

# INSPECTION REPORT

## --PEBBLE PROJECT--

**Inspection Date:** 7-8 July 2010  
**Weather:** Breezy, occasional showers, 50-60°F  
**Operator Contact:** Gernot Wober, PLP  
**Agency Personnel:** Jim Vohden-DNR, Gay Harpole-ADEC, Kate Malloy-ADF&G  
**Inspection Objectives:** Site visit to Pebble Project to inspect additional unauthorized water withdrawals not identified in the Settlement Agreement dated 11 Feb 2010.

### BACKGROUND

On 15-16 June 2010 an interagency team inspected 46 drill holes, identified in Attachment A of the Settlement Agreement dated 11 February 2010 between the State of Alaska and Pebble Limited Partnership (“PLP”). While preparing for the June 2010 field inspection it came to the attention of DNR that there had been other unauthorized withdrawals from water sources near an additional 19 drill holes that were not identified in the Settlement Agreement. This report addresses specifically these nineteen drill hole sites. There were nine unique water sources inspected to determine if any adverse environmental effects resulted from the unauthorized water withdrawals.

### METHODS/LOGISTICS

A field inspection was carried out on 7 and 8 July 2010 where each of the nine identified water withdrawal sites was visited. Three State agencies took part in the inspection: the Alaska Departments of Fish & Game, Natural Resources, and Environmental Conservation. On this trip, the three representatives visited each site together along with a bear guard assigned by PLP.

The latitude and longitude of the drill holes and water sources were provided by PLP. These locations were plotted on maps prior to field work. GPS coordinates are in the NAD83 datum; site locations were recorded in decimal degrees. Coordinates were downloaded to handheld GPS units which were used to locate the sites in the field. Any drill holes visited were recorded as the number of the drill hole (i.e. 6789) whereas the analogous water source was recorded by adding a “W” after the drill hole number (i.e. 6789W). Dedicated helicopter support was provided by PLP.

At a given site, the helicopter would land in the proximity of the water source to be inspected. The coordinates would then be located on foot. Although the precise location of the majority of the water sources is not defined in the field with a stake or a monument, the GPS coordinates led us to seemingly appropriate water sources. Once the GPS location was determined in the field, photographs were taken and field observations were noted on the field form (Appendix C) with appropriate information to describe the site. Each field form includes the actual GPS coordinates from the location on the ground.

## RESULTS/DISCUSSION

Nineteen new drill sites were initially identified for this inspection. Of these, eight utilized water sources which were evaluated during the June 2010 inspection and were therefore not revisited. (see Appendix A Table 2).

Additional background to Table 2:

- During the June 2010 inspection a specific finding on the water source for drill hole 8403 states: “No surface water source located here. This was found to be the location of drill hole 7365 which is capped with a nut and valve, indicative that the drill hole was used as the water source for drill hole 8403.”
- The source of water for drill holes 7370, 7371, 7373, 7385, 7389, and 7393 is drill hole 7365 referenced above. The water source is groundwater and not surface water.

Of the remaining eleven drill sites, drill holes 7365 and 7382 drew water from the same source. Similarly, drill holes 7359 and 7369 also drew water from the same source. Thus there were nine unique water sources examined during this field inspection (see Appendix A Table 1).

The agency team spent one day in the field locating and documenting the water sources. Documentation included photographing the vicinity of the unauthorized water sources and field observations of the site conditions.

As with the first review of unauthorized withdrawal sites, the field personnel found no adverse environmental effects as a result of the unauthorized withdrawal of water at any of the sites. At most water source locations there was no indication of any site disturbance, and no visual indication that there was any more or any less water there than should be there naturally.

Specific findings:

- The source of water for drill hole 8405 is drill hole 6344 which is capped with a nut. The water source is groundwater, not surface water.
- The site of water withdrawals for drill holes 7387 and 7376 were at different locations on the same pond and were inspected as separate sites for the purpose of this field report. Drill holes 7359 and 7369 drew water from this same pond, but at a third location.

