

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33278

Exam Date: 07/13/20

1. Current Owner:

COLBY BROWN 24403 FALCON LN CALDWELL ID 83607-0815 AND/OR
AMY BROWN 24403 FALCON LN CALDWELL ID 83607-0815

3. **SOURCE:**

GROUND WATER

Method of Determination: Determined groundwater source by field exam, well on site, and well log.

B. OVERLAP REVIEW

1. Other water rights with the same place of use:

NO Overlap

Water Right No.	Source	Purpose of Use	Basis
N/A	N/A	N/A	N/A

Comments: Black Canyon Irrigation District and United States of America irrigation district overlap but do not deliver water to property.

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

NO Overlap

Water Right No.	Source	Purpose of Use	Basis
N/A	N/A	N/A	N/A

Comments: No POD overlap

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER NE¼ SE¼, Sec. 34, Twp 05N, Rge 03W, B.M. CANYON County

Method of Determination: PLSS digital map using ArcMap and aerial imagery.

PLACE OF USE: DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	03W	34													X				

Method of Determination: PLSS digital map using ArcMap and aerial imagery.

3.

 X Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

 X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

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

 X Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
0018557	N/A	1.5 Hp	N/A		

D. FLOW MEASUREMENTS

Measurements: System uses submersible pump in well with buried lines so no opportunity to measure available.

E. FLOW CALCULATIONS

See attached theoretical spreadsheet.

Theoretical Flow Calculation:

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

Pump Horsepower	1.5
Pumping Level	120
Discharge Pressure	40
Rate of Flow (cfs)	0.04

Domestic Permit	0.04 cfs
Theoretical Rate	0.08 cfs
B.U. Proof Fee:	\$50 → 0.01 cfs to 0.20 cfs

License Recommendation **0.04 cfs**

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A
2. Volume Calculations for Other Uses:
Domestic = 1.2 afa as per Apps Memo No. 22 "Definition of Domestic" when irrigation is included.

G. NARRATIVE/REMARKS/COMMENTS

The field exam was conducted July 13, 2020 by Kate Hulse.

The permit was assigned to Colby and Amy Brown on May 20, 2010. The proof of beneficial use was submitted May 26, 2020 by Colby Brown and Amy Brown. Current Canyon county taxlot data represent Colby and Amy Brown as the owners of the land pertinent to the place of use and point of diversion.

Ground water comes from a well drilled in 2001. The well log gives both the legal description and the GPS coordinates in Degrees-Minutes- Seconds. Both of these methods place the well in Section 34, Township 05 North, Range 03 West, NE 1/4, SE 1/4. The system diverts water using a 1.5 horsepower pump to a 2" mainline pipe to serve the house and lawn. The original permit allowed for the irrigation of up to 4 acres, a review of satellite photos of

the property from 2009 to 2017 did not show any evidence of irrigation other than the 0.5 acres of yard associated with the home. Water Resource Agent Kate Huelse met Colby Brown to conduct a field exam July 13th, 2020. Mr. Brown had not yet irrigated the 4 acres of field grass as he believed he had to wait for the water right to begin seeding. As a result I am recommending the department licenses Mr. Brown for the Domestic portion of his permit and he re-applies for the irrigation of 4 acres.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
DOMESTIC	01/01 to 12/31	0.04 CFS	1.2 AF

Totals: 0.04CFS 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

I. AUTHENTICATION Kate Huelse - Water Resource Agent

Field Examiner's Name Kate Huelse Date 7/14/20

Reviewer Patricia Wilson Date 7-15-2020

System Diagram



Legend

- Township/Range
- Sections
- Parcels

0 0.025 0.05 Miles

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-33278
 Reviewer: Kate Huelse
 Date of Review: 7/13/2020

P/D No.:	Scenario 1	Scenario 2	Scenario 3
PUMP HORSEPOWER	1.5	1.5	1.5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	120	120	120
DISCHARGE PRESSURE	40	50	60
RATE OF FLOW (cfs)	0.04	0.04	0.04 0.04

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 domestic use and the requested diversion rate is relatively small. Lift was measured using the DRG map. Topography from the home to shore waters measure close to 25 feet. A range of discharge pressures were used under what we would expect to see from in home domestic tanks (40-60 psi). Theoretical average flow rate is 0.05 cfs.

