

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 67-15105

Exam Date: 6/7/2016

1. Current Owner:
RORY DEAN CLINTON PO BOX 351 PAYETTE ID 83661 (208)707-2847
2. Accompanied by: Melissa K Reese
Phone No: 208-707-2847
Address: 10530 Virginia Ln Payette ID 83661
Relationship to Permit Holder: Wife and current property owner.

3. SOURCE:
GROUND WATER

TRIBUTARY:

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 67-7059, Lower Payette Ditch Co
2. Other water rights with the same point-of-diversion: None.

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

GROUND WATER NW¼NW¼ Sec. 27, Twp 09N, Rge 05W, B.M. PAYETTE County

Method of Determination: Garmin GPS coordinates collected during exam.

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	
09N	05W	22											1.0 L 4	13.0					14.0
09N	05W	27					3.0	2.0											5.0

Total Acres: 19

Method of Determination: Aerial imagery used to measure area using ArcMap tools.

- 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
Pump 1	Unknown	7.5	Unknown	Priest Electric	8" carbon steel pipe
Pump 2	Unknown	1.5	Unknown	Square D Company	8" carbon steel pipe

*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

2. Measurements: No measurement taken.**E. FLOW CALCULATIONS**☒ Additional Computation Sheets Attached

Measured Method:

Hand lines:

10 sprinklers /handline * 3 handlines = 30 sprinklers

9/64" nozzles produce 4.50 gpm @ 60 psi

30 sprinklers * 4.5 gpm/sprinkler = 135.0 gpm = **0.30 cfs**Wheel line:

23 sprinklers on 1 wheel line

1/8" nozzles produce 3.62 gpm @ 60 psi

23 sprinklers * 3.62 gpm/sprinkler = 83.26 gpm = **0.19 cfs**

Handlines and wheel line are run at separate times, so max diversion is 0.30 cfs

Theoretical:

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

Efficiency = 0.70

Depth to water = 20-30 ft.

psi = 60

hp = 9

See attached theoretical sheet.

Theoretical = **0.34 cfs**

Permit	0.44 cfs
B.U. Standard Allowance	0.38 cfs
B. U. Proof Fee	\$100 → 0.20 to 1.00 cfs
Theoretical Rate	0.34 cfs
Sprinkler Calculation	0.30 cfs
License Recommendation	0.34 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 19 * 4.5 = 85.5 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.34 * 260 * 1.9835 = 175.4 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 85.5 \text{ af}$$

2. Volume Calculations for Other Uses: None.

G. NARRATIVE/REMARKS/COMMENTS

The field exam was completed by agent Patrick Kelly on June 7, 2016. I was scheduled to meet with Mike Palin, but he became unavailable on business. His wife Melissa was home and was able to guide me through the system. The system was not running at the time of my visit because they were getting ready to cut in the next day or so.

Proof of beneficial use was submitted by permit owner Rory Dean Clinton. The property was recently sold to the Palin's this year and an ownership change was filed in April. The form was submitted without a copy of the conveyance document so it was returned incomplete. This was discussed during the exam, and Melissa said she would follow up. The license will be issued in the permit owners name and ownership may be completed when the proper documents are received.

The well is located at 44 05.732 N 116 55.799 W. Two pumps are in place. The main pump is a 7.5 hp Priest Electric and the second which serves as a backup or sometimes booster is a 1.5 hp Square D Co pump. No other water rights are described at this location so no POD overlap exists.

2 pumps installed containing pump plates showing a total of 9 hp. A well driller report could not be identified to this particularly old well with any certainty; however reports in immediate area describe a shallow water table averaging 20 ft near the Snake River. A pressure of 60 psi used based on description of user and common system uses. Average theoretical is 0.34 cfs.

Note that existing water rights on the property contain Basin 65 water right numbers. The Basin boundary is currently 0.75 miles south of the property, and appears to have shifted at some point before this permit was issued.

