



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources

DIVISION OF MINING, LAND & WATER
Water Resources Section
Northern Office

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TEMPORARY WATER USE AUTHORIZATION TWUA F2018-059

ISSUED: August 15, 2018
EXPIRES: December 31, 2018

Pebble Limited Partnership
3201 C Street, Suite 505
Anchorage, AK 99503

Dear Environmental Management,

Re: Water Withdrawal –Hydrogeological Site Investigation - APMA A6118 / TWUA F2018-059

The Alaska Department of Natural Resources (ADNR) Water Resources Section, has completed the review of your above referenced APMA and/or Application for Temporary Use of Water TWUA F2018-059 to withdraw, divert, impound, and/or use water in support of hydrogeological site investigation activities as detailed in the applicable sections of the APMA submitted to the ADNR Mining Section or in the TWUA Application submitted to the ADNR Water Resources Section. Pursuant to AS 46.15 (Alaska Water Use Act), and 11 AAC 93.210 and 220 (Temporary water use/Procedure for temporary water use) as amended and the rules and regulations promulgated thereunder, permission is hereby granted to Pebble Limited Partnership, 3201 C Street, Suite 505, Anchorage, AK 99503 (hereinafter authorization holder), and to the authorization holder's contractor(s) to conduct water use activities as described herein and on any attachment hereto.

Please note all of the conditions on this authorization. If changes to this project are proposed during its siting, construction or operation, please contact this office to determine if further review is necessary.

Project Description

Water will be used in support of hydrogeological site investigation activities associated with the APMA A6118 Pebble Project. Applicant proposes to withdraw water from three drilled wells.

Daily Duration and Months of Use

Water use activities will be conducted up to 24 hours per day (or as otherwise limited by the maximum authorized acre-feet per day) through October 31st, 2018.

Quantity of Water to Be Used

- Aquifer Testing Activities:** A maximum withdrawal of 0.432 acre-feet per day per source well at an approximate maximum withdrawal rate of 100 gallons per minute for up to 24 hours per day, subject to a seasonal limit of 3.888 acre-feet of water from all three drilled wells combined. Water withdrawal will occur from only one source well at a time.

Legal Description of Water Sources.
See attached TWUA F2018-059 Water Source Map.

1. A planned well (PW18-A) to be located within SW1/4SE1/4 Section 11, Township 3 South, Range 36 West, Seward Meridian.
2. A planned well (PW18-B) to be located within NW1/4SW1/4 Section 22, Township 3 South, Range 35 West, Seward Meridian.
3. A drilled well (PW12-2), 159 feet in depth, located within SE1/4SW1/4 Section 21, Township 3 South, Range 35 West, Seward Meridian.

Conditions of temporary water use authorization.

1. This authorization does not authorize the authorization holder or contractor(s) to enter upon any lands until proper rights-of-way, easements, or permission documents from the appropriate landowner have been obtained.
2. Follow acceptable engineering standards in exercising the privilege granted herein.
3. Comply with all applicable laws, and any rules and/or regulations issued thereunder.
4. Except for claims or losses arising from negligence of the State, defend and indemnify the State, the State's agents, and the State's employees against and hold each of them harmless from any and all claims, demands, suits, loss, liability and expense, including attorney fees, for injury to or death of persons and damages to or loss of property arising out of or connected with the exercise of the privileges covered by this authorization.
5. Notify the Water Resources Section upon change of address.
6. The authorization holder is responsible for obtaining, maintaining, and complying with other permits/approvals (state, federal, or local) that may be required prior to beginning water withdrawal, diversion, impoundment and/or use, including but not limited to fish habitat permit(s) from the Alaska Department of Fish and Game (ADF&G), Habitat Division and water discharge permit(s) from the Alaska Department of Environmental Conservation.
7. The authorization holder shall allow, at reasonable times, one or more authorized representatives of the Water Resources Section to inspect, on the same inspection trip or trips, any facilities, equipment, practices, or operations regulated or required under this authorization. Authorization holder shall provide and bear the cost of all transportation and associated expenses necessary to facilitate said inspection(s).
8. Failure to respond to a request for additional information during the term of the authorization may result in the termination of this authorization.
9. This authorization, or a copy thereof, shall be kept at the site of the authorized project described herein. The authorization holder is responsible for the actions of contractors, agents, or other persons who perform work to accomplish the approved project, and shall

