

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 91-07792

Exam Date: 6/20/2018

1. Current Owner:
BENEWAH COUNTY 701 W COLLEGE AVE ST MARIES ID 83861 (208) 245-2234
2. Accompanied by: Al Townsend
Phone No: 208-568-1132
Relationship to Permit Holder: Volunteer

3. **SOURCE:**
ST JOE RIVER

TRIBUTARY:
COEUR D ALENE LAKE

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 91-7038, 91-2021, 91-4001, 92-2003, 92-2004, & 91-7080 (All municipal service areas)
2. Other water rights with the same point-of-diversion: None

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

ST JOE RIVER L2 (NW¼NE¼) Sec. 20, Twp 46N, Rge 02W, B.M. BENEWAH County

Method of Determination: Maps and GPS. POD located at -116° 36.985, 47° 19.565.

2.

PLACE OF 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	
46N	02W	17											0.1 L 11				0.1 L 12		.2
46N	02W	20		1.4 L 2															1.4

Total Acres: 1.6

Method of Determination: Google Earth and Arcmap.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X

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
	GOULDS	1.5	C48C53A06		02508FM

*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
FLOWMETER	GE	PANEMETRIC	PT878	08448		4/17/18

2. Measurements:

Beginning value – 5109 gallons

Ending value – 5519 gallons

Duration was 10 minutes

5519 – 5109 = 410 gallons / 10 minutes = 41 gpm or 0.09 cfs

E. FLOW CALCULATIONS

Measured Method: N/A

_____ Additional Computation Sheets Attached

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.6 \text{ AC} \times 3.0 \text{ AF} = 4.8 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.09 \text{ CFS} \times 231 \times 1.9835 = 41.2 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 4.8 \text{ AF}$$

2. Volume Calculations for Other Uses:

G. NARRATIVE/REMARKS/COMMENTS

Field exam with park volunteers showed a pump used for buried irrigation system. The pump was a 1 1/2 hp Goulds with 2 inch intake line to the river. The pipe was exposed and I was able to perform a flow measurement using the GE Panemetric Flowmeter which showed is produced 41 gpm or 0.09 cfs. Piping from the river to the pump and a little beyond there was exposed and then the piping was buried to the sprinklers. There were two different zones of the system with each zone having 12 sprinklers.

The applicant had applied for a diversion rate of 0.27 cfs stating there was a system in place with 12 sprinklers each running at 10 gpm. The system was in place with 12 sprinklers per zone, but they did not produce 10 gpm. The permit was issued for 6 acres of irrigation and the field exam showed a total of 1.6 acres. A normal diversion rate for 1.6 acres of irrigation is equal to 0.05 cfs (1.6 AC x 0.03 cfs = 0.048 cfs). Because this is a park, a higher diversion rate can be given for a compressed time of use in a day. Instead of a 24 hour period of use, a 12 hour period of use will be given for this license (1.6 AC x 0.06 cfs = 0.10 cfs). The diversion rate of the system is only 0.09 cfs so that will be the rate licensed since it is less than the 0.10 cfs authorized under a compressed day of use.

The license will be issued with a diversion rate of 0.09 cfs with no annual volume. Condition R58 will limit the right to 3.0 afa. Condition WB9 will be changed to condition 227 which will identify a gauging station for the applicant to monitor the minimum stream flow of the river. All other conditions will remain on the license. There are numerous water rights that overlap this right, though all are municipal service area boundaries. There are no overlap concerns with this 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>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/15 to 10/31	0.09 CFS	
<u>Totals:</u>		0.090 CFS	

