

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 86-12048
Exam Date: 03/14/2024

1. Current Owner:
V KAREN HIXSON REVOCABLE TRUST 1024 ASHMOR LN TROY ID 83871-5105
2. Accompanied by: LEE HIXSON
Phone No: (435) 229-5566
Address: 1024 ASHMOR LN TROY ID 83871-5105
Relationship to permit Holder: PERMIT HOLDER

3. **SOURCE:**
GROUND WATER
GROUND WATER

Method of Determination: ArcMap and DRG layer.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap
2. Other water rights with the same point-of-diversion: NO Overlap

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

GROUND WATER SE¼ NE¼, Sec. 35, Twp 40N, Rge 03W, B.M. LATAH County
GROUND WATER SE¼ NE¼, Sec. 35, Twp 40N, Rge 03W, B.M. LATAH County

Method of Determination: GPS; PODS are wells D0010242 located at -116°40.158, 46°45.999 and D0090545 located at -116°40.191, 46°46.027.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
40N	03W	35				1.5													1.5

Total Acres: 1.5

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	
40N	03W	35				X													

Method of Determination: **Beneficial use field examination and ArcMap aerial imagery.**

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components.
☒ Indicate weir size/pipe as applicable.
 Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be
☒ 1:24,000 or greater.
☒ Aerial Photo Attached (required for irrigation of 10+ acres).
☒ 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
D0010242	UNKNOWN				
D0090545	GRUNDFOS	1.5		GRUNDFOS	10SQE15-330

D. FLOW MEASUREMENTS

Flow measurement not required as per IDAPA RULE 37.03.02.035.01.r.iii.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method: Theoretic Pump Equation = the new well is a 1.5 HP Grundfos submersible pump motor installed at depth of 401 ft with an operating pressure of 45 psi which equates to a diversion rate of 9.4 gpm or 0.02 cfs considering department rounding standards. The old well does not have any pump information but produces 20 gpm per the well log which equates to 0.05 cfs. The two combined would easily produce 0.05 cfs which is the total diversion rate being recommended for both domestic & irrigation uses.

- The irrigation beneficial use for 1.5 acres observed at time of field exam is authorized a department standard diversion rate of 0.03 cfs x 1.5 ac = 0.05 cfs. The permitted amount agreed upon is 0.03 cfs
- The domestic beneficial use is authorized 0.02 cfs for 1 home, per the protest agreement, for licensing purposes.
- I'm recommending a maximum diversion rate of **0.05 cfs** toward licensing this Permit. This qualifies for an in-office exam.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: Permit is for 0.03 cfs for irrigation use and this is what is recommended per the protest agreement.

$$V_{I.R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.5 \text{ ac} \times 3.0 \text{ afa} = 4.5 \text{ af}$$

$$V_{D.R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.05 \text{ cfs} \times 244 \text{ days} \times 1.9835 = 21.2$$

$$V = \text{Smaller of } V_{I.R} \text{ and } V_{D.R} = 4.5 \text{ afa}$$

2. Volume Calculations for Other Uses: Domestic annual volume equals 1 home x 0.6 af (in-home use only) = 0.6 af.

I am recommending the maximum diversion volume as the sum of two beneficial uses = 5.1 af.

G. NARRATIVE/REMARKS/COMMENTS

I conducted a beneficial use field examination on 3/14/2024 with the Permit Holder, Lee Hixson, which showed two groundwater wells diverting water for irrigation and domestic purposes. The original well D0010242, installed in 1999 and a new well installed in 2021 (D0090545). The applicant has submitted an amendment to add the second POD. The original

system has a submersible pump but it is unknown what the make, model or HP is. It is installed at a depth of 325 ft. The new system has a 1.5 hp Grundfos submersible pump installed at a depth of 401 ft. This qualifies for an in-office exam. I'm recommending licensing using a theoretic pump equation which derives a maximum diversion rate of 0.05 cfs.

The domestic POU is the original home and, after this permit was issued, they put in another well and built another home. I'm recommending the domestic use annual volume of 0.6 af authorized for the original home as designated on the license recommendation. The applicants have submitted a new application for permit for the new home. I used ArcMap aerial imagery to accurately trace out the domestic POU during licensing review.