There are 19 acres of irrigated ground using 2013 aerial imagery and ArcMap tools. Decreed water right 65-7059 is a 5 acre irrigation right that overlaps the property. Ownership could not be connected to any local land owner in the immediate vicinity. 4 acres of the 5 acre POU associated with 65-7059 are on Palin ground. A combined use limit was made to reflect a combined total of 20 acres and a rate that limits total diversion to an inch per acre standard (20 acres * 0.02 cfs/acre = 0.40 cfs). The limit is not being recommended to reflect the system capacity 0.34 cfs because it cannot be confirmed that both rights have always shared the same well.

The recommended diversion rate is based on the theoretical as it provides a slightly higher rate than the sprinkler calculation. With both rates being within 2 inches of each other, it is reasonable to assume a diversion with the most benefit of the user.

Have conditions of permit approval been met? ☒ 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	03/01 to 11/15	0.34 CFS	85.5 AF
<u>Totals:</u>		0.34 CFS	85.5 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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name Patrick Kelly Date 7-20-2016
 Reviewer _____ Date _____

67-15105 System Diagram



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 67-15105
 Reviewer: Patrick Kelly
 Date of Review: 6/7/2016

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	9	9	9
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	20	25	30
DISCHARGE PRESSURE	60	60	60
RATE OF FLOW (cfs)	0.35	0.34	0.33 0.34

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

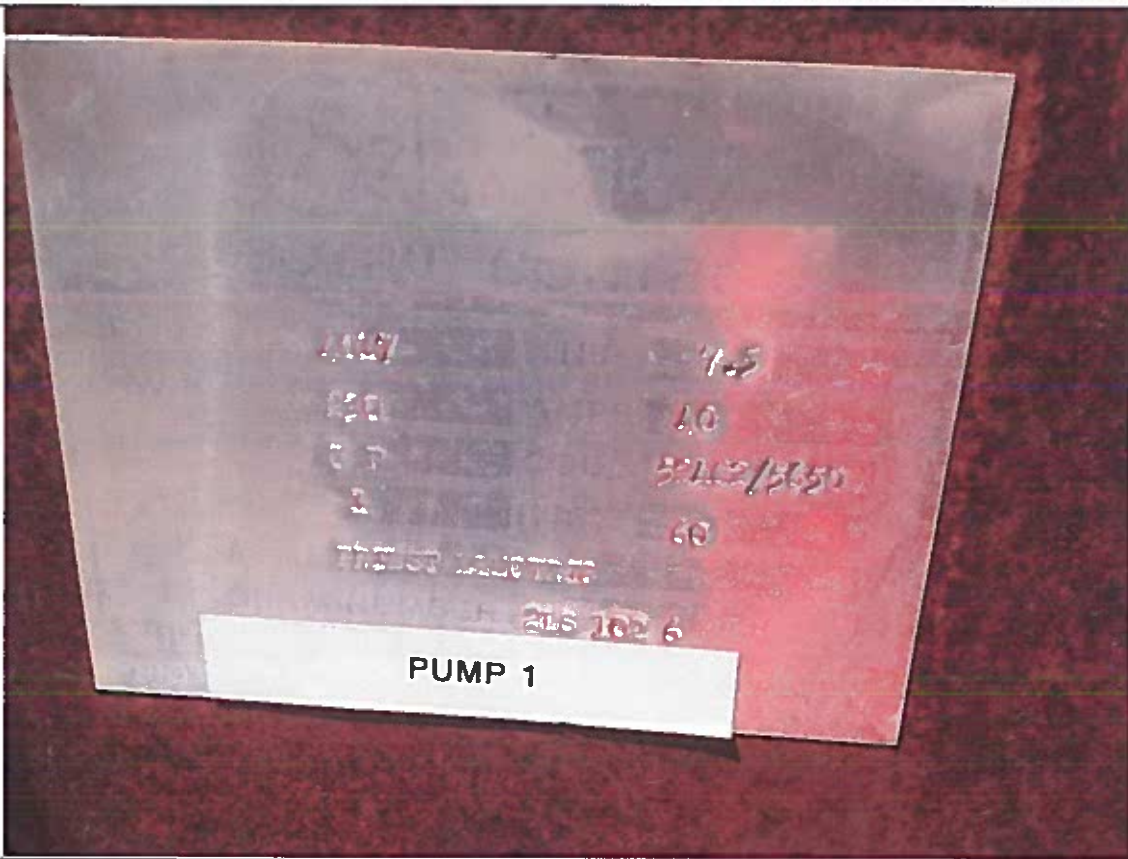
Examiners Notes:

2 pumps installed containing pump plates showing a total of 9 hp. Well driller reports in immediate area describe a shallow water table averaging 20 ft near the Snake River. A pressure of 60 psi used based on description of user and common system uses. Average theoretical is 0.34 cfs.



