

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

A. GENERAL INFORMATIONPermit No: 75-14929Exam Date: 7/25/19

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? X Y N
- a. Irrigation of 5 acres or less
 - b. Storage of up to 14.6 AF for stockwater purposes only
 - c. Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - d. Other

2. Current Owner: Name: Richard Heltsley
Owner of Record Correct? X Y N
Address of Record Correct? Y N
If No: Address

3. Beneficial Use Fees have been paid: X Y N Receipt No: C107168

4. SOURCE TRIBUTARY
Sheep Creek Salmon River

Method of Determination: GIS and Taxlot DataChange 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

Comments: No other water rights at the POU.

2. Other water rights with the same point of diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
75-14837	Sheep Creek	Irrigation	Licensed

Comments: Water right 75-14837 shares the POD with this permit. It is owned by Shawn and Edith Greene authorizing .02 cfs for irrigation. It was unclear if right 75-14837 also used the same diversion system as this permit. I called the Greene's on 7/26/19 to inquire about the diversion system for right 75-14837 but their contact number in the Department records is no longer in service. I then called Mr. Heltsley the same day to ask about the diversion system. He explained that right 75-14837 uses the same POD and diversion system. The system includes an underground pipe that carries water farther up to the POU for 75-14837. The system only diverts water for one right at a time, either 75-14837 or 75-14929. The rights have a combined acreage of 4.5 acres. According to Administrative memo 17, Irrigation systems that supply water to 5 acres or less can have up to 0.03 cfs/acre. The rights will be limited by the diversion rate of 0.03 cfs. No combined limits are necessary.

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Sheep Creek			SE	NW	14	25N	21E	B.M.	Lemhi

Method of Determination: GIS and Taxlot data.Change in POD? X N Amendment Required? X N**2. PLACE OF USE:** 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	
25N	21E	14			1.6					1.3									
		Lot #																	
Total Acres =																			2.9

Method of Determination: GIS. POU taxlots are RP001050000430, RP001050000440 and RP001050000450.Change in POU? X N Amendment Required? X N N/A Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable.

 N/A Aerial Photo Attached (required for irrigation of 10+ acres). x Photo of Diversion and System Attached

4. Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
	Emerson	.75	C55CXHAA-3900	Jacuzzi	

*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
NONE						

2. Measurements: No measurement is required for an in-house exam, but a theoretical calculation was used to determine if the diversion rate is reasonable. A theoretical analysis shows that a diversion rate of 0.03 cfs is possible with a .75 Hp pump.

E. FLOW CALCULATIONS x Additional Computation Sheets Attached

Measured Method:

$$Q = (0.75 \text{ Hp})(8.8)(0.70)/40 \text{ ft lift} + (50\text{psi} \times 2.31) = 0.03 \text{ cfs.} \quad \text{*See attached theoretical pump sheet.}$$

Additionally, applicant stated that .75 Hp pump with 5 sprinklers can produce .0062 cfs per sprinkler.
 $.0062 \text{ cfs} \times 5 = .03 \text{ cfs}$

Theoretical = 0.03 cfs

Permit allowed = 0.04 cfs

Recommended Diversion rate: .03 cfs for irrigation

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

IDAPA rule 37.03.02 states that irrigation from a natural stream or spring are exempt from a volume requirement.

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{2cm}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{\hspace{2cm}}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{2cm}}$$

2. Volume Calculations for Other Uses: N/A

G. PURPOSE OF USE

Irrigation X Y N # Stock Domestic # of Homes

Other:

Change in Purpose of Use? Y x N

Method of Determination: Taxlot data and Department documents.

