

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 94-9471

Exam Date: 10/07/2021

1. Current Owner:

TERRY MC MENOMY 28390 S LARCH RD ST MARIES ID 83861-5085 AND/OR
JENNIFER MC MENOMY 28390 S LARCH RD ST MARIES ID 83861-5085

2. Accompanied by: Terry Mc Menomy

Phone No: 208-689-3434

Address: Same as above

Relationship to permit Holder: Permit holder

3. SOURCE:

GROUND WATER

Method of Determination: Arcmap and DRG.

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 L5 (SW¼ NE¼), Sec. 12, Twp 47N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS. POD is a well without tag information located at -116°39.669, 47°26.353.

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	
47N	03W	12			0.1 L5					0.4 L4									0.5

Total Acres: 0.5

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	
47N	03W	12			X L5					X L4									

Method of Determination: Field exam and Arcmap 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
OLD WELL – NO TAG OR DATA	GOULDS	1.5	10GS15412CL		

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: I was unable to perform a flow measurement due to inadequate pipe requirements; main service line routed direct to pressure tank prior to beneficial uses. A Theoretic Pump Equation (T.P.E.) was developed which derived a flow rate equal to 13.6 gpm or 0.03 cfs considering department rounding standards with the 1.5 HP pump at depth of 245 ft and a 45 PSI operating pressure.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method: T.P.E. = 1.5 hp pump installed at depth of 245 ft operating at 45 PSI = 13.6 gpm or **0.03 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.5 \text{ ac} \times 3.0 \text{ afa} = 1.5 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 231 \text{ day} \times 1.9835 = 9.2 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{1.5 \text{ af}}$$

2. Volume Calculations for Other Uses:

$$\text{Domestic annual volume} = 1 \text{ home (in-home use only)} = \mathbf{0.6 \text{ af}}$$

$$\text{Maximum diversion volume} = 1.5 \text{ af (irrigation)} + 0.6 \text{ af (domestic)} = \mathbf{2.1 \text{ af}}$$

G. NARRATIVE/REMARKS/COMMENTS

A field exam was performed on 10/7/2021 with the applicant, Terry Mc Menomy, which showed groundwater from a well being used for domestic and irrigation purposes. At the POD, an existing well that has no backfile data nor a well D-tag is being used by the applicant. In 2014, the applicants contracted with Interstate Drilling Co. to re-line the well. A copy of the invoice for the project provided by the applicant identifies a 1.5 HP Goulds pump and motor were installed during the project, with 260 feet of schedule 120 PVC pipe being installed. Using the invoice data, a theoretic pumping equation was developed to determine a flow rate equal to 13.6 GPM or 0.03 cfs considering department rounding standards. Due to water main line routing direct to a pressure tank from the well prior to water distribution, no flow measurement was able to be completed.

The permit was approved for a maximum diversion rate of 0.09 cfs, but the applicant is limited by pump performance identified at time of field exam when recommending diversion rates for licensing purposes. While the applicant's provided invoice shows a Goulds 10 gpm pump and motor installed in the well, the theoretic pump equation derived a slightly higher value of 13.6 gpm. Due to the inability to capture flow measurements, **0.03 cfs** is being recommended as the maximum diversion volume for licensing. The domestic beneficial use diversion rate is limited to **0.03 cfs**. The irrigation beneficial use diversion rate is limited to **0.02 cfs** based on department standard rates for 0.5 acres of irrigation (see below).

During the exam, the domestic POU was observed as a two-story house served by groundwater from the well. Photographs were taken to illustrate the domestic use, and during licensing review Arcmap aerial imagery was used to trace out the domestic POU, which does not include irrigation as it is accounted for as a separate component on the permit. The annual volume associated with domestic in-home use equals **0.6 af**. The irrigation POU was walked with the applicant during the exam and sketched out on field maps. During licensing review, Arcmap aerial imagery was used to accurately trace out the irrigation POU which equals 0.5 acres. The annual volume associated with the irrigation use equals 0.5 ac x 3.0 afa = **1.5 af**. The maximum diversion volume recommended for licensing this permit equals 0.6 af (domestic) + 1.5 af (irrigation) = **2.1 af**. The irrigation system consists of hose and sprinklers from frost free hydrants near the home, and an irrigation riser pipe to 5-way splitter station and hoses to sprinklers to water the perimeter fruit trees.