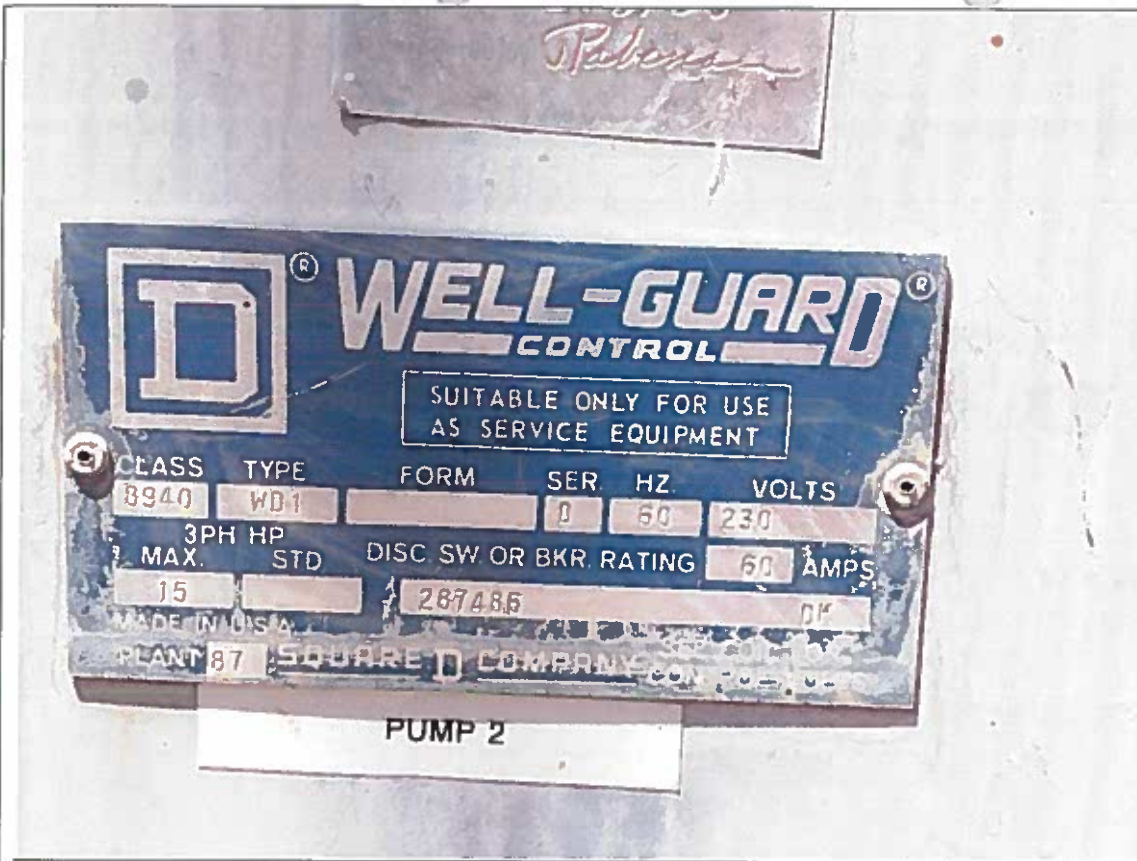
POD location on
Virginia Ln,
Payette, ID

44 05.732 N
116 55.799 W



Pump tag #1

7.5 hp Priest
Electric pump.



Pump tag #2

1.5 hp Square D
Company pump.



Hand line sprinkler
with 9/64" nozzle.