

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-12372

Exam Date: 7/16/2012

1. Current Owner: SCOTT DRAYTON
12470 W ABLE DR
STAR ID 83669
(208) 286-0986

SUSAN DRAYTON
12470 W ABLE DR
STAR ID 83669
(208) 286-0986
2. Accompanied by: Scott Drayton
Phone No: (208) 286-0986
Address: 12470 W. Able Drive, Star, ID 83669
Relationship to Permit Holder:

3. SOURCE TRIBUTARY
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 63-18842
2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER L4 SW1/4SW1/4 Sec. 31, Twp 05N, Rge 01W, B.M.
ADA County

Method of Determination: Arc Map (Aerial Photo); GPS Latitude N.43°43.489', Longitude W.116°30.583'; Datum NAD83.

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
05N	01W	31	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	2.0
													2.0						
													L 4						

Total Acres: 2

Method of Determination: Arc Map (Aerial Photo)

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.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
		1 1/2			(2")

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
Pitot Tube						

2. Measurements:

Pitot tube. Irrigation system operating pressure of 42 psi.

E. FLOW CALCULATIONS

Measured Method: (Theoretical)

____ Additional Computation Sheets Attached

$$HP = 1 \frac{1}{2}$$

$$Z = 200' \text{ (Based on static water levels for area wells)}$$

$$P = 42 \text{ psi}$$

$$S = 6 \text{ (Number of sprinkler heads per station.)}$$

$$Q(\text{theoretical}) = 8.8 \times 0.7 \times 1.5/200 = (2.31 \times 42) = 9.24/297.02 = 0.03 \text{ cfs}$$

$$Q(\text{sprinkler heads}): \text{ Red nozzle} - 2.3 \text{ gpm}; \text{ Blue nozzle} - 3.7 \text{ gpm}$$

$$Q(\text{sprinkler heads}) = 6 \times 2.3 \text{ gpm} = 13.8 \text{ gpm (0.03 cfs)}; Q = 6 \times 3.7 \text{ gpm} = 22.2 \text{ gpm (0.05 cfs)}$$

$$\text{Assuming a mixture of sprinkler heads per station, } Q(\text{average}) = 18 \text{ gpm (0.04 cfs)}$$

Appears the current irrigation pumping system is capable of attaining adequate flows to meet the right holders irrigation requirements. However, the permit diversion rate of 0.06 cfs does not appear to be attainable with the current irrigation pumping system.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2.0 \times 4.5 = 9.0 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \times 260 \times 1.9835 = 15.5 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 9.0 \text{ AFA}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS**WATER DISTRIBUTION SYSTEM:**

A 1 ½ hp pump diverts ground water from a well for irrigation of two pastures. The ground water discharge line to the pastures is 2" PVC pipe, which extends to the south end of the pastures. The pasture/field main lines are 1 ½" PVC pipe which 'tee' into the 2" PVC main line.

PASTURE/FIELD IRRIGATION SYSTEM:

The irrigation systems for the two pastures are comprised of 1 ½" PVC field lines and Maxi Paw sprinklers. Irrigation of the pastures is controlled by seven stations, with each station having six or seven sprinklers per station. Sprinkler nozzles vary in size depending on the location on the field lines. According to the right holder, the sprinkler nozzles application rate range from 2.3 gpm and 3.7 gpm, with a total application rate of 18 gpm.

NOTES:

Based on the right holders confirmation of an irrigation application rate of 18 gpm (^{0.04 cfs RC} 0.02 cfs), and the theoretical calculation of 0.03 cfs, it appears that the system capacity of the current irrigation pumping system ranges between 0.02 cfs and 0.03 cfs. Although the current irrigation pumping system appears to meet the right holders requirements, the permit appropriation of 0.06 cfs does not appear to be attainable with the current pumping system. Therefore, recommend a diversion rate of 0.03 cfs.