Conditions 26A and 046 were removed from the permit during licensing review. Condition R66 was replaced with X31 to better describe irrigation occurring that is less than 1 acre in size. Conditions X59 & X60 were added to describe the POD & POU being in a named subdivision with legal descriptions applied. All other conditions on the permit shall be carried forward to the license. There are no overlap concerns for this water right.

Have conditions of permit approval been met? X 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>
IRRIGATION	03/15 to 10/31	0.02 CFS	1.5 AF
DOMESTIC	01/01 to 12/31	0.03 CFS	0.6 AF

Totals: 0.03 CFS 2.1 AF

2. Recommended Amendments

Change P.D. as reflected above Add P.D. as reflected above X None

Change P.U. as reflected above	Add P.U. as reflected above	X	None
--------------------------------	-----------------------------	---	------

I. AUTHENTICATION

Luke Bates - Water Resource Agent

Field Examiner's Name

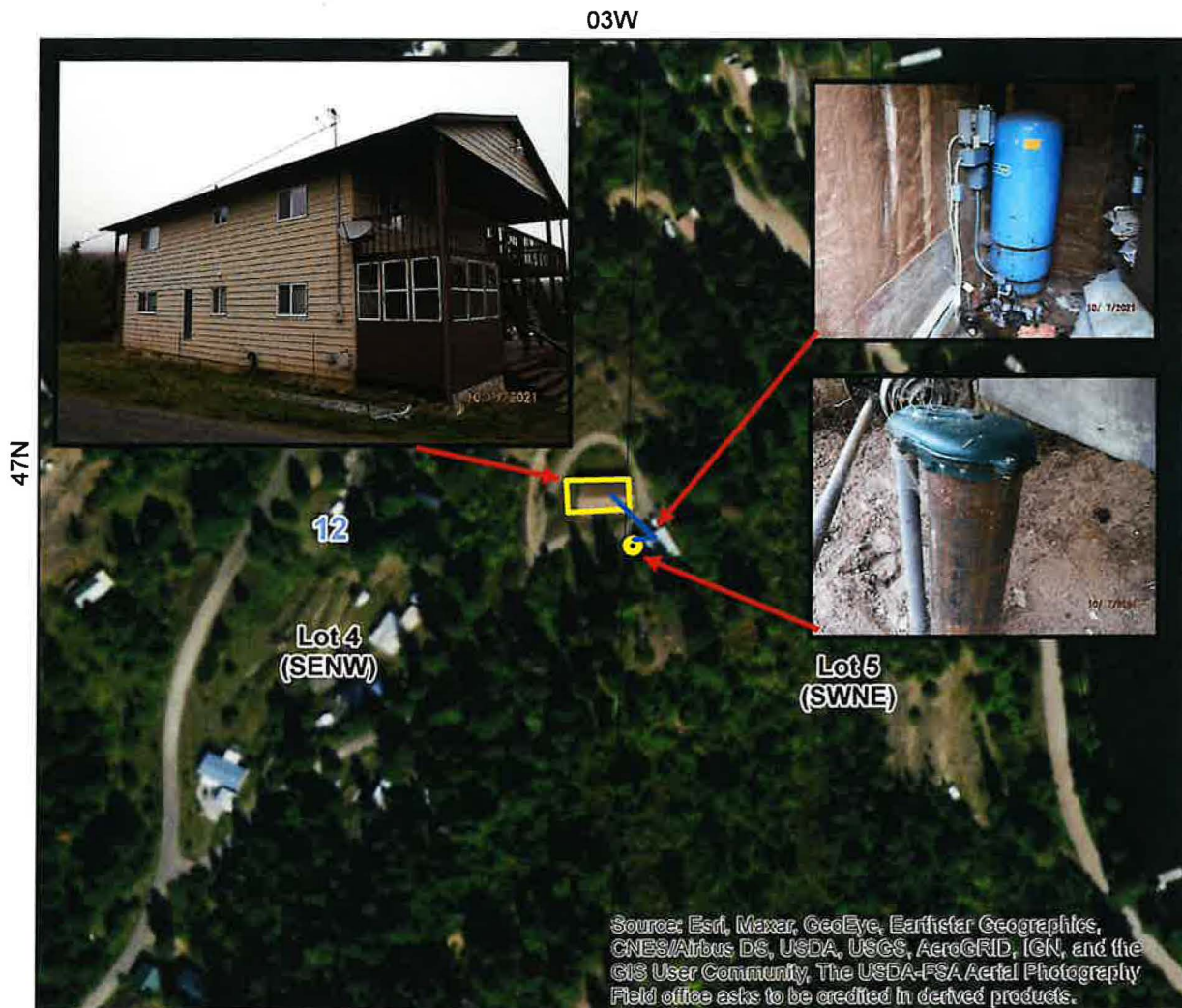
Date _____

Reviewer

Date _____

State of Idaho
Department of Water Resources
Attachment to Field Exam
94-9471

DOMESTIC system diagram.



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.025 0.05 0.1 Miles



State of Idaho
Department of Water Resources
Attachment to Field Exam
94-9471

IRRIGATION system diagram.

03W

47N



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles



