

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

A. GENERAL INFORMATION

Permit No: 63-34951

Exam Date: 8/20/2021

1. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.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: Todd W. Corman
Owner of Record Correct? X Y N
Address of Record Correct? Y N
If No: Address

According to the Department's parcel data, the property is currently owned by Todd William Corman. There doesn't appear to be any issues.

3. Beneficial Use Fees have been paid: X Y N Receipt No: 1100739

4. SOURCE TRIBUTARY

Ground Water

Method of Determination: GIS, Well Driller's Report, and Tax Parcel Data

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
63-9343	Ground Water	Commercial and Heating	Permit – On Hold
63-21899	Ground Water	Domestic	Decree
Various United Water and City of Boise	Ground Water	Domestic, Irrigation, and Municipal	Decrees and Licenses

Comments: The only actual overlapping water right is 63-21899. Water right 63-21899 provides the domestic use from the same well. Water right 63-9343 is for the same subdivision and Harris Ranch to the southeast, but it is for heating and cooling and is on hold until the Boise Front Moratorium is lifted. Water rights 63-2973 and 63-7103 appear to be overlapping water rights, but they are for the lands in the Southeast corner of Lot 4 in Section 19, and are really not associated with this property at all. United Water's water right 63-10945 is a domestic and irrigation right for subdivision north of this property. This permit and water right 63-12899 are really the only rights associated with this property.

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

Water Right No.	Source	Purpose of Use	Basis
63-21899	Ground Water	Domestic	Decree

Comments: Water right 63-21899 is the domestic right for this property, and it is diverted from the same well.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Well Tag # D0087812	4		NE	SW	19	3N	3E	B.M.	ADA
								B.M.	
								B.M.	

Method of Determination: GIS, Well Driller's Report, and Tax Parcel Data.Change in POD? X N Amendment Required? X N**2. PLACE OF USE:** 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	
3N	3E	19									1.6	0.9							2.5
		Lot #									4	3							
Total Acres =																			2.5

Method of Determination: GIS and Tax Parcel DataChange in POU? X N Amendment Required? 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

4. Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Well Pump	Unknown	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
NONE						

2. Measurements: No measurement is required for an in-house exam.

E. FLOW CALCULATIONSYES Additional Computation Sheets

Attached

Measured Method:

According to the permit, this system uses a 5 Hp variable speed pump. The well driller's report states that the pumping water level is approximately 200 feet. Based on the information, this system could produce enough diversion rate to allow the full rate of 0.03 cfs per acre for the 2.5 acres being irrigated and the 0.04 cfs for in-house use. It should also be noted that a total diversion rate of 0.115 cfs could be produced from this system if the pressure was reduced to 29 psi, which can be done for certain types of sprinklers and the in-house use if needed. Therefore, no combined diversion rate limitation is needed.

Administrative Processing Memo #17 = 0.03 cfs/acre X 2.5 acres = 0.075 cfs rounded to 0.08 cfs
Permit allowed = 0.11 cfs

I am recommending 0.08 cfs since the permit limitation was based on Administrative Memorandum #17.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2.5 \text{ acre} \times 4.5 \text{ af/ac} = 11.25 \text{ rounded to } 11.3 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.08 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 41.3 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 11.3 \text{ af}$$

2. Volume Calculations for Other Uses:

N/A

G. PURPOSE OF USEIrrigation X Y N # Stock _____ Domestic # of Homes _____

Other: < >

Change in Purpose of Use? Y NMethod of Determination: Taxlot data and conversations with owner.

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

H. NARRATIVE/REMARKS/COMMENTS

This permit qualifies for an in-house examination. This permit falls within two special regulatory areas. It is within the Boise Front Ground Water Management Area, which prevents diverting low temperature geothermal water in the aquifer approximately 300 feet below land surface. This diversion is also within the borders of the Basin 63 Ground Water Restricted Area that prevents new water rights to be diverted from ground water less than 200 feet below land surface. This leaves a very narrow window that the water can be diverted from (200 feet to 300 feet). The Well Driller's Report suggests that the well is cased down to 228 feet, and the well was drilled to a total depth of 238 feet. The permit holder apparently have met the criteria needed to fit their well within the narrow boundaries that can be appropriated in this area. The water temperature of this well is 58 degrees, so it isn't a low temperature geothermal well. It also appears as though the well is gathering water below the blue clay layer that is a signal layer that shows it well below the ground water restricted area.

Domestic water right 63-21899 overlaps this water right, so there is a possible potential for enlargement of the water use. We should have an X35 condition that limits the irrigation under these two water rights to the 2.5 acres found to be irrigated during this field examination. As discussed in the water measurement section, there shouldn't be a limitation on the diversion rate, since there is a possibility that they could run the sprinklers and household at 29 psi. Volume limitations or enlargements shouldn't be an issue.

The original permit and the aerial imagery appears to show some irrigation going beyond the northwest border of the tax parcel. Judging by the alignment of the roads shown in the aerial imagery and the roads shown in the tax parcel records it appears as though the aerial imagery is very well aligned to the tax parcel shape files. The permit holder doesn't appear to own any of the land outside of their actual parcel, so I only showed that the acres irrigated within the permit holder's tax parcel. I have been advised by administration that we cannot license a water right that is in trespass. Therefore, the total acres I can recommend are 2.5 acres of irrigation.

Conditions R69, 165, and 930 should be carried forward to licensing. Condition 058 should be changed to condition 073 as is standard. Condition 121 should be changed to condition 103 as is standard. Condition X35 should be added to limit the irrigation when combined with 63-21899 to 2.5 acres.

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	03/01 to 11/15	0.08 CFS	11.3 AFA
	<u>Totals:</u>	0.08 CFS	11.3 AFA

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 – DANIEL A. NELSON – WATER RIGHT ANALYST 3

Field Examiner's Name  Date 8-23-21

Reviewer  Date 8/23/21

Field Exam Map:

The green border shows the place of use and the yellow point shows the point of diversion. The white borders show the local tax parcels available to the Department.



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-34951
 Reviewer: Dan Nelson
 Date of Review: 8/20/2021

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)
 RATE OF FLOW (gpm)

Scenario #1	
	5
	0
	200
	40
	0.105
	47

Scenario #2	
	5
	0
	200
	50
	0.098
	44

Scenario #3	
	5
	0
	200
	60
	0.091
	41

Maximum need Calculation	
	5
	0
	200
	29
	0.115
	52

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 permit application states that a 5 Hp variably speed pump is used for this system. The well driller's report states that the approximate drawdown of the well is 200 feet. Assuming a standard household pressure of 40 to 60 psi, this system could produce 0.09 cfs to 0.11 cfs.

This permit irrigates 2.5 acres. At 0.03 cfs per acre for 2.5 acres, a minimum diversion rate of 0.075 cfs could be use. This pump also provides domestic use of 0.04 cfs under water right 63-21899 at 0.04 cfs. I believe it would be rare to have the domestic use and the irrigation use at maximum diversion rate at the same time, but there could be a possibility that it could happen. The pumping system could need to divert approximately 0.115 cfs. That would drop the pumping pressure in this pumping system down to 29 psi. That wouldn't be ideal, but most yard type sprinklers could operate at that low of pressure. Therefore, there shouldn't be a combined limit for this system.

Therefore, I recommend that this permit be limited to 0.08 cfs, which is rounded from 0.075 cfs.

