

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 87-10407
Exam Date: 05/18/2021

1. Current Owner:
LARRY B LACY 1145 HEADRICK RD POTLATCH ID 83855-9646 AND
BETTY J LACY 1145 HEADRICK RD POTLATCH ID 83855-9646
2. Accompanied by: Larry Lacy
Phone No: 208-596-3452
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
SPRING

Tributary
SINKS

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 SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
SPRING SW¼ SE¼ SW¼, Sec. 29, Twp 41N, Rge 04W, B.M. LATAH County

Method of Determination: GPS located vertical metal culvert in ground capturing spring water; located at -116°52.072, 46°51.665.

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	
41N	04W	29												X					

Method of Determination: Field exam 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
SPRING PUMP		1.5			

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to perform flow measurement, as pipe from spring to storage reservoir was buried; overflow pipe from storage reservoir was dry and not flowing during exam. A Theoretic Pump Equation was used to calculate the flow measurement based on the pump moving water from the reservoir to a small pump house with 80 feet of elevation gain, with a system operating pressure of 80 PSI observed during field exam. The resulting T.P.E. flow rate equals 17.9 gpm, or **0.04 cfs** considering department rounding standards, which is recommended for licensing purposes.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Theoretic pumping equation with a 1.5 HP pump lifting water 80 feet with a 80 PSI system operating pressure = 17.9 gpm or 0.04 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses: Domestic use for 1 home with full restroom facilities in shop & includes ½ acre irrigation = **1.2 af**

G. NARRATIVE/REMARKS/COMMENTS

Permit 87-10407 was approved with three separate spring sources that do not co-mingle water in the water system's respective beneficial use(s). As a result, this permit was split into three separate water rights during licensing review. Right(s) 87-12282 & 87-12283 account for two spring sources that use water for stockwater purposes. The original permit No. 87-10407 shall be licensed accounting for the applicant's domestic use.

Field exam performed on 5/18/2021 with the applicant, Larry Lacy, showed diversion from a spring for domestic beneficial uses. At the POD, Mr. Lacy installed a 36 inch culvert vertically with 8 feet buried in the ground to capture spring water. A buried service pipe routed water downhill approximately 30 feet to a 3,000 gallon concrete storage reservoir prior to being pumped up-hill to the primary residence. There is an overflow pipe that allows excess to discharge downgrade from the storage reservoir, but it was dry at time of field exam due to applicant's water use that morning. From the storage reservoir, buried pipe was routed uphill with 80 ft of elevation gain using a 1.5 HP pump to a small pump house with pressure tank before distribution to the main residence and shop. The water system pressure registered 80 PSI, and a theoretical pumping equation was developed to calculate a flow rate which equals 17.9 gpm, or **0.04 cfs**, which is recommended for licensing purposes.

During the field exam one home and separate shop were identified as the domestic POU. Mr. Lacy stated the shop has bathroom facilities, and that frost free hydrants and hose-to-sprinklers are to irrigate around the house & a fenced garden area. Mr. Lacy stated the water system for home use also supplied water for their chicken coup. Field maps were used to sketch out the irrigation occurring. During licensing review Arcmap aerial imagery was used to trace out the irrigation area occurring under domestic use which equated to just under ½ acre. The amount of water dedicated to watering the chickens qualifies under the definition of Domestic use, and the stockwater beneficial use is not recommended for inclusion on this split of the applicant's combined water right(s) being recommended for licensing. The annual volume for domestic use equals 1.2 af, which is also recommended for licensing as the maximum diversion volume.

Condition X02 was removed from the permit during licensing review. Condition 187 was added to describe irrigation of up to ½ acre covered under domestic use. All other conditions on the permit are 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>
DOMESTIC	01/01 to 12/31	0.04 CFS	1.2 AF
<u>Totals:</u>		0.04 CFS	1.2 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 [Signature] Date 6/7/2021
 Reviewer [Signature] Date 6/30/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
87-10407

DOMESTIC system diagram.