## CONCLUSION

A field investigation was carried out on the water sources for 19 drill holes identified as supplementary to the February 2010 Settlement Agreement between the State and PLP. From this group of 19 drill holes, there were 11 drill holes with 9 unique water sources that had not been previously inspected. Several drill holes utilized the same water source. Field personnel from the Alaska Departments of Fish & Game, Natural Resources, and Environmental Conservation conclude that there do not appear to be any adverse environmental effects caused by the unauthorized water withdrawals.

Appendix A.  
Unauthorized water source locations and associated drillhole ID

**Appendix A. Nineteen Drillholes not identified in the 2010 Settlement Agreement that utilized water from unpermitted sources.**

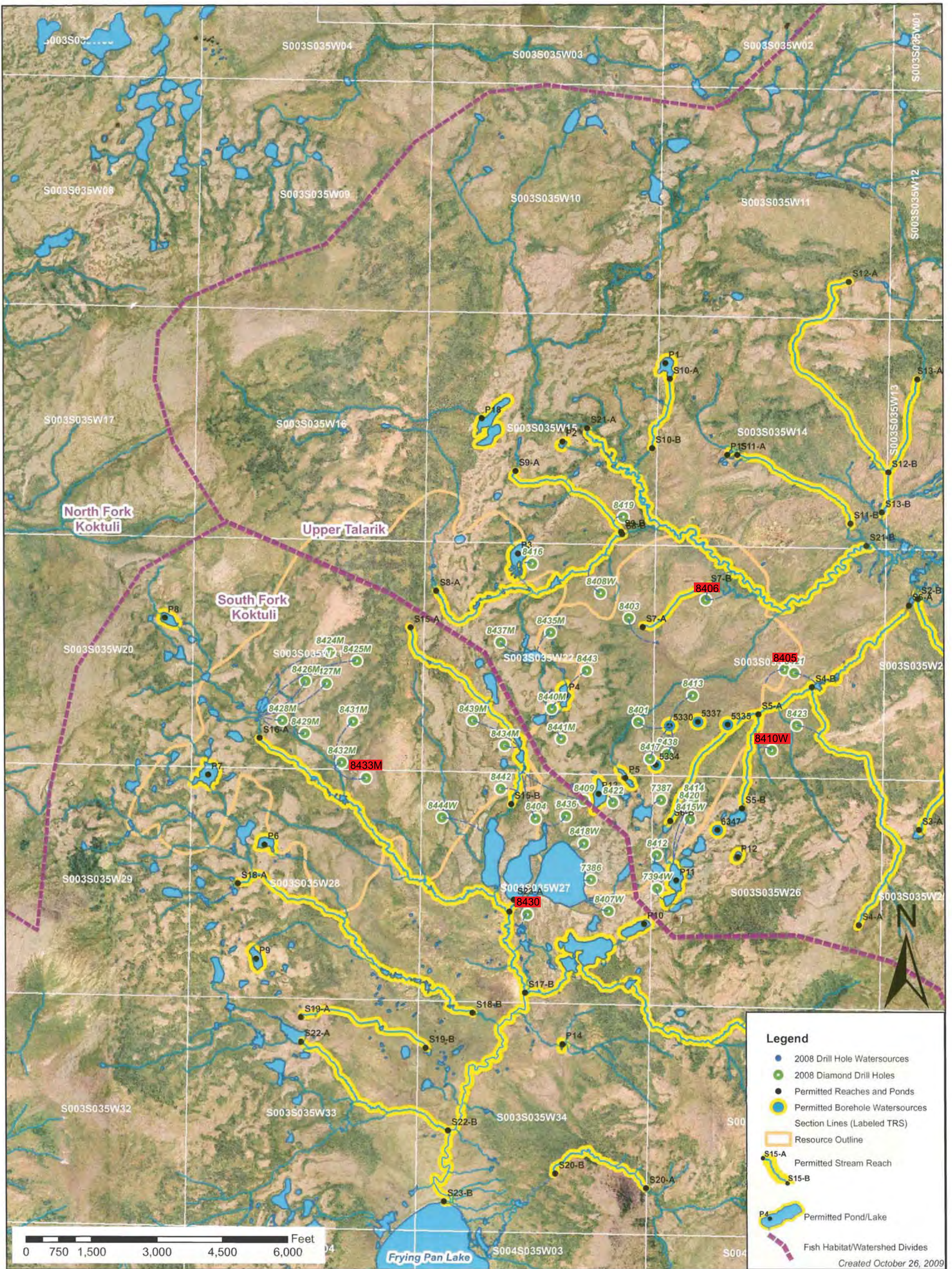
Table 1. Unauthorized water source locations and associated drillhole ID's inspected July 7-8, 2010.