The irrigation POU consists of an orchard/garden area. Field maps were used to sketch the irrigation POU, which when traced using ArcMap equal 1.5 acres. The annual volume recommended for licensing equals $1.5 \text{ ac} \times 3.0 \text{ afa} = 4.5 \text{ af}$. The maximum diversion volume equals the sum of both beneficial uses equaling 5.1 af.

I removed conditions 26A and 046 from the Permit during licensing review based on compliance by the applicant. I've carried all other conditions on the Permit to the license. There are no overlapping water right concerns toward licensing 86-12048.

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>	
IRRIGATION	04/15 to 11/15	0.03 CFS	
DOMESTIC	01/01 to 12/31	0.02 CFS	

Totals: 0.05 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 ☒ None

I. AUTHENTICATION Tammy Alleman - Water Resource Agent

Field Examiner's Name Tammy Alle Date 3/7/24

Reviewer Chase Beel Date 5/7/25

86-12048



OLD WELL D0010242



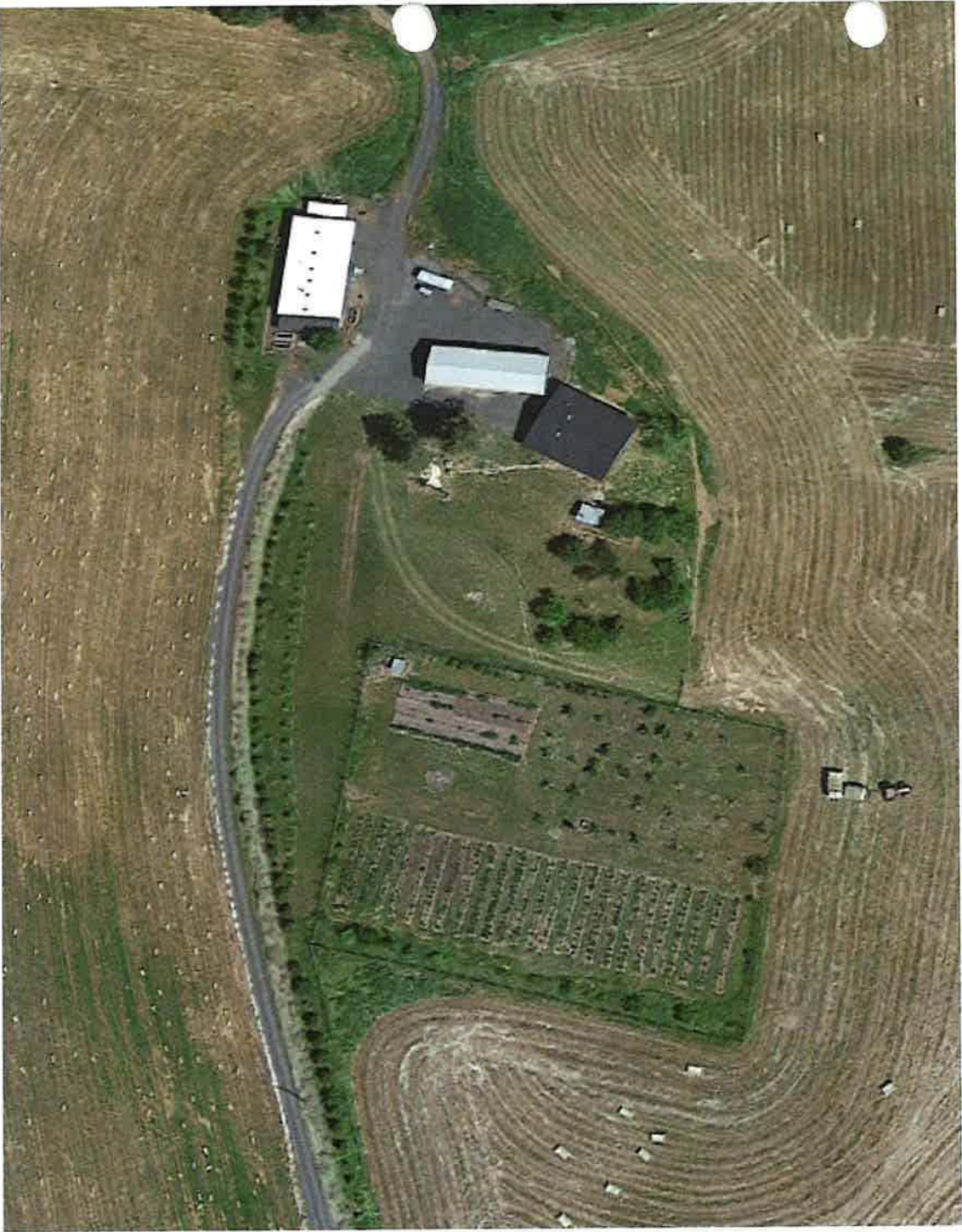


NEW WELL D0090545



1.5 ACRES OF IRRIGATION





THEORETICAL PUMPING EQUATION(S) FOR WR# 86-12048

Theoretical Pumping Equation is estimated to lift 401 ft, and running at 45 psi.

PUMP EQUATION

WATER RIGHT No. 86-12048

Pump in River	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
$Q = \frac{HP \cdot 8.8 \cdot \text{Eff}}{H}$	1.5	505.0816	0.8	401	45

$Q = 0.021 \text{ cfs} = 9.4 \text{ gpm}$

THEORETICAL PUMPING EQUATION(S) FOR WR# 86-12048

Theoretical Pumping Equation is estimated to lift 325 ft, and running at 45 psi.

PUMP EQUATION

WATER RIGHT No. 86-12048

Pump in River	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP \cdot 8.8 \cdot \text{Eff} / H$	3	429.0816	0.8	325	45
Q = 0.049 cfs 22.1 gpm					

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0090545

Drilling Permit No. _____

Water right or injection well # _____

2. OWNER:

Name VICKI HIXSON

Address 4410 Hwy 8

City Troy State ID Zip 83871