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

0 0.035 0.07 0.14 Miles



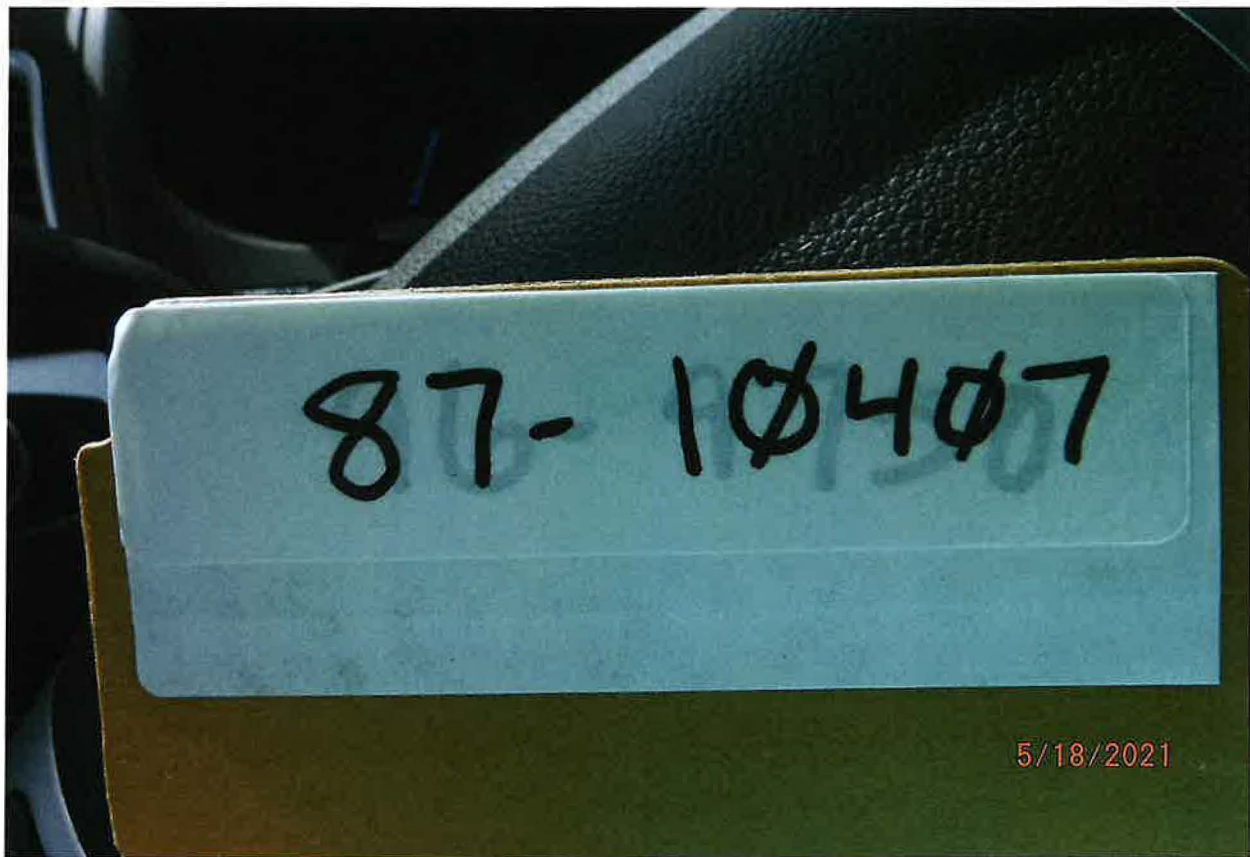
THEORETICAL PUMPING EQUATION FOR WR# 87-10407

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to be at 80 ft, and running at 80 psi.

PUMP EQUATIONS

WATER RIGHT No. 87-10407

SPRING PUMP	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	265.034	0.8	80	80
Q = 0.040 cfs 17.9 gpm					



FIELD EXAM DATE 5/18/2021



POD – SPRING WATER CAPTURED BY VERTICAL CULVERT



WATER FROM POD PIPED DOWNHILL 20 YARDS TO CONCRETE RESERVOIR



OVERFLOW PIPE FROM RESERVOIR (NOT FLOWING DURING FIELD EXAM)