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

77-770132

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

1. WELL TAG NO. D 0018557
 DRILLING PERMIT NO. _____
 Other IDWR No. _____

2. OWNER: Colby Brown
 Name _____
 Address % Capitol Bldrs P.O. Box 1349
 City Eagle State Id Zip 83616

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N		Twp. <u>5</u>		North ☒ or South ☐	
E		Rge. <u>3</u>		East ☐ or West ☒	
S		Sec. <u>34</u>		NE 1/4 SE 1/4	
W		Gov't Lot _____		County <u>Canyon</u>	
		Lat: _____		Long: _____	
		Address of Well Site <u>24403 Falcon</u>		City <u>Caldwell</u>	

(Give at least name of road & distance to road or landmark)

Lt. _____ Blk. _____ 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		
<u>Bentonite</u>	<u>0</u>	<u>20</u>	<u>550*</u>	<u>Overbore</u>

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 167'
 Was drive shoe seal tested? ☐ Y ☒ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
<u>6"</u>	<u>+2</u>	<u>167</u>	<u>250</u>	<u>Steel</u>	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe 10' Length of Tailpipe _____

9. PERFORATIONS/SCREENS

Perforations _____ Method _____
 Screens _____ Screen Type Nagaska

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
<u>169</u>	<u>174</u>	<u>1020</u>		<u>5"</u>	<u>SS</u>	☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

48 ft. below ground Artesian pressure _____ lb.
 Depth flow encountered _____ ft. Describe access port or control devices: well cap

11. WELL TESTS:

☐ Pump ☐ Bailor

Yield gal./min.	Drawdown	Pumping Level	Time
<u>100 +</u>			<u>1 hour</u>

Water Temp. 59° Bottom hole temp. _____

Water Quality test or comments: Iron 2.0 PH 7.5

Grains 3. Depth first Water Encounter 58'

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
<u>10</u>	<u>0</u>	<u>10</u>	<u>Top soil</u>		
<u>"</u>	<u>10</u>	<u>20</u>	<u>Soft clay</u>		
<u>"</u>	<u>20</u>	<u>38</u>	<u>Soft clay</u>		
<u>"</u>	<u>38</u>	<u>43</u>	<u>clay w/ pea gravel</u>		
<u>"</u>	<u>43</u>	<u>58</u>	<u>sand w/ some gravel</u>		
<u>"</u>	<u>58</u>	<u>60</u>	<u>Sand & gravel</u>	☒	
<u>"</u>	<u>60</u>	<u>98</u>	<u>Sand & gravel</u>	☒	
<u>"</u>	<u>98</u>	<u>104</u>	<u>tan sandy clay</u>		
<u>"</u>	<u>104</u>	<u>107</u>	<u>tan clay</u>		
<u>"</u>	<u>107</u>	<u>110</u>	<u>Sand</u>		
<u>"</u>	<u>110</u>	<u>116</u>	<u>clay</u>		
<u>"</u>	<u>116</u>	<u>117</u>	<u>Sand</u>		
<u>"</u>	<u>117</u>	<u>124</u>	<u>clay</u>		
<u>"</u>	<u>124</u>	<u>128</u>	<u>Sand</u>		
<u>"</u>	<u>128</u>	<u>140</u>	<u>clay & short sand layers</u>		
<u>"</u>	<u>140</u>	<u>148</u>	<u>clay & short sand layers</u>		
<u>"</u>	<u>148</u>	<u>161</u>	<u>clay w/ sand layers</u>		
<u>"</u>	<u>161</u>	<u>167</u>	<u>dark clay</u>		
<u>"</u>	<u>167</u>	<u>174</u>	<u>sand</u>	☒	

RECEIVED

AUG 15 2001

Department of Water Resources

RECEIVED

AUG 03 2001

WATER RESOURCES
WESTERN REGION

Completed Depth 174 (Measurable)
 Date: Started 7.25.01 Completed 7.26.01

13. DRILLER'S CERTIFICATION

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

Company Name Adamson Pump & Drill No. 0457

Firm Official Dave Adamson 7.30.01

and Driller or Operator Dave Adamson 7.30.01

(Sign once if Firm Official & Operator)