

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

A. GENERAL INFORMATIONPermit No: 63-33936

Exam Date: 10/6/2015

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? X Y N
- 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: Name: Donald and Amber Rollins
- Owner of Record Correct? X Y N
- Address of Record Correct? X Y N
- If No: Address

Please Note: Tax lot data shows the Rollins own the property and that the address is correct.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0
4. SOURCE TRIBUTARY

Couer D Alene Lake

Spokane 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: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: This permit lies within the borders of the Black Canyon Irrigation District, but the property for this permit lies above (up-hill) the canal, so canal water cannot be delivered here unless pumped. There were no signs of irrigation for this property prior to this permit.

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

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: There are no other water rights with a point of diversion in the SENW of Section 1. However, the permit states that the well is shared with their neighbor to the north. The well has two pumps in the same well casing. There is no water right for the property to the north, so I am assuming they are operating under an exempt water use according to Idaho Code 42-111.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Well			SE	NW	1	5N	4W	B.M.	Payette County
								B.M.	
								B.M.	

Method of Determination: The permit states that the well is located on the property line between them and their neighbor. The 2015 aerial photography shows what appears to be a small well house on the border between the two properties.

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	
5N	4W	1								0.5									
										D									
Total Acres =																			

Method of Determination: 2015 aerial photos show the home and 0.5 acres of irrigation. The home appears to have been on the property since 2004, but the 2015 aerial photos are the only ones that shows irrigation around the home.

Change 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	Unknown	Unknown	Unknown	Unknown	Unknown

*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.

E. FLOW CALCULATIONS Additional Computation Sheets Attached

Measured Method:

A theoretical analysis shows that a diversion rate of 0.07 cfs is possible with a 3 Hp pump, and 0.11 cfs is possible with a 5 Hp pump. The owner didn't know the size of pump when the application for permit was filed, so I used several theoretical calculations to determine if a 0.10 cfs diversion rate is reasonable. It appears as though a 5 Hp pump could be used to supply the water required under this permit, and 3 Hp pump could be used to supply the home and the amount found to be irrigation in the 2015 aerial photos.

Theoretical Calculation = 0.07 cfs (3 Hp pump) and 0.11 cfs (5 Hp pump).

Permit allowed = 0.10 cfs

I found 0.5 acres irrigated = 0.03 cfs X 0.5 acres = 0.02 cfs + 0.04 cfs for home = 0.06 cfs.

I recommend a diversion rate of 0.06 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.5 \times 4.5 = 2.25 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \times 260 \times 1.9835 = 10.3 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 2.3 \text{ af}$$

2. Volume Calculations for Other Uses:

The domestic use for this permit is for in-house use only, since the irrigation use is covered by the irrigation component. According to Permit Processing Administrative Memo #22, an in-house domestic use is limited to 0.06 af unless other information is available to provide otherwise.

G. PURPOSE OF USE

Irrigation ☒ Y ☐ N # Stock _____ Domestic # of Homes 1

Other: < >

Change in Purpose of Use? ☐ Y ☒ N

Method of Determination: 2015 aerial photos in GIS.

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

H. NARRATIVE/REMARKS/COMMENTS

This permit is qualified for an in-house exam. This permit is for domestic use and irrigation of up to 2 acres. The tax lot is a 2 acre tax lot, but only 0.5 acres were irrigated in 2015. Therefore, the permit will be limited to 0.5 acres of irrigation. A home has been on this property since prior to 2006, so there is no question that the domestic use has been developed. According to the theoretical sheet, it would take a very large pump (5 Hp pump) to irrigate the full property, and there is a second pump in this well for the neighbor. According to the permit, there are two separate systems out of a single well for the property involved in this permit and the property to the north. I could not find a water right for the property to the north, so I am assuming it is operating under the exemption allowed by Idaho code 42-111.

I am going to carry conditions 004 and WB5 onto the license. I am leaving 004 on the license, since the well is shared with the neighbor. Condition 121 will be changed to 103 as is standard. Condition R69 will be changed to X31, since less than 1 acre of ground is being irrigated.

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>
Domestic	1/1 to 12/31	0.04 CFS	0.6 AF
Irrigation	3/1 to 11/15	0.02 CFS	2.3 AF
<u>Totals:</u>		0.06 CFS	2.9 AF

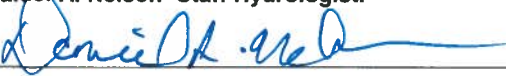
2. Recommended Amendments

___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 – Daniel A. Nelson- Staff Hydrologist.

Field Examiner's Name  Date 10-6-15

Reviewer _____ Date _____

Well house appears to be here in-between the two lots.

