

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

A. GENERAL INFORMATIONExam Date: 5/16/20231. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y N

- a. X 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 < >

Comment: The number of acres irrigated was unable to be confirmed through Aerial Imagery. Therefore, a field examination was conducted on May 16th, 2023.

2. Current Owner: Gene and Erica Wright

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: C115593

4. Source: Tributary:

Groundwater N/A

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
Groundwater			SW	SE	19	07N	03W	B.M.	Payette
								B.M.	
								B.M.	

Method of Determination: GIS and Tax Parcel DataChange 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	
07N	03W	19															1.3, D		1.3
		Lot #																	N/A
Total Acres =																			1.3

Method of Determination: GIS, Tax Parcel Data, Photos, and conversation with permit holder during field examination.Change in POU? Y X N Amendment Required? Y X N X 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). X Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
	MS4000	5		Grundfos	98998561

*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						

Measurement Comments: The system was mostly underground and there was not enough exposed pipe to get a measurement. The size and type of sprinkler nozzle were used to calculate the diversion rate for irrigation. Since a pump horsepower could be determined from the pump manufacturer's website a diversion rate calculation can be conducted.

E. FLOW CALCULATIONS Additional Computation Sheets Attached

Measured Method: Since a pump horsepower of 5 was determined from the pump manufacturers website a diversion rate calculation is possible. Lift is roughly 76 ft from the well long and expected drawdown during pumping. The calculation determined the capacity of the system is 0.14 cfs and could provide the diversion rate authorized on the permit. 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 less than 5 acres is 0.03 cfs/acre, (1.3 acres) * (0.03 cfs/acre) = 0.039 cfs or 0.04 cfs rounded. The permit authorized 0.04 cfs for domestic use and 0.09 cfs for irrigation. The irrigation portion, other than the ½ an acre included under domestic use, should not be licensed because the permit holder did not comply with condition 943. Therefore, I am recommending a 0.04 cfs total diversion rate.

$$Q = (5\text{Hp}) (8.8) (0.70) / (76 \text{ ft lift}) + (2.31) * (60 \text{ psi}) = 0.14 \text{ cfs}$$

Measurement = 0.14 cfs

Permit allowed = 0.13 cfs

Comments: There are 8 zones with 5 sprinklers per zone of Hunter I.25 6" gear drive sprinklers which are operated one zone at a time. Each sprinkler would discharge 12.2 gpm at 60 psi, while the system was operational according to the sprinkler nozzle size. There are also smaller Hunter I.20 sprinklers which divert 27 gpm when operating used for yard irrigation around the home.

$$(12.2 \text{ gpm at } 60 \text{ psi}) * (5 \text{ sprinklers per zone}) = 88 \text{ gpm}$$

$$1 \text{ cfs} = 448.83 \text{ gpm}$$

$$(88 \text{ gpm}) / (448.83 \text{ gpm}) = 0.196 \text{ cfs or } 0.20 \text{ cfs rounded. If only one zone is irrigated.}$$

$$(27 \text{ gpm}) / (448.83 \text{ gpm}) = 0.06 \text{ cfs when the yard around the home is irrigated}$$

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (1.3 \text{ acres}) \times (4.5 \text{ af/acre}) = 5.85 \text{ af or } 5.9 \text{ af rounded}$$

$$V = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.09 \text{ cfs}) \times (260 \text{ days}) \times (1.9835) = 46.4 \text{ af}$$

$$V = \text{Smaller of } V_{\text{I.R.}} \text{ and } V_{\text{D.R.}} = 5.9 \text{ af}$$

2. Volume Calculations for Other Uses: According to Administrative Processing Memo #22 the standard diversion rate for a single domestic use is 0.6 af for in home use and 0.6 af for up to 1/2 an acre of yard irrigation or 1.2 af. Since the irrigation portion of the permit should not be licensed because the permit holder did not comply with condition 943, I am recommending a 1.2 af total diversion volume.

G. PURPOSE OF USE

Irrigation X Y N # Stock _____ Domestic # of Homes 1

Other: < >

Change in Purpose of Use? Y X N

Method of Determination: GIS, Tax Parcel Data, 2022 Payette County Aerial Imagery and observations during field examination.

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

H. NARRATIVE/REMARKS/COMMENTS

This permit would qualify for an in-office examination. However, it was difficult to determine how many acres of yard irrigation was occurring. Therefore, a field examination was scheduled and conducted on May 16th, 2023. The permit authorized in house domestic use and 3 acres of irrigation diverting from groundwater. The permit holder and 2022 Payette County Aerial Imagery confirmed 1.3 acres of irrigation occurred. During the field exam the permit holder was able to operate the irrigation system, turning on 1 of 8 total sprinkler zones. The system used Hunter 1.25 sprinklers discharging 12.2 gpm per sprinkler nozzle. The permit holder explained only one sprinkler zone is operated at a time, including smaller Hunter 1.20 sprinkler nozzles irrigating the yard around the home. However, there was not enough pipe surface to get a flow measurement.