<b>Drilling Year and Drainage</b>	<b>Drillhole ID</b>	<b>Water Source Latitude (field location)</b>	<b>Water Source Longitude (field location)</b>	<b>Water Source Photos</b>
2008 Upper Talarik	8406	59.90688N	155.25201W	Figures 1, 2, 3, 4
2007 Upper Talarik	7365	59.90347N	155.26168W	Figures 5, 6, 7, 8
2007 Upper Talarik	7382			
2008 Upper Talarik	8405	59.90098N	155.24762W	Figures 9, 10, 11
2008 Upper Talarik	8410	59.89692N	155.24843W	Figures 12, 13, 14, 15
2007 Upper Talarik	7387	59.89325N	155.26207W	Figures 16, 17, 18, 19
2007 Upper Talarik	7376	59.89253N	155.26242W	Figures 20, 21, 22, 23
2007 Upper Talarik	7359	59.89256N	155.26384W	Figures 24, 25, 26, 27
2007 Upper Talarik	7369			
2008 S. Fork Kaktuli	8430	59.88559N	155.27748W	Figures 28, 29, 30, 31
2009 S. Fork Kaktuli	9451	59.87320N	155.29503W	Figures 32, 33, 34, 35

Table 2. Additional unauthorized water source locations which were previously inspected as part of the 15-16 June 2010 site visit.

<b>Drilling Year and Drainage</b>	<b>Drillhole ID</b>	<b>Water Source Latitude (field location)</b>	<b>Water Source Longitude (field location)</b>	<b>2010 Settlement Drillholes which used this same water source</b>
2007 Upper Talarik	7370	59.90347N	155.26170W	8403
2007 Upper Talarik	7371			
2007 Upper Talarik	7373			
2007 Upper Talarik	7385			
2007 Upper Talarik	7389			
2007 Upper Talarik	7393			
2008 S. Fork Kaktuli	8433	59.89522N	155.30097W	8431, 8432
2008 S. Fork Kaktuli	9461	59.88987N	155.33177W	9457