If Yes: From Use To Use Amount CFS AFA

H. NARRATIVE/REMARKS/COMMENTS

This permit qualifies for an in-house exam. Irrigation under this permit is authorized on lots 43, 44, and 45 in the North Salmon Estates. All lots are owned by Richard Heltsley and located SE of Gibbonsville, ID. Water is sourced from Sheep Creek in the SENW of Section 14 in Township 25 North, Range 21 East and runs through all three parcels. This permit is in basin 75, which does not have an active water district. The applicant stated on the application for permit that he intends to use water for riparian areas along Sheep Creek. At the time of permitting, the Forest Service (FS) submitted comments on the application because they own land adjacent to the location of the POU and POD. In an email dated 1/31/19, Steve Spencer from the FS requested that the permit included language specifying that the diversion and use of water were not on Federal land. Furthermore, the FS wanted to condition the permit and subsequent license with the condition that the POU and POD are located on mineral survey No. 1133. The permit included conditions to satisfy the FS concerns and they were carried over to the license.

According to Mr. Heltsley, water is diverted using a .75 Hp pump into a 1.25" black plastic pipe. This pipe feeds 5 sprinklers that produce .0062 cfs each. Based on the information provided by the applicant, the system could produce up to .03 cfs (.0062 cfs X 5 sprinklers = .031 cfs).

The place of use to be irrigated includes all 3 parcels except for a driveway area. After looking at aerial imagery over the last number of years, I could not find more than 2.9 acres of irrigation over the parcels. It should be noted that many large trees create a canopy over the 3 lots and it is difficult to summarize the exact extent of irrigation. When Mr. Heltsley submitted the application for permit, he included images of the pump screen in Sheep Creek, the pump house, the Jacuzzi pump and a tripod sprinkler.

Richard Heltsley originally owned right 75-7572. It was split and created right 75-14837. After the split, Mr. Heltsley was limited to a diversion rate of .01 cfs for the irrigation of 1 acre. This was not a high enough rate to irrigate the single acre so the right was abandoned. He subsequently filed for this permit so he could irrigate the full 2.9 acres at a higher diversion rate.

Water right 75-14837 shares the POD with this permit. Right 75-14837 is owned by Shawn and Edith Greene authorizing .02

cfs for irrigation. It was unclear if right 75-14837 also used the same diversion system as this permit. I called the Greene's on 7/26/19 to inquire about the diversion system for right 75-14837 but their contact number in the Department records is no longer in service. I then called Mr. Heltsley the same day to ask about the diversion system. He explained that right 75-14837 uses the same POD and diversion system. The system includes an underground pipe that carries water farther up to the POU for 75-14837. The system only diverts water for one right at a time, either 75-14837 or 75-14929. The rights have a combined acreage of 4.5 acres. According to Administrative memo 17, Irrigation systems that supply water to 5 acres or less can have up to 0.03 cfs/acre. The rights will be limited by the diversion rate of 0.03 cfs. No combined limits are necessary.

I removed condition 1 (029) since the permit holder confirmed that a fish screen was in place. Condition 2 (01H) was changed to R02 per licensing standards. Conditions 3 (196), 4 (197), 5 (198) 6 (R67), 7 (U44), 8 (U45), 9 (X60) and 10 (F23) were still pertinent and all were carried over to the license.

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>	<u>ANNUAL VOLUME</u>
Irrigation	04/01 to 10/31	0.03 CFS	
<u>Totals:</u>		0.03 CFS	