ensure that workers are familiar with the requirements and conditions of this authorization. For any activity, including but not limited to changing water take locations, that significantly deviates from the approved project during its siting, construction, or operation, the authorization holder is required to contact the Water Resources Section and obtain written approval before beginning the activity.

10. The Water Resources Section may modify this authorization to include different limitations, expand monitoring requirements, evaluate impacts, or require restoration at the site.
11. Any false statements or representations, in any application, record, report, plan, or other document filed or required to be maintained under this authorization, may result in the termination of this authorization.
12. Pursuant to 11 AAC 93.220 (f), this authorization may be suspended or terminated by the Department of Natural Resources to protect the water rights of other persons or the public interest.
13. Except as otherwise specifically noted herein or by attachment hereto, only one authorized pump may be operated at a time from the same authorized source of water.
14. No damming or diversion of waters is permitted unless specifically authorized by the Alaska Department of Natural Resources and the Alaska Department of Fish and Game.
15. Adequate flow and water levels, as determined by the Alaska Department of Fish and Game, Habitat Division, must remain to support indigenous aquatic life and provide for the efficient passage and movement of fish if any are present. Except as otherwise specifically noted herein or by attachment hereto, issuance of this authorization does not give the authorization holder the right to block or dam a water course. Any water intake structures in fish bearing waters, including a screened enclosure, well-point, sump, or infiltration gallery, must be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury at the maximum withdrawal rate, unless specifically exempted by the Alaska Department of Fish and Game, Habitat Division. Inspect the intake screen for damage (torn screen, crushed screen, screen separated from intake ends, etc.) after each use and prior to each deployment. Any damage must be repaired prior to use of the structure. The structure must always conform to the original design specifications while in use. The suction hose at the water source take point must be clean and free from contamination.
16. Except as otherwise authorized or required herein, in-water activity to facilitate water withdrawal shall be limited to placement and removal of the intake structure only. No other in-water activities will occur to facilitate water withdrawal pursuant to this authorization. There shall be no wheeled, tracked, excavating, or other machinery or equipment operated below ordinary high water lines to facilitate water withdrawal pursuant to this authorization. Except as otherwise authorized herein, water sources shall not be altered to facilitate water withdrawal or disturbed in any way. If banks, shores, or beds are inadvertently disturbed, excavated, compacted, or filled, they shall be immediately stabilized to prevent erosion and sedimentation of the water source. Any disturbed areas shall be recontoured and revegetated with native vegetation.
17. Any discharge shall comply with the Alaska Water Quality Standards (18 AAC 70). This may require the installation and maintenance of settling ponds or similar systems to reduce turbidity and settleable solids in the discharges. Water discharge (including runoff) shall not be discharged at a rate or location resulting in sedimentation, erosion, or other disruptions to the bed or banks of water bodies, causing water quality degradation.

18. Pumping operations shall be conducted in such a way as to prevent any petroleum products or hazardous substances from contaminating surface or ground water. Pumps shall not be fueled or serviced within 100 feet of a pond, lake, or stream unless the pumps are situated within a catch basin designed to contain any spills. Absorbent pads shall be readily available at the water withdrawal sites. Hazardous and non-hazardous spills must be reported to the Alaska Department of Environmental Conservation at 1-800-478-9300 per their Notification Requirements and to the Alaska Department of Natural Resources.
19. Drill holes shall not be drilled within 100 feet of a water body.
20. When conducting activities under this authorization, authorization holder shall adhere to the terms of the current State-approved Pebble Project Water Withdrawal Plan (see Revision 1 attached hereto) and any future amendments thereto, except as otherwise required by other conditions on this authorization and except that for the 2018 drilling season the authorization holder doesn't need to wait 30 days to commence drilling after receiving the issued temporary water use authorization.
21. The placement of exploration and water withdrawal equipment shall not unnecessarily hinder public access, if any, to water bodies.

