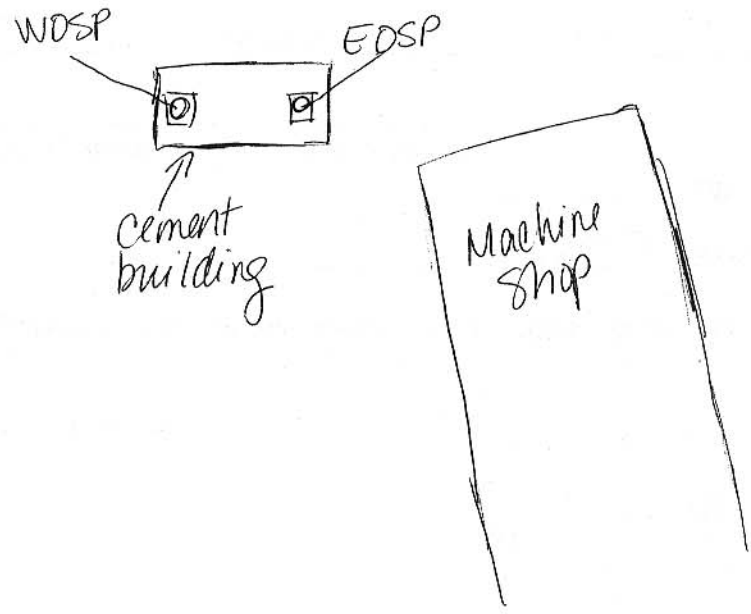
1. Signature of Participant: Sharon Gelinias 2. Signature of Participant: \_\_\_\_\_

Date: 9/26/03 Address: \_\_\_\_\_ Date: \_\_\_\_\_ Address: \_\_\_\_\_



# EOSP

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### WELL ABANDONMENT FORM

CONTRACTOR/AGENT: ITEMI REGISTRATION NO. \_\_\_\_\_

WOSP

DATE: \_\_\_\_\_ TYPE OF SITE OR PROGRAM: \_\_\_\_\_

1. WELL LOCATION: (Show sketch of location on back of this form.) Salt Water Wells

Municipality \_\_\_\_\_ County \_\_\_\_\_

Quadrangle \_\_\_\_\_  
(Road, community, subdivision, lot no.)

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

2. OWNER AND ADDRESS: WOSP

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, (flat)

4. USE OF WELL: \_\_\_\_\_

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 19.8

DIAMETER OF WELL: 12" cement

6. AMOUNT OF CASING REMOVED: \_\_\_\_\_

DIAMETER: \_\_\_\_\_

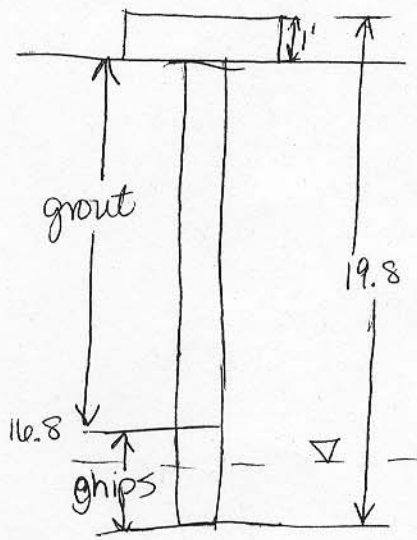
7. SEALING MATERIAL:

bags (94 lb):  
gals of water:  
yds of sand:

Bentonite neat chips cement  
5 bags

Bentonite sand grout cement  
2 bags

OTHER MATERIAL: \_\_\_\_\_ amount: \_\_\_\_\_



8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

poured

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 20<sup>th</sup> day of the month of September, 2003, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: Maaron Gelinas 2. Signature of Participant: \_\_\_\_\_

Date: 9/26/03 Address: \_\_\_\_\_ Date: \_\_\_\_\_ Address: \_\_\_\_\_

WOSP

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N