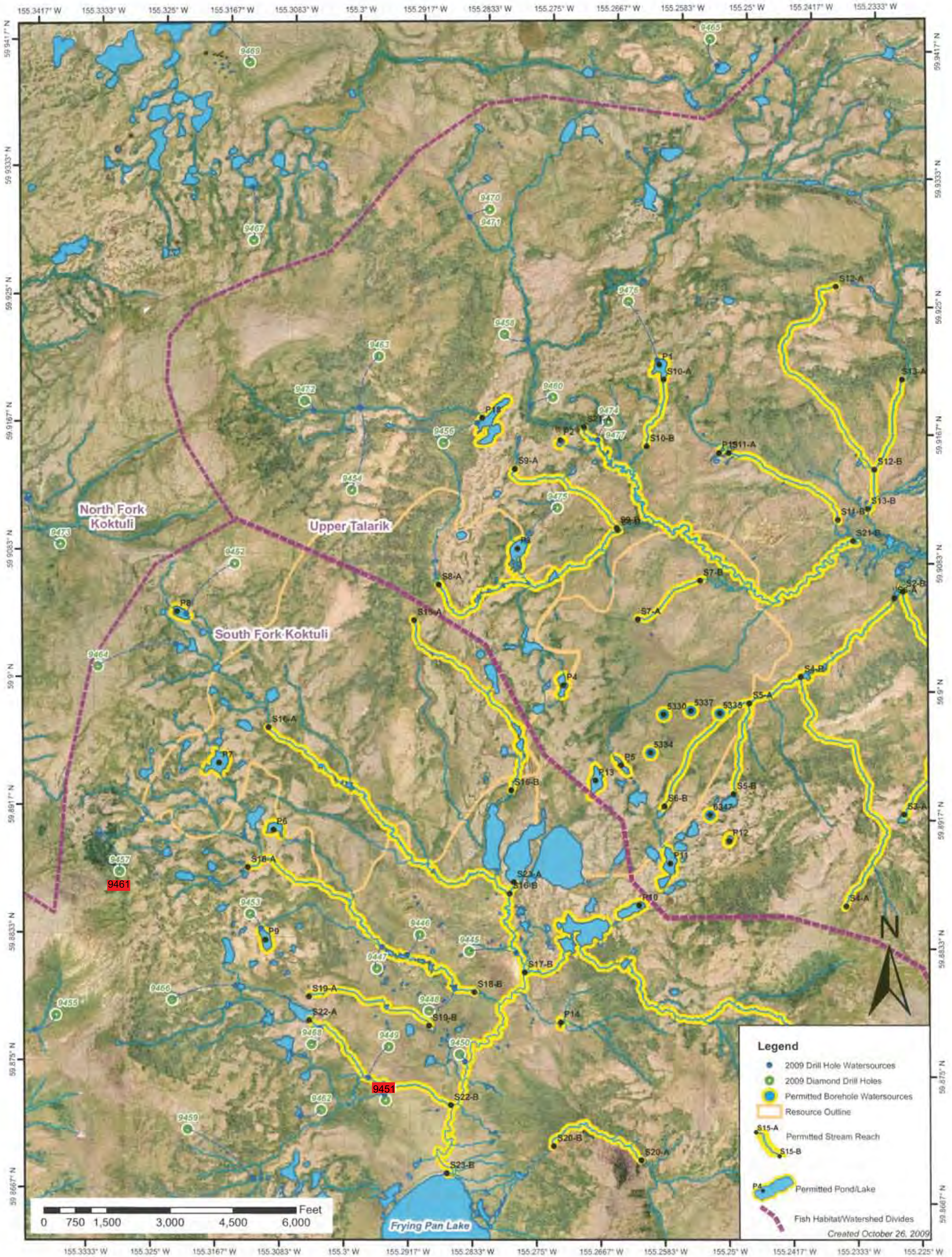




## Pebble 2008 Diamond Drill Holes and Watersources

xxxx - Unpermitted Water Sources / Drill Holes

Map 3 of 3: Drill holes from July 2010 inspection highlighted in red.



### Pebble 2009 Diamond Drill Holes and Watersources

xxxx - indicates Unpermitted Water Sources / Drill Holes

Appendix B  
Photos from field reconnaissance of water source locations.  
All GPS coordinates are reported in NAD83.





Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8

Water Source for Drillhole: 8405

Location: 59.90098N 155.24762W



Figure 9



Figure 10



Figure 11

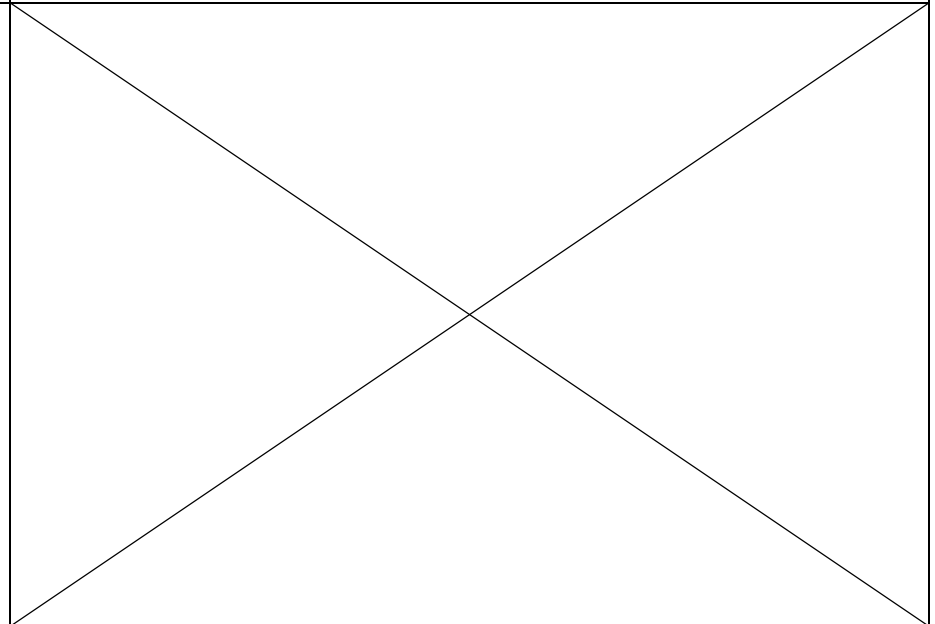




Figure 12



Figure 13



Figure 14



Figure 15

Water Source for Drillhole: 7387

Location: 59.89325N 155.26207W



Figure 16



Figure 17



Figure 18



Figure 19

Water Source for Drillhole: 7376

Location: 59.89253N 155.26242W



Figure 20



Figure 21



Figure 22



Figure 23



Figure 24



Figure 25



Figure 26



Figure 27

Water Source for Drillhole: 8430

Location: 59.88559N 155.27748W



Figure 28



Figure 29



Figure 30



Figure 31





Figure 32



Figure 33



Figure 34



Figure 35

Appendix C.  
Field forms utilized during site inspections.

# State of Alaska

## Pebble Project Unpermitted Water Withdrawals Site Inspection

Circle appropriate items, add detailed text where necessary

JULY

June 2010 Field Form

Drillhole #: 8406

Today's Date: 7/8/10

Time: 10:37 AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

### Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

### Location of actual water source

GPS lat/long: 59.90688 ° N 155.25201 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

### Site Observations

Drillhole			comments
Post/marker in place?	Yes	No	
Is site reclaimed?	Yes	No	
Revegetation growing?	Yes	No	
Casing visible?	Yes	No	
Is site clean?	Yes	No	
Any evidence of spills or contamination?	Yes	No	(if yes, explain in detail)

### Water Source

Source description: pond flowing water other (specify):

Approximate dimensions (diameter for pond, width and depth for flowing water): 3ft across

Vegetation at source vicinity: none grass bushes other (specify): < 6" deep

Aquatic life at water source: none seen present (list)

Any disturbance at water source? none

### Other Comments

# State of Alaska

## Pebble Project Unpermitted Water Withdrawals Site Inspection

Circle appropriate items, add detailed text where necessary

JV  
June 2010 Field Form

Drillhole #: 7365  
7382 Today's Date: 7/8/10 Time: 10:47 AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

### Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

### Location of actual water source

GPS lat/long: 59.90347 ° N 155.26168 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

### Site Observations

Drillhole			comments
Post/marker in place?	Yes	No	
Is site reclaimed?	Yes	No	
Revegetation growing?	Yes	No	
Casing visible?	Yes	No	
Is site clean?	Yes	No	
Any evidence of spills or contamination?	Yes	No	(if yes, explain in detail)

### Water Source

Source description: pond flowing water other (specify):  
Approximate dimensions (diameter for pond, width and depth for flowing water): 30x50ft  
Vegetation at source vicinity: none grass bushes other (specify):  
Aquatic life at water source: none seen present (list)  
Any disturbance at water source? none