This Temporary Water Use Authorization is issued pursuant to 11 AAC 93.220. No water right or priority is established by a temporary water use authorization issued pursuant to 11 AAC 93.220. Water so used is subject to appropriation by others.

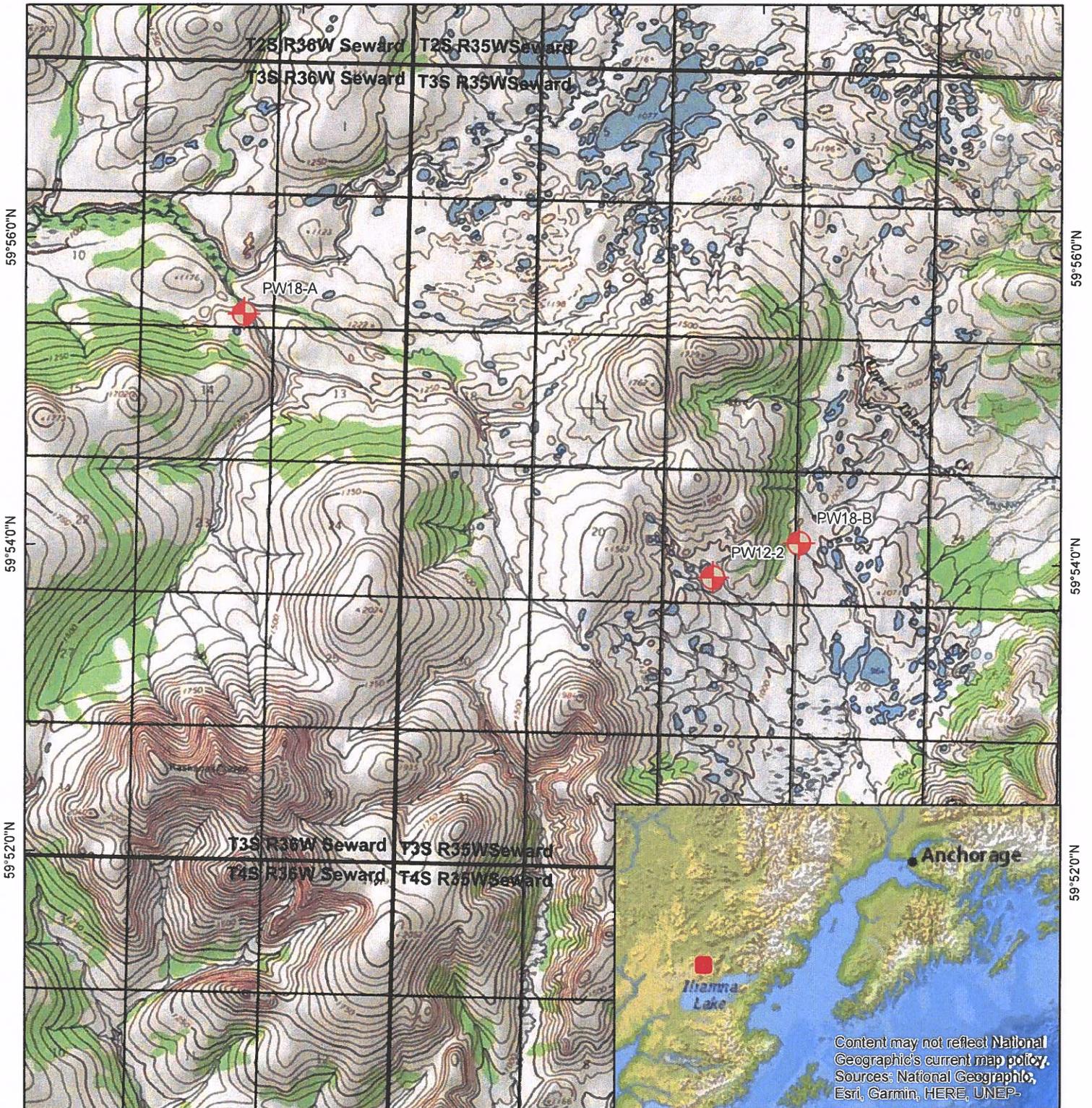
Pursuant to 11 AAC 93.210(b), authorized temporary water use is subject to amendment, modification, or revocation by the Department of Natural Resources if the Department of Natural Resources determines that an amendment, modification, or revocation is necessary to supply water to lawful appropriators of record or to protect the public interest.

