

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

A. GENERAL INFORMATION

Permit No: 75-14277

Exam Date: 11/17/2014

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? ☒ Yes ☐ No
- 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: Benjamin Jones
Owner of Record Correct? ☒ Yes ☐ No
Address of Record Correct? ☒ Yes ☐ No
If No: Address

3. Beneficial Use Fees have been paid: ☒ Yes ☐ No Receipt No: CO99527

4. SOURCE**TRIBUTARY**

Wastewater

Sinks

Method of Determination: Aerial photography of the property confirms POD.

Change in Source: ☐ Yes ☒ No**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: Overlap? ☐ Yes ☒ No

Water Right No.	Source	Purpose of Use	Basis

Comments: POU overlap review shows 75-14467. This is a domestic water right pertinent to the land.

2. Other water rights with the same point of diversion: Overlap? ☐ Yes ☒ No

Water Right No.	Source	Purpose of Use	Basis

Comments: No POD overlap.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
WASTEWATER		NE	NW	NE	11	21N	21E		LEMHI

Method of Determination: Communication with Mr. Jones provided a more accurate POD location using aerial photography.Change in POD? ☒ Yes ☐ NoAmendment Required? ☒ Yes ☐ No

2. **PLACE OF USE:** Use: Domestic & 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	
21N	21E	11		2.0															2.0

Method of Determination: Aerial photography confirms place of use clearly. ArcMap tools used to measure beneficial use area.

Change in POU? ☒ Yes ☐ NoAmendment Required? ☒ Yes ☐ No

3.

☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable.

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☐ 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
Unk.	Unk	Unk	Unk	Unk	Unk

*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

2. Measurements: In-office field exam. Theoretical flow included in report.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method:

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

Efficiency = 0.70

Depth to water = 10 ft.

psi = 35-55

hp = .5-2

See attached theoretical sheet.

Average flow rate is 0.05 cfs

Conditions of permit allow 0.03 cfs per acre. 1.3 acre * 0.03 cfs/acre = 0.039 cfs or 0.04 cfs

Measurement = 0.05 cfs

Permit allowed = 0.04 cfs

License recommend for 0.04 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.3 \times 3.5 = 4.6 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.04 \times 214 \times 1.9835 = 17.0 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 4.6 \text{ af}$$

2. Volume Calculations for Other Uses: None.**G. PURPOSE OF USE**Irrigation ☒ Yes ☐ No # Stock 0 Domestic # of Homes 0

Other: < >

Change in Purpose of Use? ☐ Yes ☒ No

Method of Determination: Information in the water right file is consistent with aerial photography of the property.

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

Permit 75-14277 authorized the diversion of 0.04 cfs from wastewater for irrigation purposes. Based on the small permitted diversion rate and POU, this qualifies for an in-office field exam. The exam was completed on Nov 17, 2014 by WRA Patrick Kelly.

Legal description of POU & POD were used to locate the property in the name of Benjamin Jones. Upon inspecting aerial photography of the property in the NENE QQ, I was unable to distinguish any place of use for irrigation purposes. The outlined POU for the permit appeared to be a generic box within the QQ. I was able to establish a surface waterway within the property that would be a reasonable source for a POD. Directly to the west in the NW NE QQ there is a home where a yard and trees on the land are established. Initial contact with Mr. Jones was made by telephone to confirm the POU. Mr. Jones believed the POU on the permit to be correct, so I sent him a map of the property by mail. He called me back to explain that appropriations are for uses around the home, and an amendment would be required to license the WR. I explained that I would move forward with the field exam and that he would have to sign and return the document with a \$100 fee for the WR process to complete. Mr. Jones agreed.

Once Mr. Jones received the amendment, he reviewed the information and provided a more accurate description to the POD. The specific location was described using aerial photography as a reference. The actual POD is also located in the NWNE QQ. This too would require an amendment, so another amendment was sent to Mr. Jones.

Overlap review showed WR 75-14467. This is a domestic water right that serves the property in the name of Arrowhead Water District. This water right does not include irrigation outside of the home by conditions of the license. No overlap exists at this time.

A volume of 4.6 acre feet was calculated using the formulas in section F of this report. However, because the appropriation is wastewater, no volume will be recorded on the license in accordance with the Department's BU exam rules.

A range of small hp pumps were assumed given this is for small irrigation use. Lift was measured using the DRG map. Topography from the wastewater stream to the property measures close to 40 feet. A range of discharge pressures were used given the small irrigation system that is in place (35-55 psi). Theoretical average flow rate is 0.05 cfs.