Have conditions of permit approval been met? ☒ Yes ☐ No

RATE &/OR STORAGE RECOMMENDED FOR LICENSING

Description	Rate of Flow (cfs)		Storage (af)
Permit Amount	0.06	&/or	N/A
Beneficial Use Limit	0.06	&/or	N/A
System Measurement	0.03(theoretical) <i>0.05 RC</i>	&/or	N/A
Proof Fee Amount	0.20	&/or	N/A
Recommended Amount	~~0.03~~ <i>0.04 RC</i>	&/or	N/A

H. RECOMMENDATIONS

1. Recommended Amounts

BENEFICIAL USE	PERIOD OF USE	DIVERSION RATE	ANNUAL VOLUME
IRRIGATION	03/01 to 11/15	~~0.030~~ <i>0.04</i> CFS	9.0 AFA
<u>Totals:</u>		~~0.030~~ <i>0.04</i> CFS	9.0 AFA

2. Recommended Amendments

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

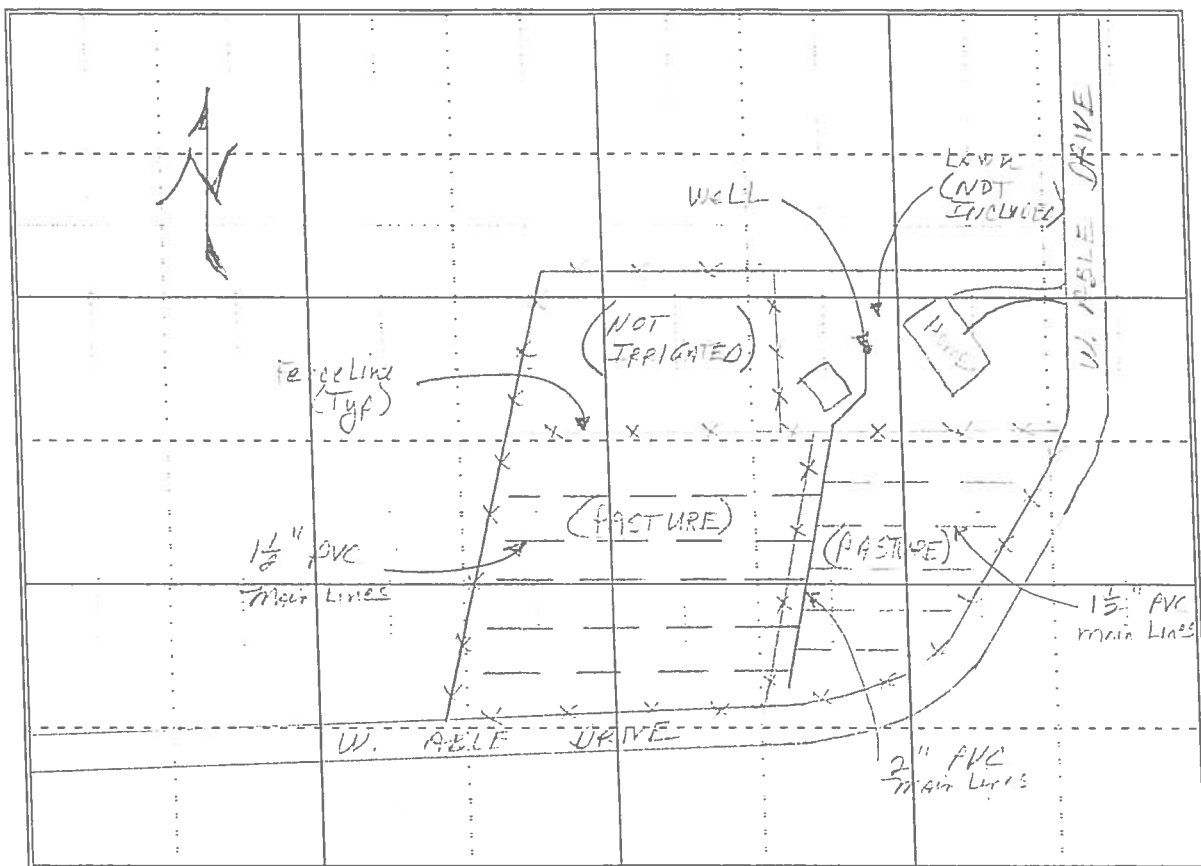
___ Change P.U. as reflected above ___ Add P.U. as reflected above ___ Other