Any questions or concerns about this temporary water use authorization may be directed to Water Resources Section Chief, David Schade at 907-269-8645 or by email at david.w.schade@alaska.gov.

Approved: 

Michael Walton, Acting Chief of the Water Resources Section, DML&W, ADNR

155°26'0"W 155°24'0"W 155°22'0"W 155°20'0"W 155°18'0"W 155°16'0"W



 Aquifer Test Site

TWUA F2018-059 Water Source Map



Source(s):

Pebble Project
Water Withdrawal Plan
Revision 1

July 13, 2010

Background

The State of Alaska has the responsibility to ensure its lands and waters are used in a manner to provide the maximum benefit to Alaskans while protecting Alaska's lands and waters from abusive uses. The Department of Natural Resources (ADNR) has the responsibility under AS 46.15 to ensure water use, whether through providing water rights or Temporary Water Use Permits (TWUPs), is consistent with the common good of the people and other natural resources. For the Pebble Limited Partnership's (PLP) drilling program, which requires the use of water, PLP must apply for and receive permission from the ADNR Water Resources Section for TWUPs that identify specific sources of water that may be used, the amount of water that may be used each day, and the total amount of water that may be used each year.

In addition to receiving the necessary TWUPs, under AS 16.05 PLP must also receive Fish Habitat Permits from the Alaska Department of Fish and Game (ADFG) Habitat Division when fish may be present. These Fish Habitat Permits do not authorize water withdrawals. Rather, they stipulate conditions under which water may be withdrawn from a permitted water source (as identified in a TWUP) that may support fish populations. These conditions include screened water intakes of a specific mesh size to prevent removal of fish from the waterbody, and specific water velocities to prevent entrainment of fish against the water intake structure.

Purpose

The purpose of this plan is to ensure all water sources used in PLP's field exploration program that require an authorization have been permitted by the ADNR Water Resources Section and the ADFG Habitat Division.

The plan consists of four parts – procedures for:

- I. Obtaining Temporary Water Use Permits and Fish Habitat Permits
- II. Taking Water
- III. Reporting
- IV. Coordination and Training of Field Staff for Adherence to TWUP and Fish Habitat Permit Stipulations.

In practice, this plan will be modified on a regular basis to address changing conditions and to improve efficiency as experience dictates.

I. Obtaining Temporary Water Use Permits and Fish Habitat Permits

Under 11 AAC 93.220 PLP will submit to ADNR's Water Resources Section one or more completed application(s) for temporary use of water listing the previously drilled artesian holes and lakes, ponds, or stream segments from which it plans to take water.

And, under AS 16.05, PLP will submit to ADF&G's Habitat Division one or more completed application(s) for Fish Habitat Permits for protection of fish resources that may be present in the waters associated with the TWUPs applied for above.

In addition to the standard application form(s), PLP also will submit:

1. The following information for each prospective water source in tabular format similar to that shown below.

Example Table. Requested Water Sources.