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

Field Examiner's Name Adam F. Smith Date 1/14/2019

Reviewer Douglas Jones P.E. Date 1/28/2019

State of Idaho
Department of Water Resources
Attachment to Field Exam
91-7792

IRRIGATION / SYSTEM DIAGRAM

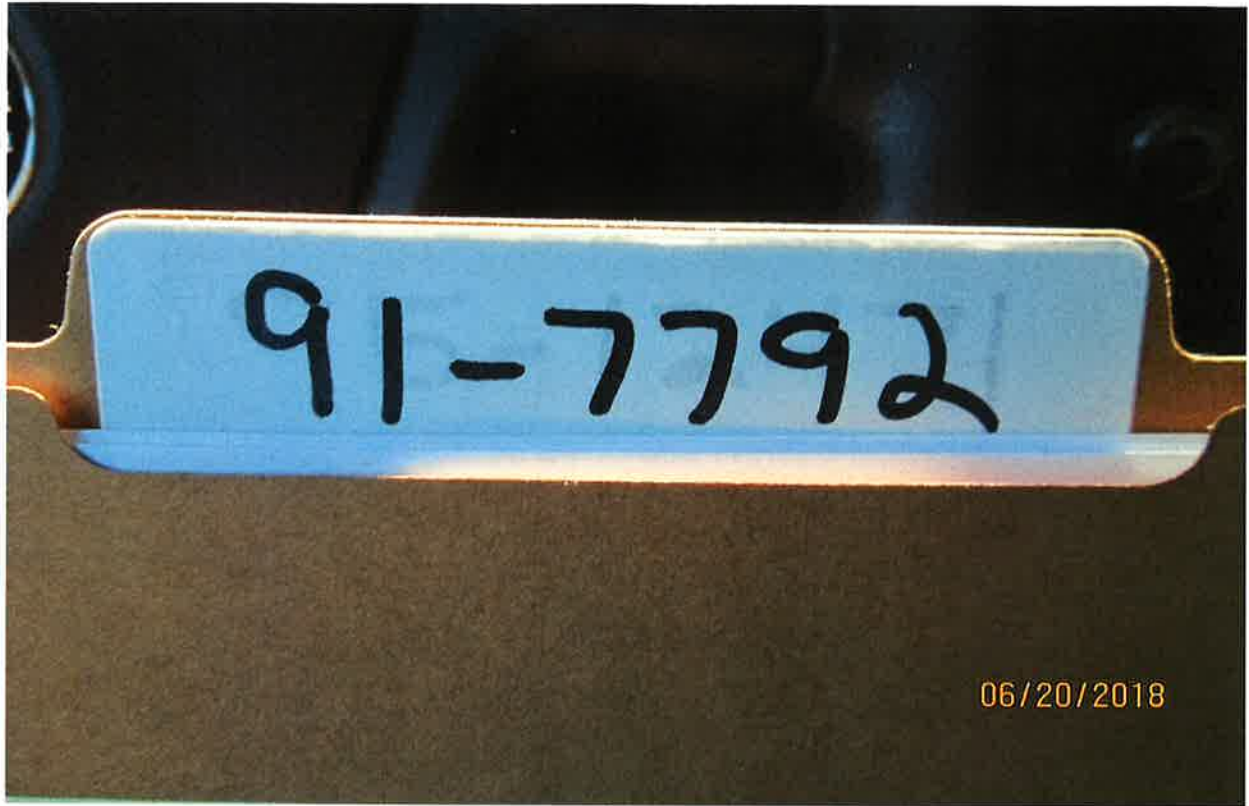
02W



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

0 0.035 0.07 0.14 Miles

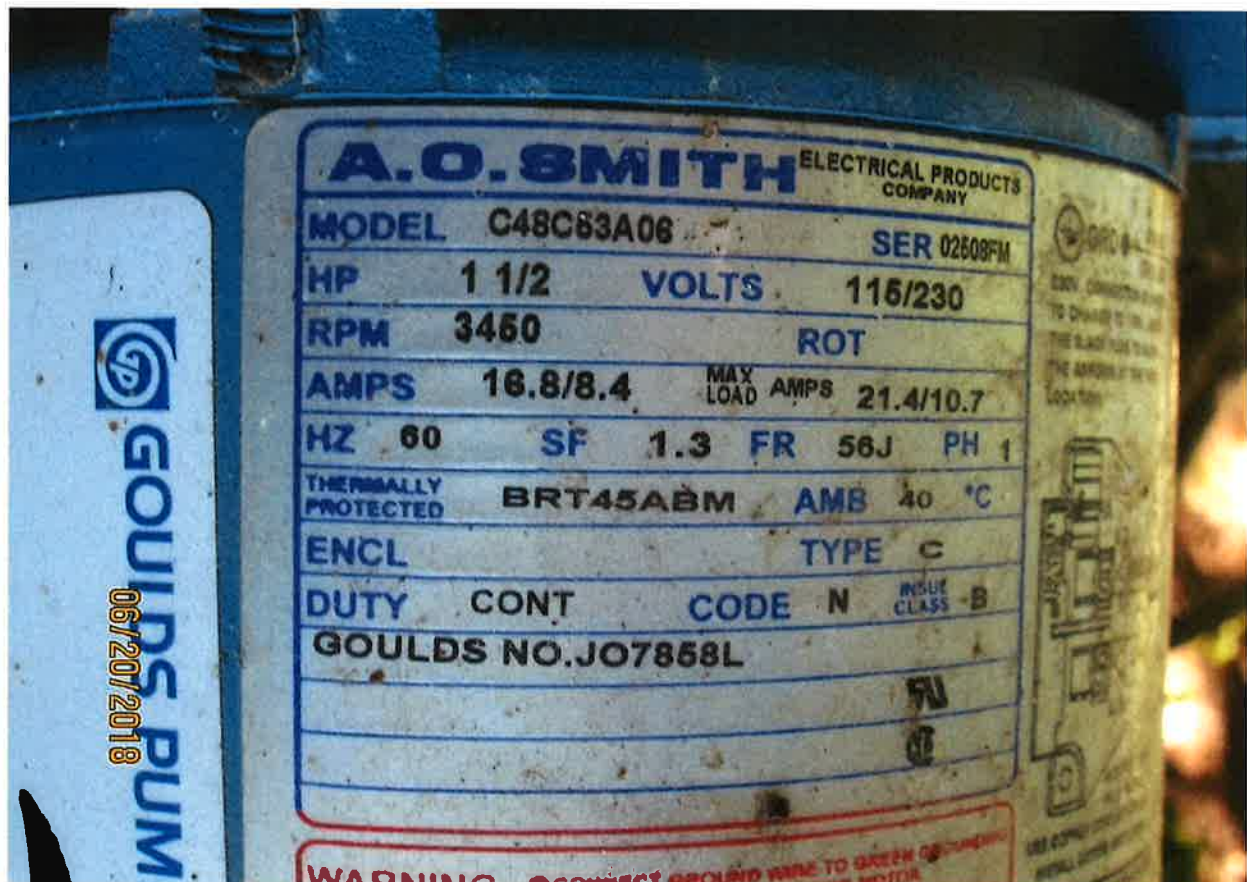




Point of diversion with screen.



Pipeline from river to pump.



Goulds 1 1/2 hp pump.



GE Panemetric flow meter used for measurement.



Irrigation POU with system running.



Irrigation POU with system running.





Irrigation POU with system running.