THEORETICAL PUMPING EQUATION FOR WR# 94-9471

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 245 ft, and running at 45 psi.

PUMP EQUATIONS

WATER RIGHT No. 94-9471

	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP \cdot 8.8 \cdot \text{Eff} / H$	1.5	349.0816	0.8	245	45
Q = 0.030 cfs 13.6 gpm					

INVOICE

Customer

Name Jennifer McMenomy
Address 20790 Idlewild Path
City Excelsior State MN ZIP 55331-8774
Phone 1-208-689-3424

Date 8/15/2014
Job Location 8800 E Traybur Court, Blacklake

Qty	Description		TOTAL
1	Goulds 10gpm 1.5 hp pump and motor 10GS15412CL	\$1,461.00	\$1,461.00
1	1 .5hp centripo control box	\$148.00	\$148.00
2	1" heavy check valve	\$45.00	\$90.00
260	ft of sch 120 pvc drop pipe with stainless couplers	\$2.65	\$689.00
260	ft of 10-3 wg subcable	\$1.85	\$481.00
84	miles round trip mileage for two trips		\$0.00
1	misc. couplers, pipe dope, heat shrinks, etc	\$25.00	\$25.00
4	ft of 6" steel well casing	\$21.00	\$84.00
1	6" turtle well cap	\$75.00	\$75.00
1	1 1/4" sch 80 conduit and coupler	\$10.50	\$10.50
1	liquid filled pressure gage	\$18.50	\$18.50
5	hrs labor and travel on 8-13-14 for ryan to diagnose and remove old pump	\$95.00	\$475.00
5	hrs labor and travel on 8-14-14 for ryan and mikey to reinstall pump	\$120.00	\$600.00
	5 year parts warranty on pump and motor		
	6 month labor warranty on pump and motor		