Water Source		Township Range Section ²	Drill Hole, Pond or Lake Coordinates ³		Upstream Coordinates		Downstream Coordinates	
Type	Number		Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
Drill hole	SFK-D6352 ¹	T38N,R34W, SE1/4 NW1/4 Sec.23	59.917 N	155.255 W	----	----	----	----
Lake	NFK-L6	T38N,R35W, NW1/4 NE1/4 Sec.34	59.899 N	155.267 W	----	----	----	----
Pond	SFK-P12	T38N,R35W, NE1/4 SE1/4 Sec.17	59.905 N	155.242 W	----	----	----	----
Stream	UTC-S10	T38N,R65W, NE1/4 NW1/4 Sec.6	----	----	59.920 N	155.255 W	59.879 N	155.227 W

¹ P – Pond D - Drill hole L – Lake S - Stream

² To ¼ ¼ section

³ Decimal degrees using WGS 1984

2. An orthophoto map figure, with both township/range/section and latitude/longitude grids, showing the location of each already drilled artesian hole and lake, pond, or stream segment for which a TWUP is requested.

II. Taking Water

This second part of the plan is based on the water sources themselves having been approved as described above in Part I, and the appropriate TWUPs and Fish Habitat Permits having been issued.

Pre-Water Take Actions

1. Once planned drill hole locations are identified, the Site Data Manager or designee will determine on a GIS base whether a permitted water source is reasonably proximate and note the tentative GIS latitude/longitude map coordinates of that location.

2. The Site Field Operations Coordinator & Surveyor will check that the GIS map coordinates for a planned drill hole, and the planned water take location, are manageable and achievable in the field by going to each planned drill hole and associated water take location.
3. At the preferred water take location, the Site Field Operations Coordinator & Surveyor will:
 - a. Erect a clearly visible rebar/stake/pipe (ID Post), clearly labeled with the water take point number, such that the drill crew will know where the water intake structure is to be placed.
 - b. Record the latitude/longitude coordinates using a hand-held GPS unit.
4. The Site Field Operations Coordinator & Surveyor will report to the Manager of Technical Operations in Iliamna to confirm the drill hole and water take locations meet permit requirements.

Water Take Actions

1. A copy of the relevant TWUP and Fish Habitat Permit for each water take location will be kept in PLP's Iliamna office when conducting the permitted water take activity.
2. Water will be taken only from a source that is marked by rebar/stake/pipe, clearly labeled with the water take point number signifying the location is an approved water take source.
3. No activities will occur in the stream, pond, or lake except for placement, adjustment, inspection and removal of the hose and screened pump intake enclosure.
4. There shall be no wheeled, tracked, excavating or other machinery or equipment (excepting the non-motorized screened intake structure) operated below the ordinary high water line.
5. Waterbodies shall not be altered to facilitate water appropriation or disturbed in any way. If banks, shores, or beds are inadvertently disturbed, excavated, compacted, or filled, they shall be immediately stabilized to prevent erosion and sedimentation of the waterbody which could occur both during and after operations. Any disturbed areas shall be recountoured and revegetated.
6. Adequate flow must remain to support indigenous aquatic life and the water course must not be blocked to the passage of fish.
7. Gas fueled pumps and related equipment will not be fueled or serviced within 100 ft of a water body unless the pumps are situated within a catch basin designed to contain any spills.
8. The suction hose at the water extraction site must be clean and free from contamination at all times, and should be in water of sufficient depth so that stream sediments are not disturbed during the extraction process.