Since a 5-pump horsepower was determined a diversion rate calculation is possible. According to the calculation the system can handle 0.14 cfs at 60 psi. The standards set in Administrative Processing Memo #17 were used to determine diversion rate for the irrigation of 1.3 acres. The standards set in Administrative Processing Memo #22 were used to make diversion rate and volume recommendations. Not all conditions were met, and it has been confirmed a beneficial use was developed within authorization on the permit.

Condition 943 requires the permit holder to make full beneficial use of any surface water rights or from an irrigation entity before groundwater use. The permit holder has access to canal water through the Farmers Irrigation Company via ditches irrigating a field on the permit holder's property. He did not want to flood irrigate from a surface water source due to erosional concerns and provided a map demonstrating this. As of July 1st, 2023, Idaho Code § 42-204A(4a&b) establishes two exceptions to adding 943 to a permit. Section 4a, If surface water rights are not distributed by a water delivery entity and the applicant can show it is within the public interest surface water should not be used. Section 4b, the application is submitted in connection with a proposed or approved mitigation plan. Currently the permit holder has not provided documentation that demonstrates they meet either exception. Therefore, the irrigation portion of the water right, excluding the 1/2 acre of yard irrigation included with domestic use, should not be included on the license. I am recommending a 0.04 cfs diversion rate and 1.2 af diversion volume.

Condition 121 should be changed to 103 as standard with licensing. Condition WB5 should be changed to X01 because only domestic use should be licensed. Condition 187 should be added because only domestic use should be licensed. Conditions 943, WB7, and R69 should be removed because the license should be reduced to just domestic use, those conditions are designated for irrigation purposes. Condition 046 should be removed because the permit holder complied with the Departments well drilling requirements. All other conditions should be removed as standard with licensing.

Have conditions of permit approval been met? Yes X 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	1.2 AF
<u>Totals:</u>		0.04 CFS	1.2 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 ☒ None

Other: < >

J. AUTHENTICATION Skyler Cheever – Water Resource Agent

Field Examiner's  Date 5/16/2013

Reviewer  Date 3/6/25

Field Exam Map

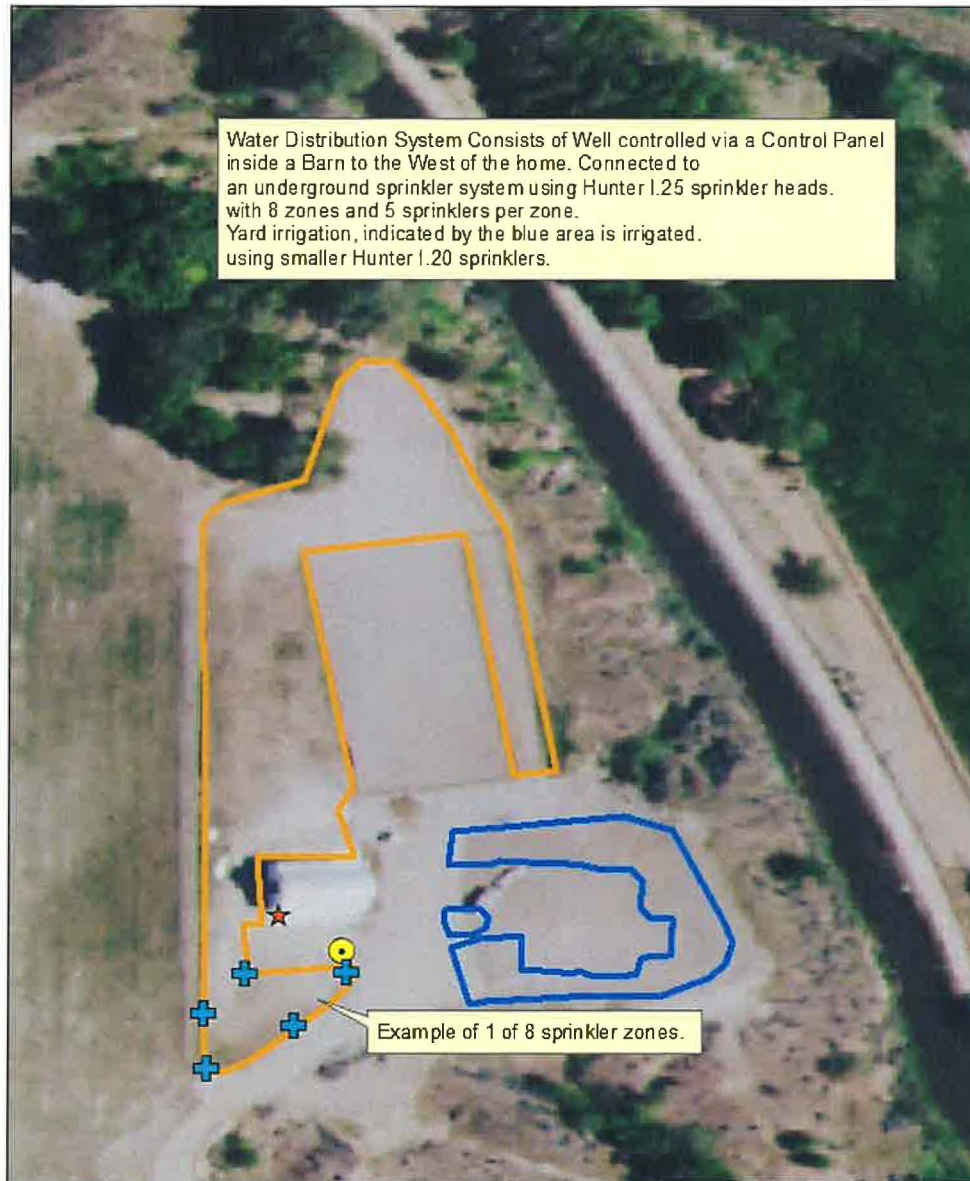
Map showing the authorized point of diversion (yellow point) and place of use (orange outline).