SubTotal \$4,241.00

Taxes 6% \$184.92

TOTAL \$4,425.92

pay ck 8/21/14

Payment Details

- ☐ Cash
☒ Check
☐ Credit Card

Name Visa Credit Card

CC # _____

Expires _____

Office Use Only

8-14-14

RS

TRUENORTH MANAGEMENT LLC

17-2-910

8/14/2014

Pay to the order of Interstate Drilling

four thousand four hundred twenty five + 12/100 dollars

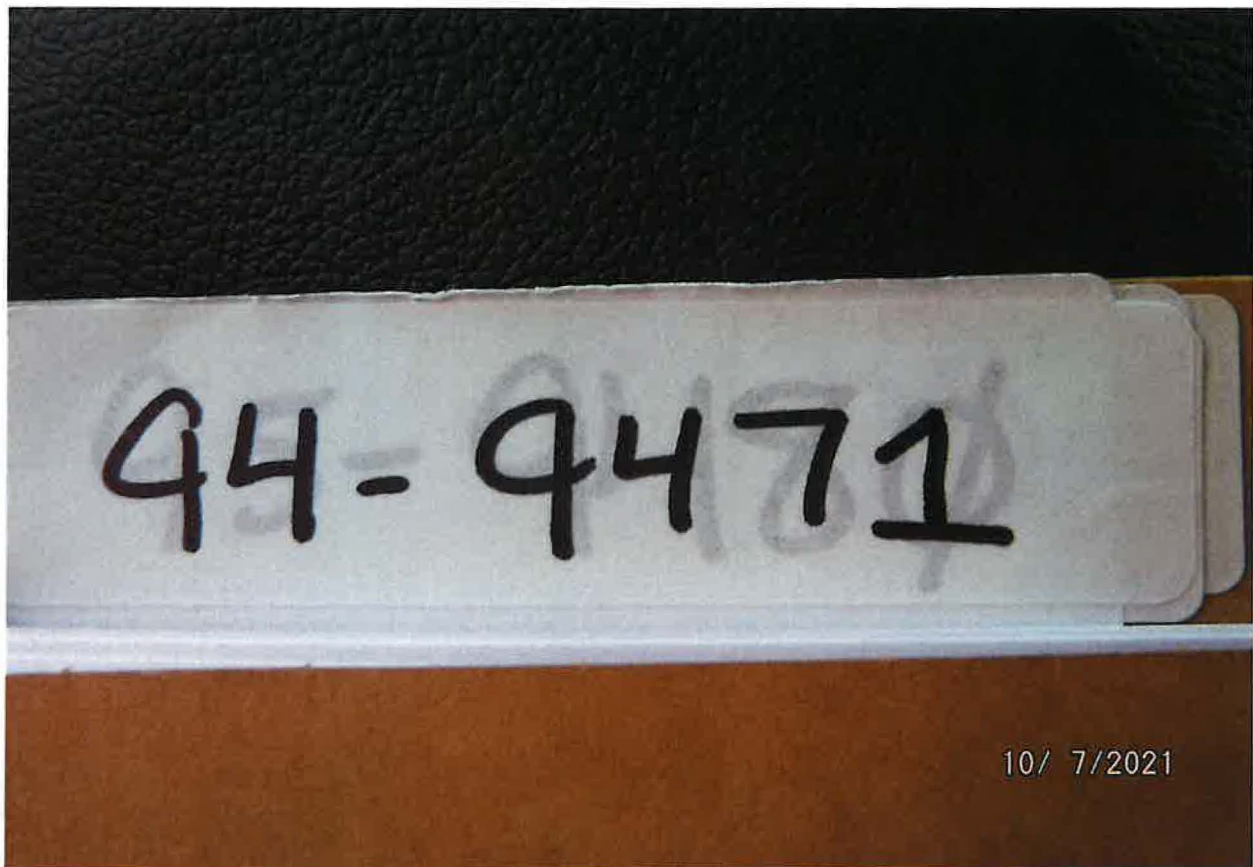
\$ 4425.92

usbank.

All of us serving you

for well repair

[Signature]



FIELD EXAM DATE 10/7/2021



POD – GROUNDWATER WELL (NO TAG DATA ON CASING)



1.5 HP PUMP MOTOR INSTALLED ON PUMP IN WELL



WATER SYSTEM DIVERTING WORKS



DOMESTIC POU



DOMESTIC POU & IRRIGATION POU



IRRIGATION POU – STUB PIPE WITH HOSE ROUTES TO IRRIGATION JUNCTIONS' DOWNHILL





IRRIGATION POU – ORCHARD TREES





IRRIGATION POU – WATER ZONE SPLITTER PANEL



IRRIGATION POU



IRRIGATION POU