2. Recommended Amendments

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

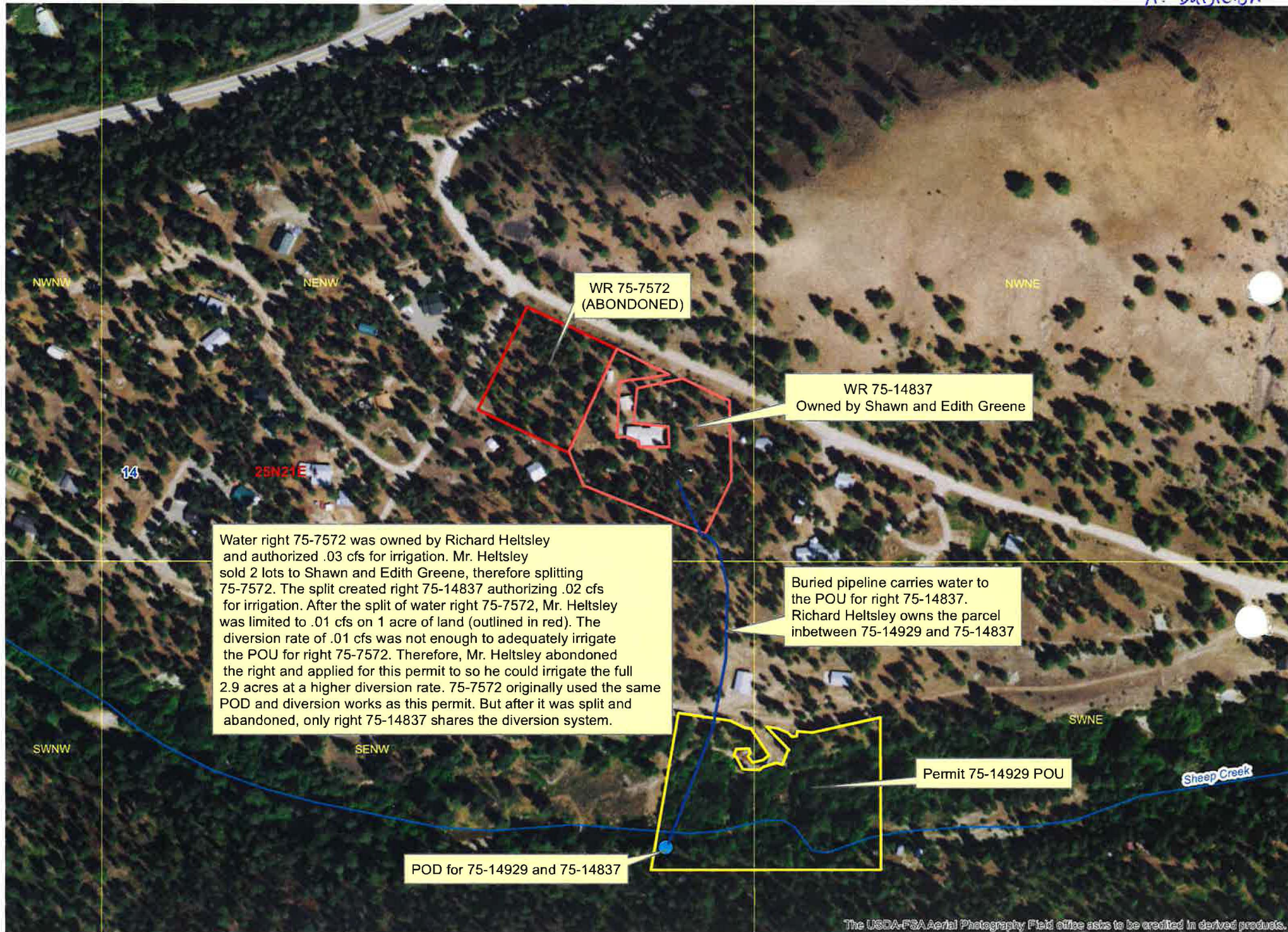
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

Other:

J. AUTHENTICATION -ALEX DALGLEISH- WATER RESOURCE AGENT

Field Examiner's Name Alex Dalgleish Date 9/23/19

Reviewer _____ Date _____



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-9004
 Reviewer: Alex Dalglish
 Date of Review: 7/26/2019

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Well #1
0.75
0
30
40
0.04
17

Well #2
0.75
0
40
50
0.03
13

Well #3
0.75
0
50
60
0.02
11

0.03
13.76

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.
 No Friction

Examiners Notes:

The system for permit 75-14929 uses a single .75 Hp pump. The pumping level was determined in ArcMap using the DRG layer and measurement tool. Hp was taken from the pump plate photo provided by the applicant. A standard PSI for irrigation use of 40-60 was used to estimate the pressure against the pump.