9. Each water take point in a water source containing fish at that location must be surrounded by a screened intake enclosure that meets the screen specifications contained in that source's Fish Habitat Permit.
10. Before and after each use, and prior to deployment:
 - a. The screened pump intake enclosure must be inspected for damage (torn, crushed, separated from intake ends, etc.).
 - b. Any damage to the screened pump intake enclosure must be repaired prior to use.
 - c. The screened pump intake enclosure must always conform, as a minimum, to the original design specifications while in use.
11. Unless the permit specifically states otherwise, water may be withdrawn at a rate of up to 25 gallons per minute (gpm).
12. The water will be used for exploration operations.
13. If any activity would significantly deviate from this Water Withdrawal Plan, the ADNR Water Resources and Mining Sections and ADFG Habitat Division must be notified and written approval received from the Water Section before beginning the activity.
14. Photo documentation of the installed water intake equipment will be made as follows:
 - a. Close up of the installed water intake equipment
 - b. Wider view of water intake equipment relative to the water source and surrounding area.
15. If during the drilling of a drill hole the original water source must be moved, PLP will provide notice, as described in Section III, for a changed, permitted water source before continuing to drill.

Post-Water Take Actions

1. Water intake equipment will be removed from the water source.
2. Photo documentation of the site after removal of the water intake equipment as follows:
 - a. Close up of the location of the removed water intake equipment
 - b. Wider view of water take location relative to the water source and surrounding area.

III. Reporting

With respect to the specific water take locations it proposes to use in support of its exploration drilling program, PLP will provide ADNR and ADFG with written and photographic information concerning the:

- Location of planned water take points
- Location of actual water take points
- Confirmation water take has been completed

At least 30 days before the drilling season commences, PLP will submit by email to the ADNR Water Resources and Mining Sections and ADFG Habitat Division information identifying the planned approximate drill hole locations and the associated permitted water source(s). Subject to the number of drill holes per Work Block contained in the Plan of Operations authorized under a Miscellaneous Land Use Permit from ADNR, if a planned drill hole location for which the pre-season notice was given is to be changed by 1200 feet or more or if a new drill hole location is planned that was not identified in the pre-season 30-day notice, then at least 5 business days before drilling at that location PLP must submit by email to the ADNR Water Resources and Mining Sections and ADFG Habitat Division notice of such change, which notice must include information identifying the approximate drill hole location and the associated permitted water source(s) as described in paragraphs 1 and 2, below.

Notice of any change to a drill hole location for which 30-day notice has been given as provided above, which change is greater than 600 feet and less than 1200 feet, or any change to the identified permitted water source(s) for any drill hole location, must be submitted by email to the ADNR Water Resources and Mining Sections and ADFG Habitat Division at least 1 business day prior to drilling and contain the information as described in paragraphs 1 and 2, below.

Beginning on the first of the month after the pre-season notice above is provided, and continuing on the first of each month thereafter for the duration of the drilling season, PLP will submit to the ADNR Water Resources and Mining Sections and ADFG Habitat Division reports containing the information required in paragraphs 1 and 2, below.

NOTE: The information provided in the example drill hole table and the example water take locations table may be combined into a single table. All tables will be dated with the date of submission.

1. Drill Hole Locations

- a. **Drill Hole Table** – The information in this table, on a monthly basis, will cumulatively display information about all completed, active and planned drill holes, respectively, during the course of the annual drilling program. Note that planned drill holes have a pre-drill number (EX...) until drilling begins, at which time they take the next chronological drill hole number (09....).

Information in the three rows in the drill hole table below represent, respectively, a:

- Completed drill hole
- Active drill hole
- Planned drill hole

Example Table. Completed, Active and Planned Drill Holes

Drill Hole			Date Drilling		Township Range Section ²	Coordinates ³	
Pre-Drill #	Number	Status ¹	Began	Ended		Latitude	Longitude
EX09-D	09487	C	6/4/09	6/23/09	T38N,R35W, NE1/4 SW1/4 Sec.17	59.879 N	155.227 W
EX09-E	09488	A	6/06/09	N/A ⁴	T38N,R35W, NW1/4 SE1/4 Sec.34	59.899 N	155.267 W
EX09-F ⁵	N/A	P	N/A	N/A	T38N,R34W, SW1/4 NE1/4 Sec.32	59.920 N	155.255 W

¹ C = Completed, A = Active, P = Planned

² To ¼ ¼ section

³ Decimal degrees using WGS 1984

⁴ Not applicable as of reporting date

⁵ Planned locations for drill holes with a pre-drill number are based on GIS mapping only and have not been field located yet.