3. WELL LOCATION:

Twp. 46 North ☒ or South ☐ Rge. 03 East ☐ or West ☒

Sec. 35 1/4 SE 1/4 NE 1/4

Gov't Lot _____ County Ketchikan

Lat. 46 ° 46.0276 (Deg. and Decimal minutes)

Long. 116 ° 46.1917 (Deg. and Decimal minutes)

Address of Well Site 4410 Hwy 8

City Troy

Lot _____ Blk. _____ Sub. Name _____

4. USE:

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

☐ Other _____

5. TYPE OF WORK:

☒ New Well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
<u>Bentonite</u>	<u>385</u>	<u>0</u>	<u>35#</u>	<u>Top Pour</u>
<u>chip</u>				

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing Liner	Threaded	Welded
<u>6</u>	<u>11.5</u>	<u>385</u>	<u>250</u>	<u>Steel</u>	☒	☐	☒
<u>4</u>	<u>-21</u>	<u>401</u>	<u>160</u>	<u>PVC</u>	☐	☒	☐
					☐	☐	☐
					☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 38

9. PERFORATIONS/SCREENS:

Perforations ☒ Y ☐ N Method Screw

Manufactured screen ☐ Y ☒ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
<u>461</u>	<u>361</u>	<u>18x35</u>	<u>4</u>	<u>4</u>	<u>PVC</u>	<u>160</u>

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☒ N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 340 Static water level (ft) 205

Water temp. (°F) 53 Bottom hole temp. (°F) _____

Describe access port Well cap

Well test:	Test method:
Drawdown (feet)	Pump
Discharge or yield (gpm)	Bailer
Test duration (minutes)	Air
<u>400</u>	☐
<u>6</u>	☐
<u>10</u>	☒
	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
<u>10</u>	<u>0</u>	<u>16</u>	<u>Clay / Brown</u>		☒
<u>8</u>	<u>16</u>	<u>24</u>	<u>Clay / light Brown</u>		☒
<u>7</u>	<u>24</u>	<u>28</u>	<u>Clay / Gray</u>		☒
<u>6</u>	<u>28</u>	<u>39</u>	<u>Basalt</u>		☒
<u>6</u>	<u>39</u>	<u>140</u>	<u>Basalt</u>		☒
<u>6</u>	<u>140</u>	<u>150</u>	<u>Clay / Brown</u>		☒
<u>6</u>	<u>150</u>	<u>160</u>	<u>Clay / light Brown</u>		☒
<u>6</u>	<u>160</u>	<u>400</u>	<u>Basalt</u>	☒	
<u>6</u>	<u>400</u>	<u>405</u>	<u>Clay / Dark Brown</u>		☒