I. AUTHENTICATION

Field Examiner's Name *Rick Collingwood* Date *9/27/12*

Reviewer _____ Date _____

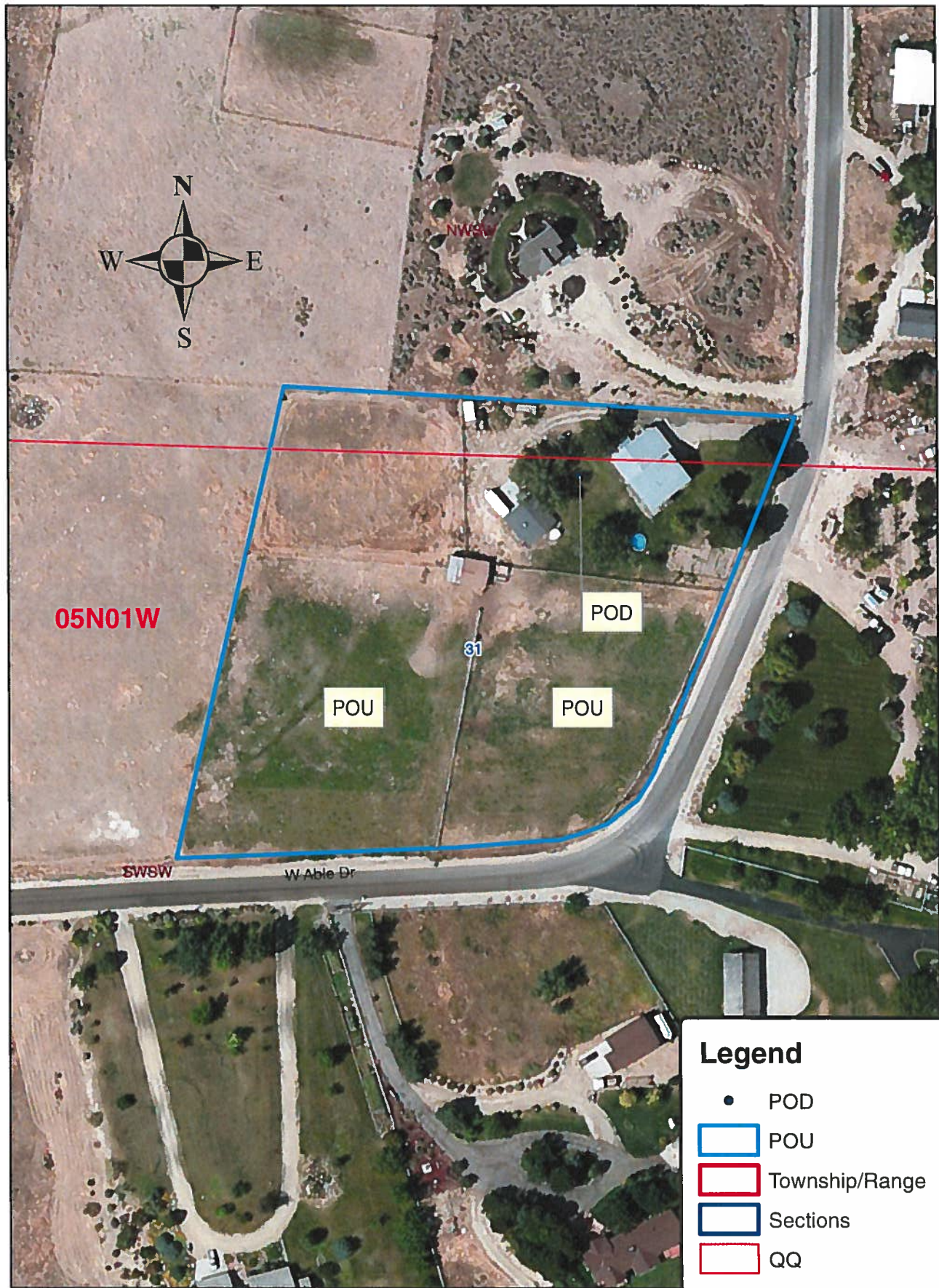
- 3 **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.



Scale: 1" = NTS

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

63-12372
Gov't. Lot 4



FIELD EXAM PHOTOS

Water Right Permit: 63-12372

Field Exam Date: 7-16-12

PLS: SW1/4, SW1/4 Section 31, T.05N, R.01W.

Field Examiner: RC



Point of Diversion: View southeasterly of well located in lawn area.



Place of Use: View southwesterly of westerly pasture for cattle grazing. The 2" main line from well reduces to 1 1/2" main lines for pasture irrigation system.