### Other Comments

# State of Alaska

## Pebble Project Unpermitted Water Withdrawals Site Inspection

Circle appropriate items, add detailed text where necessary

JULY  
June 2010 Field Form

Drillhole #: ~~6344~~ JV  
8405

Today's Date: 7/8/10

Time: 11:01 AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

### Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

### Location of actual water source

GPS lat/long: 59.90098 ° N 155.24762 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

### Site Observations

Drillhole			comments
Post/marker in place?	Yes	No	
Is site reclaimed?	Yes	No	
Revegetation growing?	Yes	No	
Casing visible?	Yes	No	
Is site clean?	Yes	No	
Any evidence of spills or contamination?	Yes	No	(if yes, explain in detail)

### Water Source

Source description: pond flowing water other (specify): well - #6344 JV  
Approximate dimensions (diameter for pond, width and depth for flowing water): n/a  
Vegetation at source vicinity: none grass bushes other (specify):  
Aquatic life at water source: none seen present (list)  
Any disturbance at water source? none

### Other Comments

concrete/bentonite around well site, a little messier than others, some dead veg.

# State of Alaska

## Pebble Project Unpermitted Water Withdrawals Site Inspection

Circle appropriate items, add detailed text where necessary

JULY  
June 2010 Field Form

Drillhole #: 8410

Today's Date: 7/8/10

Time: 11:11 AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

### Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

### Location of actual water source

GPS lat/long: 59.89692 ° N 155.24843 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

### Site Observations

<u>Drillhole</u>			<u>comments</u>
Post/marker in place?	Yes	No	
Is site reclaimed?	Yes	No	
Revegetation growing?	Yes	No	
Casing visible?	Yes	No	
Is site clean?	Yes	No	
Any evidence of spills or contamination?	Yes	No	(if yes, explain in detail)

### Water Source

Source description: pond flowing water other (specify):

Approximate dimensions (diameter for pond, width and depth for flowing water): 1ft across

Vegetation at source vicinity: none grass bushes other (specify): 6" dep

Aquatic life at water source: none seen present (list) mix of spp.

Any disturbance at water source? no

### Other Comments

**State of Alaska**

**Pebble Project Unpermitted Water Withdrawals Site Inspection**

Circle appropriate items, add detailed text where necessary

JULY  
June 2010 Field Form

Drillhole #: 7387

Today's Date: 7/8/10

Time: 11:26 AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Location of actual water source

GPS lat/long: 59.89325 ° N 155.26207 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

Site Observations

<u>Drillhole</u>			<u>comments</u>
Post/marker in place?	Yes	No	
Is site reclaimed?	Yes	No	
Revegetation growing?	Yes	No	
Casing visible?	Yes	No	
Is site clean?	Yes	No	
Any evidence of spills or contamination?	Yes	No	(if yes, explain in detail)

Water Source

Source description: pond flowing water other (specify):

Approximate dimensions (diameter for pond, width and depth for flowing water): 250 ft x 700 ft

Vegetation at source vicinity: none grass bushes other (specify):

Aquatic life at water source: none seen present (list)

Any disturbance at water source? no

Other Comments

**State of Alaska**

**Pebble Project Unpermitted Water Withdrawals Site Inspection**

Circle appropriate items, add detailed text where necessary

JULY  
June 2010 Field Form

Drillhole #: 7376

Today's Date: 7/8/10

Time: 11:34 AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Location of actual water source

GPS lat/long: 59.89253 ° N 155.26242 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

Site Observations

Drillhole comments

Post/marker in place? Yes No  
Is site reclaimed? Yes No  
Revegetation growing? Yes No  
Casing visible? Yes No  
Is site clean? Yes No  
Any evidence of spills or contamination? Yes No (if yes, explain in detail)

Water Source

Source description: pond flowing water other (specify):

Approximate dimensions (diameter for pond, width and depth for flowing water): 200ft x 70ft

Vegetation at source vicinity: none grass bushes other (specify):

Aquatic life at water source: none seen present (list)

