

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONExam Date: 3/26/2024

1. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y N
- X Irrigation of 5 acres or less
 - Storage of up to 14.6 AF for stockwater purposes only
 - Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - Other < >

2. Current Owner: Laura Moss and Linda Uno

Owner of Record Correct? NAddress of Record Correct? N

If No Explain:

3. Beneficial Use Fees have been paid: X Y N Receipt No: C117973

4. Source: Tributary:
Pend Oreille River Columbia River

Method of Determination: GIS, Tax Parcel Data, and the permit holders Statement of Completion for Proof of Beneficial Use.

Change in Source: Y X N**B. OVERLAP REVIEW**1. Other water rights with the same place of use: No Overlap

Water Right No.	Source	Purpose of Use	Basis
96-8275	Groundwater	Irrigation, Domestic	License, Claim
96-9535	Groundwater	Municipal	License, Claim
96-9142	Pend Oreille River	Domestic	License, Claim

Comments: Water rights 96-8275, 96-9535, and 96-9142 overlap the proposed place of use. During the application review for permit approval, it was determined water rights 96-8275 and 96-9535 do not provide irrigation to the place of use, only in house domestic use according to a phone conversation with the applicant on April 25th, 2023. Therefore, there is no reason to limit these rights and this permit combined. According to the claim filing for water right 96-9142 the place of use for does not overlap the proposed place of use.

2. Other water rights with the same point of diversion: X No Overlap

Water Right No.	Source	Purpose of Use	Basis
N/A			

Comments: N/A

C. DIVERSION AND DELIVERY SYSTEM

1. Location of Point(s) of Diversion:

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Pend Oreille River	4		SE	SE	27	57N	03W	B.M.	Bonner
								B.M.	
								B.M.	

Method of Determination: GIS and Tax Parcel Data.Change in POD? Y X N Amendment Required? Y X N

2. Place of Use: Irrigation

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	03W	27																0.3	0.3
		Lot #																4	
Total Acres =																			0.3

Method of Determination: GIS, Tax Parcel Data, and 2023 Bonner County Aerial Imagery.Change in POU? Y X N Amendment Required? Y X NDelivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable:

X Aerial Photo Attached and indicated the location of POD/POU (required for irrigation of 10+ acres).Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
		1.5			

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

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

2. Measurement Comments: The permit holder provided a pump horse power of 1.5 and a lift of 8.5 ft was determined using Google Earth. Therefore, a diversion rate calculation is possible.**E. FLOW CALCULATIONS**Additional Computation Sheets Attached

Measured Method: Since the permit holder provided a pump horsepower of 1.5 and a lift of 8.5 ft was determined using Google Earth a diversion rate calculation was possible. The calculation determined the system can handle 0.09 cfs with a 40-psi discharge pressure. According to Administrative Processing Memo #17 the standard diversion rate/acre for the irrigation of 5 acres or less is 0.03 cfs/acre. I am recommending a 0.01 cfs diversion rate.

$$Q = (1.5 \text{ hp}) * (8.8) * (70\%) / (8.5 \text{ ft lift}) + (2.31) * (40\text{-psi discharge pressure}) = 0.09 \text{ cfs}$$

$$(0.3 \text{ acres}) * (0.03 \text{ cfs/acre}) = 0.009 \text{ cfs or } 0.01 \text{ cfs rounded.}$$

Diversion Rate Calculation = 0.09 cfs

Administrative Processing Memo #17 Calculation: 0.01 cfs

Permit allowed = 0.03 cfs

F. VOLUME CALCULATIONS

2. Volume Calculations for Other Uses: The permit authorized diversion from a natural flowing stream/ river. If a permit authorizes diversion from a natural flowing stream/river or spring a diversion volume is not required at licensing according to the IDAPA Beneficial Use Examination Rules 37.03.02.035.01j. viii.

G. PURPOSE OF USEIrrigation X Y N # Stock N/A Domestic # of Homes N/AChange in Purpose of Use? Y X NMethod of Determination: GIS, Tax Parcel Data, 2023 Bonner County Aerial Imagery, and the permit holders Statement of Completion for Proof of Beneficial Use.

H. NARRATIVE/REMARKS/COMMENTS

This permit qualifies for an in-office examination. According to Tax Parcel Data the property was developed in 1985. The permit authorized the irrigation of 0.4 acres diverting from the Pend Oreille River. According to 2023 Bonner County Aerial Imagery 0.3 acres of irrigation occurred within the development period. The Tax Parcel boundary and visual property boundary were inconsistent. The visual property boundary helped determine the irrigated place of use. A condition on the permit requires the permit holder to install a fish screen meeting the fish screening and passage requirements of the Idaho Department of Fish and Game. The permit holder confirmed a fish screen was installed on their Statement of Completion for Proof of Beneficial Use.

Since the permit holder provided a pump horsepower of 1.5 and a lift of 8.5 ft was determined using Google Earth a diversion rate calculation was possible. The calculation determined the system can handle 0.09 cfs with a 40-psi discharge pressure. The standards set in Administrative Processing Memo #17 was used to make a diversion rate recommendation. Since the permit authorized diversion from a natural flowing stream/river a diversion volume is not required at licensing according to the IDAPA Beneficial Use Examination Rules 37.03.02.035.01j, viii. All of the conditions have been met and development of beneficial use was confirmed within authorization on the permit. Therefore, I am recommending a 0.01 cfs diversion rate.

Conditions X31 and X60 should remain on the license. Condition X31 should be updated to match the diversion rate recommendation. Condition 029 should be removed because the permit holder confirmed a fish screen was installed meeting the fish screening and passage requirements of the Idaho Department of Fish and Game.

Have conditions of permit approval been met? ☒ Yes ☐ No

I. RECOMMENDATIONS

1. Recommended Amounts:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>
Irrigation	04/01-10/31	0.01 CFS
<u>Totals:</u>		0.01 CFS

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 ☒ None

Other: < >

J. AUTHENTICATION

Field Examiner: **Skyler Cheever – Water Resource Agent**

Field Examiner's  Date 3/26/2024

Reviewer  Date 4/16/24

Field Exam Map

Map showing the authorized point of diversion (yellow point) and irrigated place of use (orange outline).



2023 Bonner County Aerial Imagery

Imagery indicated 0.3 acres of irrigation occurred within the development period.

96-18210 Aerial Imagery



3/26/2024

Road Centerlines

- Primary
- Secondary
- Local; Ramp

Parcels

- World Boundaries and Places
- World Imagery
- Low Resolution 15m Imagery

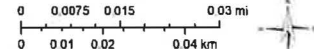
High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

30cm Resolution Metadata

1:1,079



Esri, HERE, Garmin, (c) OpenStreetMap

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-12810
Examiner: Skyler C.
Date of Field Exam: 3/26/2024

Option 1

P/D No.:

PUMP HORSEPOWER	1.5
BOOSTER HORSEPOWER	0
PUMPING LEVEL	8.5
DISCHARGE PRESSURE	40
FRICTION	0
RATE OF FLOW (cfs)	0.09
(gpm)	41.1

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.

Examiners Notes:

Lift was determined from Google Earth. Hp was provided by the permit holder on their Statement of Completion for Proof of Beneficial Use. A standard psi for small irrigation of 40 to 60 psi was used to estimate