

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 97-7477

Exam Date: 5/20/2013

1. Current Owner: JAMES K AKRE
PATRICIA A AKRE
3016 HWY 2
PRIEST RIVER ID 83856
(208) 437-3635
2. Accompanied by: JAMES K AKRE
Phone No: (208) 437-3635
Address: SEE ABOVE
Relationship to Permit Holder: PERMIT HOLDER

3. SOURCE

PEND OREILLE RIVER

TRIBUTARY

COLUMBIA RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Statutory claim 97-7480 for 5 acres irrigation, could not confirm present use of this right on the property. Also license 97-7461 for domestic use on the property from springs.
2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:PEND OREILLE RIVER
BONNER County

L8 (NW1/4NW1/4)

Sec. 28, Twp 56N, Rge 05W, B.M.

Method of Determination: Site Visit, Aerial Imagery

2. PLACE OF USE: COMMERCIAL

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
56N	05W	28						2.0											2.0

Method of Determination: Bing (2011) Aerial Photography w/ field verification.

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

4. <u>Well or Diversion</u>					<u>Pump Serial No. or Discharge</u>
<u>ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Size</u>
<u>N/A</u>	<u>unknown</u>	<u>10 hp</u>	<u>unknown</u>	<u>unknown</u>	<u>unknown</u>

D. FLOW MEASUREMENTS

1. <u>Measurement</u>						
<u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

2. Measurements: System was not operating at time visit, measurement not taken

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Method: Theoretical HP Equation:

HP = 10

PSI = 60 (standard for pipeline, sprinklers)

Z = feet in vertical lift from water to land surface

$$Q = (8.8 \times 0.7 \times \text{HP}) / [Z + (2.31 \times \text{PSI})] = (8.8 \times 0.7 \times 10) / [131 + (2.31 \times 60)] = \mathbf{0.23 \text{ cfs}}$$
 est. capacity of pumping system

Theoretical HP Equation est. capacity of pumping system = **0.23 cfs**

Permitted Rate = **0.12 cfs**

Beneficial Use Limit = **0.06 cfs** (2 acres found * 0.03 inch per acre standard for irrigation less than 5 acres)

Proof of Beneficial Use fee paid = \$50.00 = up to **0.2 cfs**

Recommend Rate = 0.06 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{\text{I.R.}} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2 \text{ acres} \times 3 \text{ acre-feet per acre} = 6 \text{ acre-feet}$$

$$V_{\text{D.R.}} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.06 \text{ cfs} \times 213 \text{ days} \times 1.9835 = 25.4 \text{ acre-feet}$$

$$V = \text{Smaller of } V_{\text{I.R.}} \text{ and } V_{\text{D.R.}} = 6 \text{ acre-feet}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS**SYSTEM DESCRIPTION:**

System consists of a 10 hp pump in the Pend Oreille river pumping into a 2 inch line that runs up from the river to the place of use. After cresting the hill from the river, the line goes from a 2 inch to 1.5 inch lines that distribute to the sprinkler system. Site visit, aerial imagery review, and estimate from permit holder put irrigation right at around 2 acres. Note the permit mistakenly did not include the Government Lot 8 designation for the point of diversion; I recommend it be added to the license.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 to 10/31	0.06 CFS	6.0 AF
	<u>Totals:</u>	0.06 CFS	6.0 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

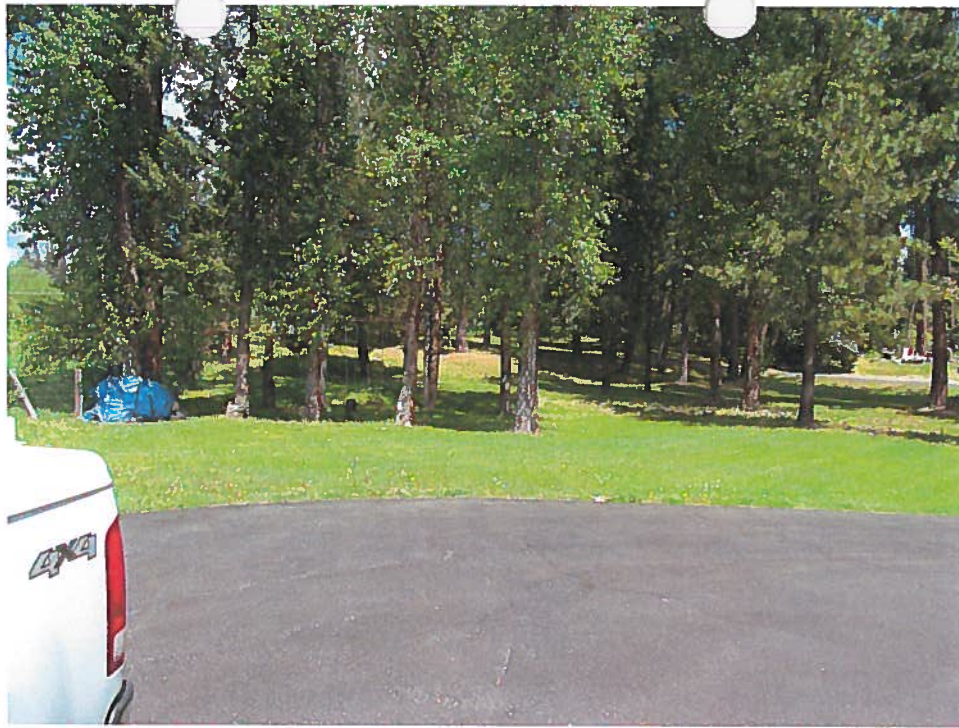
Field Examiner's Name Nicholas Van Dyke Date 1/15/2014
Reviewer _____ Date _____



- 2 inch line coming up the hill from the river



- point where line reduces from 2 inches to 1.5 inches. Note pressure gauge



- looking east at place of use
from driveway of house



- front lawn



- back yard