Any disturbance at water source? no

Other Comments

same pond as 7384  
but otherside



# State of Alaska

## Pebble Project Unpermitted Water Withdrawals Site Inspection

Circle appropriate items, add detailed text where necessary

JUL  
June 2010 Field Form

Drillhole #: 7369, 7359

Today's Date: 7/8/10

Time: 11:39 AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

### Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

### Location of actual water source

GPS lat/long: 59.89256 ° N 155.26384 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

### Site Observations

Drillhole			comments
Post/marker in place?	Yes	No	
Is site reclaimed?	Yes	No	
Revegetation growing?	Yes	No	
Casing visible?	Yes	No	
Is site clean?	Yes	No	
Any evidence of spills or contamination?	Yes	No	(if yes, explain in detail)

### Water Source

Source description: pond flowing water other (specify):

Approximate dimensions (diameter for pond, width and depth for flowing water): 200 ft x 700 ft

Vegetation at source vicinity: none grass bushes other (specify):

Aquatic life at water source: none seen present (list)

Any disturbance at water source? no

### Other Comments

Same pond as 7376 and 7387, other side

# State of Alaska

## Pebble Project Unpermitted Water Withdrawals Site Inspection

Circle appropriate items, add detailed text where necessary

JULY  
June 2010 Field Form

Drillhole #: 8430

Today's Date: 7/8/10

Time: 11:55AM

Weather: sunny pt cloudy cloudy other (describe):  
light rain rain heavy rain  
calm breezy windy gusty

### Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

### Location of actual water source

GPS lat/long: 59.88559 ° N 155.27748 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present:

Ron Benkert (ADF&G)

Jim Vohden (ADNR)

Stephanie Lovell (ADNR)

Kate Malloy (ADF&G)

Gay Harpole (DEC)

Kara Kusche (DEC)

### Site Observations

#### Drillhole

Post/marker in place? Yes No

Is site reclaimed? Yes No

Revegetation growing? Yes No

Casing visible? Yes No

Is site clean? Yes No

Any evidence of spills or contamination? Yes No (if yes, explain in detail)

#### comments

#### Water Source

Source description: pond flowing water other (specify):

Approximate dimensions (diameter for pond, width and depth for flowing water): 50x300ft

Vegetation at source vicinity: none grass bushes other (specify):

Aquatic life at water source: none seen present (list) waterfowl / chain of ponds

Any disturbance at water source? dead veg near site, dry swampy area

#### Other Comments

# State of Alaska

## Pebble Project Unpermitted Water Withdrawals Site Inspection

Circle appropriate items, add detailed text where necessary

JULY  
June 2010 Field Form

Drillhole #: 9451

Today's Date: 7/8/10

Time: 12:04 pm

Weather: sunny pt. cloudy cloudy other (describe):  
light-rain rain heavy rain  
calm breezy windy gusty

### Location of drillhole (use decimal degrees)

GPS lat/long: \_\_\_\_\_ ° N \_\_\_\_\_ ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

### Location of actual water source

GPS lat/long: 59.87320 ° N 155.29503 ° W

GPS datum (circle one): WGS84 NAD27AK NAD83 other (specify):

Field crew present: Ron Benkert (ADF&G) Jim Vohden (ADNR)  
Stephanie Lovell (ADNR) Kate Malloy (ADF&G)  
Gay Harpole (DEC) Kara Kusche (DEC)

### Site Observations

Drillhole			comments
Post/marker in place?	Yes	No	
Is site reclaimed?	Yes	No	
Revegetation growing?	Yes	No	
Casing visible?	Yes	No	
Is site clean?	Yes	No	
Any evidence of spills or contamination?	Yes	No	(if yes, explain in detail)

### Water Source

Source description: pond flowing water other (specify): *varies 1-3 ft across*

Approximate dimensions (diameter for pond, width and depth for flowing water): *< 6 inches most*

Vegetation at source vicinity: none grass bushes other (specify): *spots*

Aquatic life at water source: none seen present (list) *> 6 in few*

Any disturbance at water source? *no*

### Other Comments