WATER PUMPED FROM RESERVOIR UPHILL (80 FT ELEVATION GAIN) TO PUMP HOUSE



SMALL PUMP HOUSE LOCATED NW OF MAIN HOUSE



1.5 HP SUBMERSIBLE PUMP INSTALLED ON DIVERTING SYSTEM



80 PSI SYSTEM OPERATING PRESSURE



DOMESTIC POU – MAIN HOUSE



DOMESTIC POU – SHOP HAS WATER LINE AND RESTROOM FACILITIES

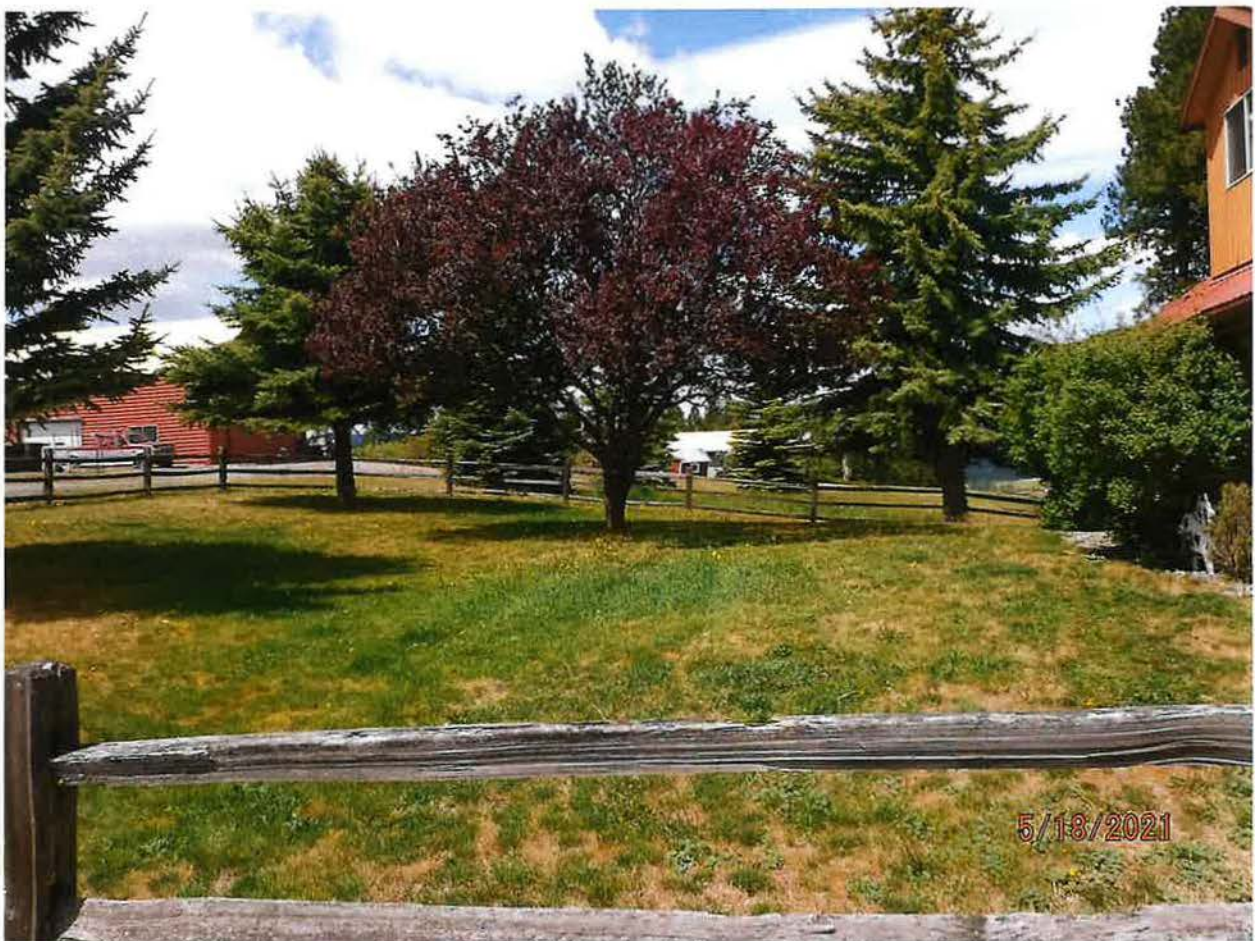


DOMESTIC POU – IRRIGATION UP TO ½ ACRE





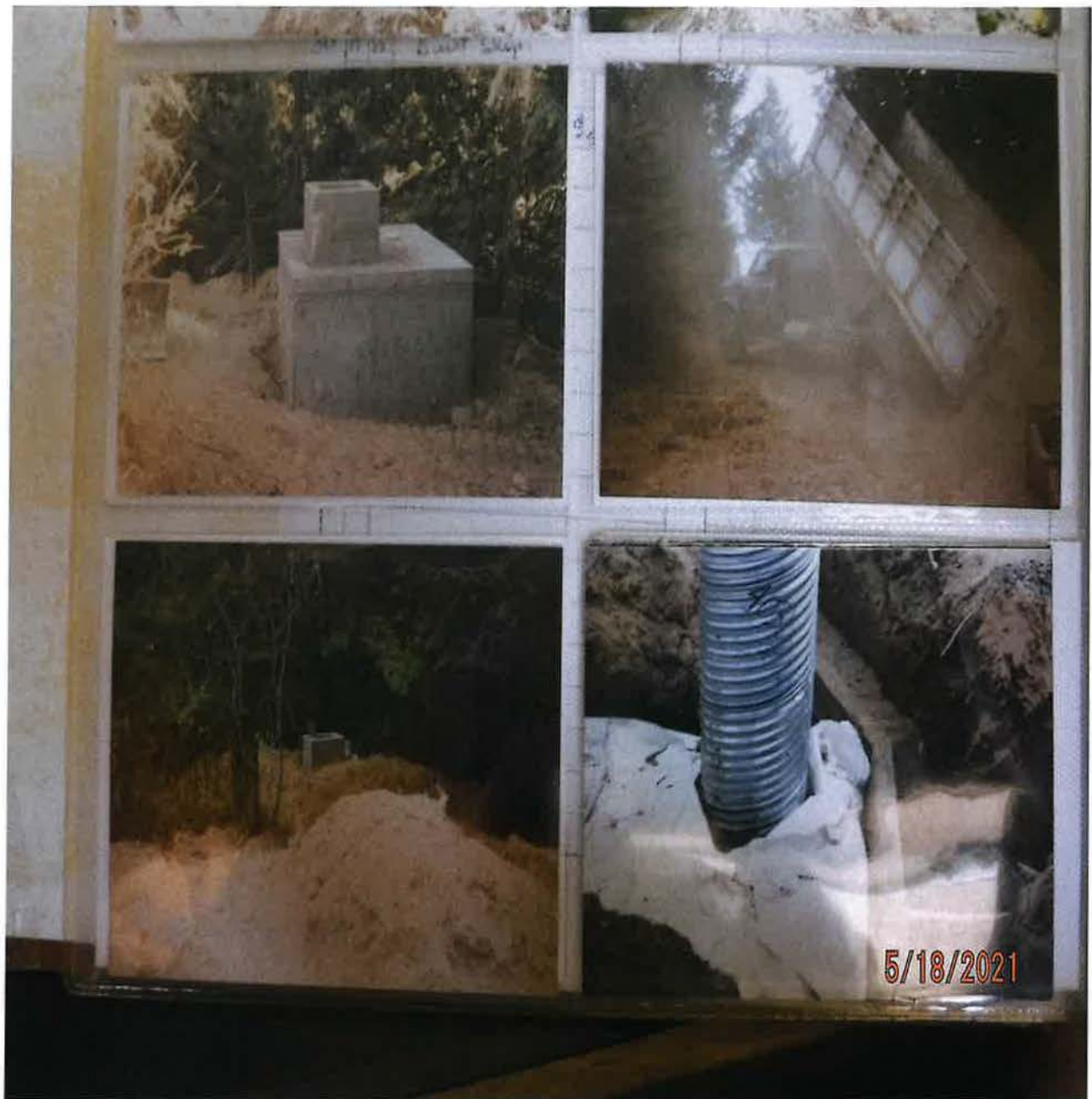
DOMESTIC POU – UP TO ½ ACRE BY HOSE AND SPRINKLER(S)





DOMESTIC POU – UP TO ½ ACRE IRRIGATION BY HOSE AND SPRINKLER





SCRAPBOOK PHOTOS ILLUSTRATING DEVELOPMENT OF SPRING AND CONCRETE RESERVOIR