

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

A. GENERAL INFORMATIONExam Date: 12/5/2023

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: Philip and Kelly Martin

Owner of Record Correct? NAddress of Record Correct? N

If No Explain: N/A

3. Beneficial Use Fees have been paid: X Y N Receipt No: C117169

4. Source: Tributary:
Priest Lake Priest River

Method of Determination:

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

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

Comments: N/A

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
Priest Lake			SE	NE	28	60N	04W	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, Domestic

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
60N	04W	28				0.1, X													0.1
		Lot #				1													
Total Acres =																			0.1

Place of Use: Domestic

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
60N	04W	28				X													N/A
		Lot #				1													N/A

Method of Determination: GIS, Tax Parcel Data, photographs provided by the permit holder, and 2022 Bonner County Imagery.Change in POU? Y X N Amendment Required? Y X N Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable:

 X Aerial Photo Attached (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
		2			

*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 horsepower of 2 and a lift of 19 ft was determined using Google Earth Imagery. Therefore, a diversion rate calculation is possible.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Since the permit holder provided a pump horsepower of 2 and a lift of 19 was determined a diversion rate calculation was possible. According to the calculation the system can handle 0.09 cfs at 50 psi discharge pressure. According to Administrative Processing Memo #22 the standard diversion rate for a single-family home is 0.04 cfs. According to Administrative Processing Memo #17 the standard diversion rate/acre for the irrigation of five acres or less is 0.03 cfs/acre, 0.1 acres*0.03 cfs/acre=0.0003 cfs or 0.01 cfs rounded. The permit authorizes 0.04 cfs for domestic use and 0.08 cfs for the irrigation of 0.8 acres. Therefore, I am recommending a 0.05 cfs diversion rate.

$$Q = (2 \text{ hp}) (8.8) (0.70 \text{ efficiency}) / (19 \text{ ft of lift}) + (2.31) * (50 \text{ psi discharge pressure}) = 0.09 \text{ cfs}$$

Measurement = 0.09 cfs

Permit allowed = 0.12 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (0.1 \text{ acres}) \times (3.0 \text{ af/acre}) = 0.3 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.01 \text{ cfs}) \times (214 \text{ days}) \times 1.9835 \text{ af/day} = 4.2 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 0.3 \text{ af}$$

2. Volume Calculations for Other Uses: According to Administrative Processing Memo #22 the standard diversion volume for a single domestic use is 0.6 af for in house use and 0.6 af for up to ½ an acre of yard irrigation. However, since the permit authorizes irrigation as a separate component then the irrigation volume determined above would take the place of the ½ acre yard irrigation component of a domestic use. Therefore, I am recommending a 0.9 af total diversion volume.

G. PURPOSE OF USE

Irrigation X Y N # Stock N/A Domestic # of Homes 1

Other: < >

Change in Purpose of Use? Y X N

Method of Determination: GIS, Tax Parcel Data, photographs provided by the permit holder, and 2022 Bonner County Aerial Imagery.

If Yes: From Use To Use Amount CFS AFA

H. NARRATIVE/REMARKS/COMMENTS

This permit qualifies for a in-office examination. According to Tax Parcel Data the property was developed in 2017. The permit authorized domestic use only includes in-house use and the irrigation of 0.8 acres. According to 2022 Bonner County Aerial Imagery the tax parcel boundary and physical property boundary do not match. Therefore, the physical property was used to determine the irrigated place of use. According to photographs provided by the applicant with their *Statement of Completion for Proof of Beneficial Use* and 2022 Bonner County Aerial Imagery 0.1 acres of irrigation likely occurred during the development period. The legal description for the place of use is listed in both the SENE and SENE Government Lot 1. However, it is likely the entire place of use is within Gov lot 1 because of changes in the lake levels. According to the permit holders *Statement of Completion for Proof of Beneficial Use* a fish screen of ¼ of an inch or smaller was installed.

Since the permit holder provided a pump horsepower of 2 and a lift of 19 ft was determined a diversion rate calculation was possible. According to that calculation the system can handle 0.09 cfs at 50 psi discharge pressure. The standards set in Administrative Processing Memo's #17 and 22 were used to make a diversion rate and volume recommendation. All of the conditions have been met and it has been confirmed a beneficial use was developed within authorization on the permit. Therefore, I am recommending a 0.05 cfs diversion rate and 0.9 af diversion volume.

Conditions 227, 132, X15, X16, and X60 should remain on the license. Condition 004 should be removed because it was confirmed there are no legal access concerns to the point of diversion or place of use. All other conditions should be removed as standard with licensing.

Have conditions of permit approval been met? X Yes No

I. RECOMMENDATIONS

1. Recommended Amounts:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Domestic	01/01-12/31	0.04 CFS	0.6 AF
Irrigation	04/01-10/31	0.01 CFS	0.3 AF
<u>Totals:</u>		0.05 CFS	0.9 AF

2. Recommended Amendments:

 Change P.D. as reflected above Add P.D. as reflected above X None

 Change P.U. as reflected above Add P.U. as reflected above X None

J. AUTHENTICATION

Field Examiner's  Date \$ 12/15/2023

Reviewer  Date 12/26/23

Field Exam Map

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



2022 Bonner County Imagery

Imagery used to indicate the number of irrigated acres along with photographs provided by the permit holder.

97-7836 Irrigation Map



12/5/2023

Road Centerlines

- Primary
- Secondary
- Local; Ramp



Parcels

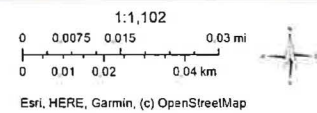
- World Boundaries and Places
- World Imagery
- Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

30cm Resolution Metadata



Esri, HERE, Garmin, (c) OpenStreetMap

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 97-7836
Examiner: Skyler C.
Date of Field Exam: 12/5/2023

Option 1

P/D No.:

PUMP HORSEPOWER	2
BOOSTER HORSEPOWER	0
PUMPING LEVEL	19
DISCHARGE PRESSURE	50
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 Imagery. Hp was provided by the permit holder. A standard psi for domestic use of 40 to 60 psi was used to estimate the pressure against the pump.