RECEIVED

OCT 14 2021

IDWR/NORTH

Completed Depth (Measurable): 401

Date Started: 9/18/21 Date Completed: 9/10/21

14. DRILLER'S CERTIFICATION:

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

Company Name Abdell Drilling Co. Co. No. 767

*Principal Driller [Signature] Date 9/10/21

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

RECEIVED

Form 238-7

DEC 23 1999

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

IDWR/North

076394

Office Use Only
Inspected by _____
Twp _____ Rge _____ Sec _____
1/4 _____ 1/4 _____ 1/4 _____
Lat: _____ Long: _____
☒ Air ☐ Flowing Artesian

1. DRILLING PERMIT NO.

Other IDWR No. 86-99-N-46

2. OWNER:

Name Mike Realey

Address PO Box 809

City Troy State ID Zip 83871

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N
W E S
Twp. 40 North ☒ or South ☐
Rge. 3 East ☐ or West ☒
Sec. 35 1/4 SE 1/4 NE 1/4
Gov't Lot _____ County LATAH
Lat: _____ Long: _____
Address of Well Site M. 24 Highway City Troy
(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		METHOD
Material	From	To	Sacks or Pounds		
Bentonite	0	71	9		DRY

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 71

Was drive shoe seal tested? ☒ Y ☐ N How? 300 PSI

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8	71	71	250	Steel	☒	☐	☒	☐
6	40	325	250	PVC	☐	☒	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

☒ Perforations Method SAW

☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
225	325	1/8x12	150	6"	PVC	☐	☒

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

203 ft. below ground Artesian pressure _____ lb.

Depth flow encountered _____ ft. Describe access port or control devices: _____

40 N 3 W 35

11. WELL TESTS:

☐ Pump ☐ Bailer

Yield gal./min.	Drawdown	Pumping Level	Time
20		315	1 hr

Water Temp. 56

Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encountered 315

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
14	0	1	SOIL		
14	1	65	CLAY		
8	65	71	BASALT BLANK SOFT		
8	71	156	BASALT BLANK SOFT		
8	156	173	CLAY		
8	173	212	BASALT BLANK HARD		
8	212	213	BASALT BLANK		
8	213	255	BASALT BLANK HARD		
8	255	256	BASALT + CLAY		
8	256	277	BASALT BLANK HARD		
8	277	298	BASALT + CLAY		
8	298	315	BASALT BLANK HARD		
8	315	316	BASALT BLANK		X
8	316	325	BASALT BLANK HARD		

Completed Depth 325 (Measurable)

Date: Started 8-27-99

Completed 8-30-99

13. DRILLER'S CERTIFICATION

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

2246 Burrell

Firm Name Lewiston, Idaho 83501

Firm No. 0376

(208) 743-7295

Firm Official _____

Date 12/21/99

and

Supervisor or Operator _____

Date 8/21/99

(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Address Change
Ja 3/5/25

March 1, 2025

RECEIVED
MAR 05 2025

Tammy Alleman

IDWR / NORTH

Idaho Dept of Water Resources

Dear Ms Alleman,

Thank you for your help with finalizing my water right. As you recall, I built a second adjoining home on my original property at 4410 Hwy 8 in Troy. With building the second home, Latah county required that I name my driveway a county road, which is Ashmor Lane. So, the correct addresses for the two homes are 1024 Ashmor Lane and 1027 Ashmor Lane (each have a well which is interconnected as you know). I and my wife live at the 1024 Ashmor address. We do not use the 4410 Hwy address anymore. I suppose this address redesignation might have to be updated on the final water right permit?

Thank you again,



Lee Hixson

208-717-2678

hixsonvk@gmail.com