Place of Use

05N04W

Permit 63-33936
by Dan Nelson

The photo shows the place of use and the probable location of the well house. This photo also shows the home is above (uphill) of the Black Canyon Canal.

Black Canyon Canal
House is above the canal.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-33936
 Reviewer: Dan Nelson
 Date of Review: 10/6/2015

P/D No.:

	Scenario 1	Scenario 2	Scenario 3
PUMP HORSEPOWER	2	3	5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	160	160	160
DISCHARGE PRESSURE	50	50	50
RATE OF FLOW (cfs)	0.04	0.07	0.11
	20	30	50

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:

There is very little information in the application for permit on this system. An attempt was made to find the well log for this permit during the application processing stage, but no well log was found. The well that this permit uses is shared with the water user to the north of the property, so it is a bit tricky to determine an actual flow rate with a theoretical calculation. I did find two well logs, one was for a property north of the permit and below the canal, and the second was south of the permit above the canal. There was approximately 30 feet of difference between the two wells, and the contour lines show approximately 20 feet of elevation difference, so I think I can use these examples to get an estimated pumping level. The permit is north of the property, so I will use the static water depth of the south well, and the drawdown on the north well was 10 feet which seems reasonable. Therefore, the pumping level was estimated at 160 feet. I used a standard pressure of 50 psi to determine if the flow rate of 0.10 cfs was reasonable. It would take a 5 Hp pump to provide the water needed for this permit, which does seem a bit excessive for a domestic type use. However, they are only irrigating 0.5 acrs, so the irrigation allotment would be reduced allowing a total of 0.06 cfs, which would fall in line with a 3 Hp pump. A 3 Hp pump is more in line with what is used for domestic type settings.

R RESOURCES

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp _____ Rge _____ Sec _____
1/4 _____ 1/4 _____ 1/4 _____
Lat: _____ Long: _____

1. DRILLING PERMIT NO. 63-97 W-0837-000
Other IDWR No. D 000 1484

2. OWNER:

Name Scott Brown
Address 5700 Oasis Rd.
City Caldwell, Id. State Id Zip 83605

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N
W
E
S
Twp. 6 North ☒ or South ☒
Rge. 4 East ☐ or West ☒
Sec. 36 1/4 1/4 1/4 1/4
Gov't Lot _____ County _____
Lat: _____ Long: _____
Address of Well Site 5700 Oasis Rd
City Caldwell
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Bk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD

☐ Air Rotary ☒ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT Sacks or Pounds	METHOD
Material	From	To		
BENTONITE	0	18'	6	OVER BORE

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 219'
Was drive shoe seal tested? ☐ Y ☒ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	1	219	250		☒	☐	☒	☐

Length of Headpipe 5' Length of Tailpipe 0

9. PERFORATIONS/SCREENS

☐ Perforations Method _____
☒ Screens Screen Type HUSTON

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
215	225	16	5	5"	STAINLESS	☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

120 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: WELL CAP

11. WELL TESTS:

☐ Pump ☐ Bailor ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
50	10'	225	1/2 hr

Water Temp. 56 Bottom hole temp. 56

Water Quality test or comments: GOOD

Depth first Water Encountered 215'

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
8	0	10	TOP SOIL		
	10	30	SAND		
	30	60	BROWN CLAY		
	60	64	SAND		
	64	68	CLAY		
	68	72	SAND		
	72	75	CLAY		
	75	78	SAND		
	78	82	CLAY		
	82	85	SAND		
	85	105	CLAY		
	105	110	SAND		
	110	115	CLAY		
	115	120	SAND		
	120	123	CLAY		
	123	125	SAND		
	125	175	CLAY		
	175	179	SAND		
	179	185	CLAY		
	185	189	SAND		
	189	195	CLAY		
	195	198	SAND		
	198	201	BLUE CLAY		
	201	205	SAND		
	205	208	SAND		
	208	215	CLAY		
	215	225	SAND		

RECEIVED

RECEIVED

DEC 22 1997

DEC 19 1997

APPROVED
Department of Water Resources

WATER RESOURCES
WESTERN REGION

Completed Depth 225 (Measurable)
Date: Started 12-2-97 Completed 12-12-97

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Clearwater Drilling Firm No. 382

Firm Official Brian Pearson Date 12-17-97

and

Supervisor or Operator _____ Date _____

(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

NORTH OF PROPERTY
2500 Elev. Below canal