- b. **Drill Hole Orthophoto Map Figure** -- This map figure, on a monthly basis, will cumulatively display locations of all completed, active and planned drill holes during the course of the annual drilling program.

2. Water Take Points

- a. **Water Take Table** -- The information in this table, on a monthly basis, will cumulatively display information about all completed, active and planned water take points, respectively, during the course of the annual drilling program. Note that planned water take points have a pre-drill number (EX...-W [water]) until drilling begins, at which time they take the next chronological drill hole number (09...-W).

Information in the three rows in the water take location table below represent, respectively, a:

- Completed water take point
- Active water take point
- Planned water take point

- b. **Water Take Point Orthophoto Map Figure** -- This map figure, on a monthly basis, will cumulatively display locations of all completed, active and planned water take points, respectively, during the course of the annual drilling program.

- c. **Water Take Point Site Photos** -- These photos will document installation and removal of water intake equipment following:
 - i. Installation:
 - 1. Close up of the installed water intake equipment
 - 2. Wider view of water intake equipment relative to the water source and surrounding area
 - ii. Removal
 - 1. Close up of the location from which the water intake equipment was removed
 - 2. Wider view of water take location relative to the water source and surrounding area

Example Table. Completed, Active and Planned Water Take Locations

Water Take Point			Date Intake Equipment/Operation				TWUP #	Fish Habitat Permit Number	Water Source Number	Township Range Section ²	Coordinates ³	
Pre-Drill #	Number	Status ¹	Installed	Began	Ended	Removed					Latitude	Longitude
EX09-D-W	09487-W	C	6/3/09	6/4/09	6/23/09	6/24/09	A2010-123	FH-09-II-0106	SFK-D6352 ⁴	T38N,R35W, NE1/4 SW1/4 Sec.17	59.879 N	155.227 W
EX09-E-W	09488-W	A	6/6/09	6/6/09	N/A ⁵	N/A	A2010-125	FH-09-II-0107	NFK-L6	T38N,R35W, NW1/4 SE1/4 Sec.34	59.899 N	155.267 W
EX09-F-W ⁶	N/A	P	N/A	N/A	N/A	N/A	A2010-125	FH-09-II-0108	UTC-S10	T38N,R34W, SW1/4 NE1/4 Sec.32	59.920 N	155.255 W

¹ C = Completed, A = Active, P = Planned

² To ¼ ¼ section

³ Decimal degrees using WGS 1984

⁴ P – Pond D - Drill hole L – Lake S - Stream

⁵ Not applicable as of reporting date

⁶ Planned locations for water take locations with a pre-drill number are based on GIS mapping only and have not been field located yet.

IV. Coordination and Training of Field Staff for Adherence to TWUP and Fish Habitat Permit Stipulations

Prior to the commencement of drilling operations, the Site Field Operations Coordinator & Surveyor will be informed by the Manager of Technical Operations of all stipulations and guidelines necessary to stay in compliance with the drilling, temporary water use permits, and Fish Habitat Permits required for drilling.

A training program will be developed and supervised by the Site Environmental Compliance Officer. The program will cover all stipulations found in both the TWUPs and Fish Habitat Permits, and procedures and timelines for application and submission of water use information as found in Plan Parts II and III above. The training will be provided at site to all field personnel involved in drilling activities in a formal training atmosphere prior to entering the field.

This training program will be developed as a PowerPoint presentation and will cover regulatory authorities of both ADNR and ADFG as they relate to water use, as well as the environmental rationale for each stipulation developed under these authorities. The training program will also cover the reporting requirements and timelines for activities conducted under these authorities, and identify those individuals responsible for reporting.