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	04/01-10/31	0.04 cfs	
	<u>Totals</u>	0.04 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 ☐ Other

Other: < >

J. AUTHENTICATION

Field Examiner's Name Patricia Miller Date 11/17/2014

Reviewer Sumita Skaggs Date 12-22-2014

State of Idaho
Department of Water Resources
Field Exam Map
75-14277

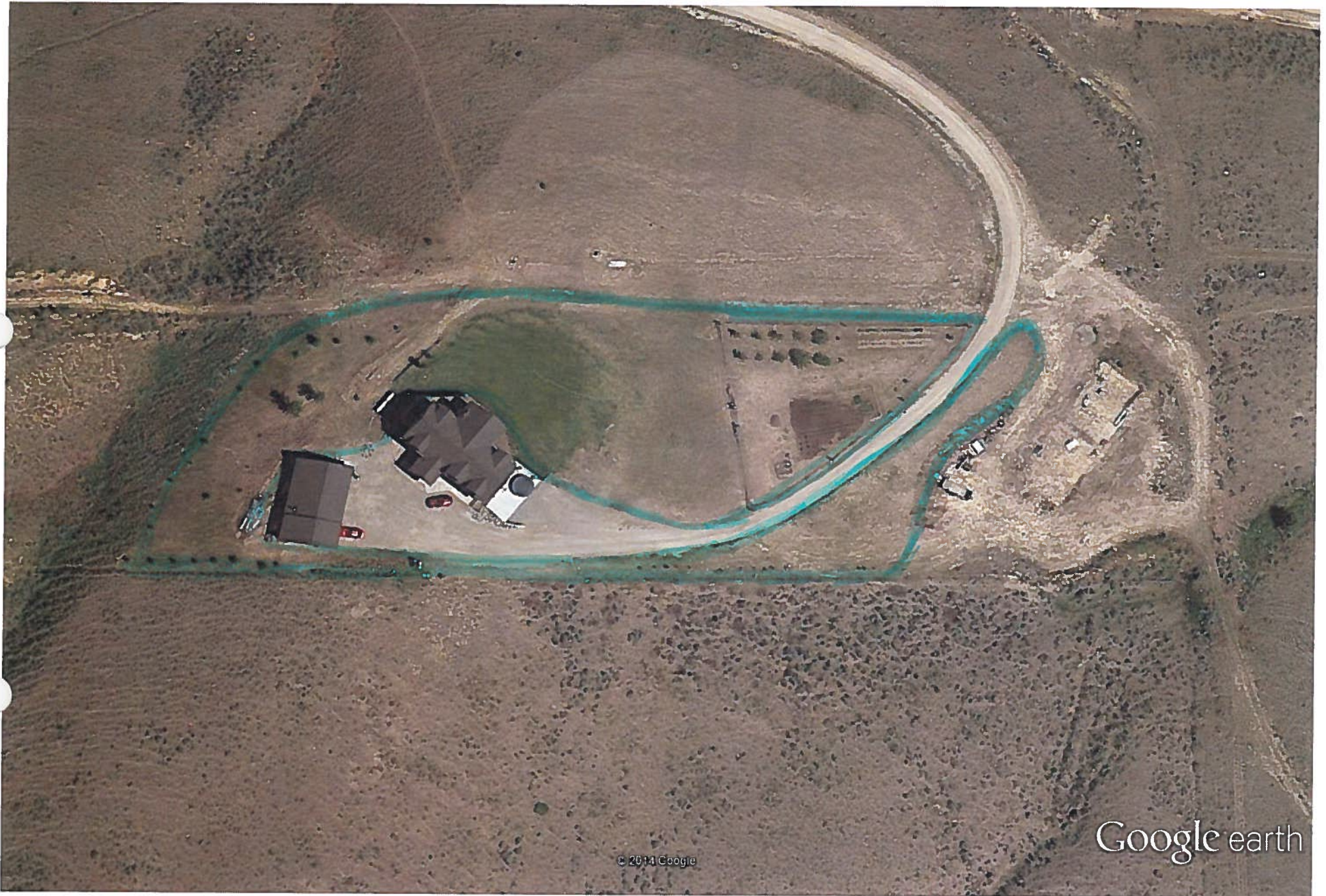
This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.0475 0.095 0.19 Miles





Google earth

feet
meters



PHOTO DATE : June 30, 2014

75-14277

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 75-14277
 Reviewer: Patrick Kelly
 Date of Review: 11/17/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	0.5	1	2
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	40	40	40
DISCHARGE PRESSURE	35	45	55
RATE OF FLOW (cfs)	0.03	0.04	0.07 0.05

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:

A range of small hp pumps were assumed given this is for small irrigation use . Lift was measured using the DRG map. Topography from the wastewater stream to the property measures close to 40 feet. A range of discharge pressures were used given the small irrigation system that is in place (35-55 psi). Theoretical average flow rate is 0.05 cfs.