System Diagram

Map demonstrating the water delivery system as observed during the field examination.

Permit 65-24017 System Diagram



Legend

-  Sprinklers
-  Yard Irrigation
-  Other Irrigated Areas
-  Pump Control System
-  Point of Diversion

0 35 70 140 210 Feet



Pictures from Field Examination of Permit 65-24017



Figure 1. Picture of well tag. Well located to the south of a barn.



Figure 2. Picture of 1 of 8 sprinkler zones. This zone is just south of the well location



Figure 3. Picture of Hunter I.25 used in the 8 Sprinkler Zones.



Figure 4. Photograph of pressure gauge near attached to the well. The permit holder informed me it was not working properly and therefore did not give a proper reading.



Figure 5. Photograph of pump controlling unit displaying operating pressure and Hz.

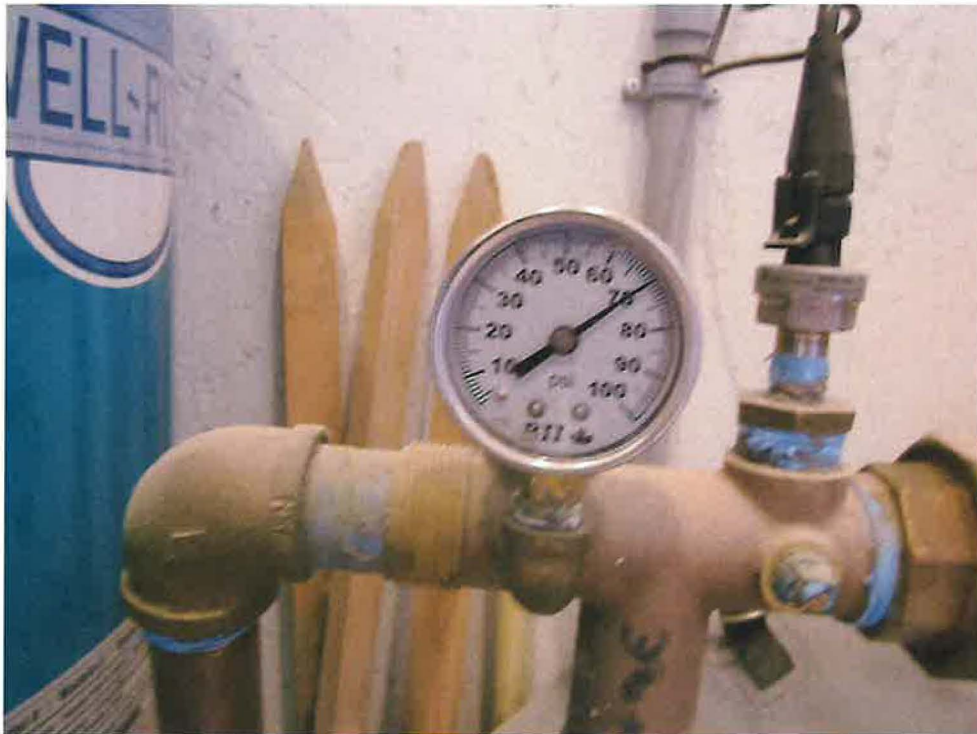


Figure 6. Photograph of pressure gauge in barn near pressure tank and pump controlling unit. The permit holder informed me this gauge provided an accurate measure of pressure for the system. This was confirmed by the digital readout on the pump control unit pictured above.



Figure 7. Photograph of pump specifications to the right of the pump control screen two photographs above.



Figure 8. Photograph of front of home with yard irrigation spanning around the back, shown in the image below. Irrigated using Hunter I.20 sprinklers.



Figure 9. Photograph of yard behind home in picture above. Irrigated with smaller I.20 hunter sprinklers.