

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 15-7380
Exam Date: July 7, 2020

1. Current Owner:
GARY LUND AND/OR
JULIE M LUND
6409 S OLD HWY 191
MALAD CITY ID 83252

2. Accompanied by: Julie Lund

3. **SOURCE:**
GROUND WATER

Method of Determination: Visual confirmation of water pumping from a well.

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:**

GROUND WATER SW $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 26, Twp 15S, Rge 36E, B.M. ONEIDA County

Method of Determination: GPS point and ArcMap

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	
15S	36E	26							1.0										1.0

Total Acres: 1.0

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
15S	36E	26							X										

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	
15S	36E	26							X										

Method of Determination: ArcMap

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

X 1:24,000 or greater.

Aerial Photo Attached (required for irrigation of 10+ acres).

X Photo of Diversion and System Attached

The system pictured is the system installed at the time proof of beneficial use was filed in 2019, not the system as fully developed in 2020.

4. The system was developed on a 2 HP pump from well hosting tag no. D0065327. A 7 HP motor was observed in the 2020 field examination, but the 7 hp pump was installed in 2019, after proof of beneficial use was submitted.

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: NOT APPLICABLE. *The original system was upgraded shortly after beneficial use was submitted and therefore was not in place at the time of examination.*

E. FLOW CALCULATIONS

Measured Method: Theoretical calculation demonstrates that the original pump was able to produce a maximum of 0.07 cfs (32.5 gpm).

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \text{ acre} \times 3.5 \text{ AFA} = 3.5 \text{ AF.}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 1.9835 \text{ AF/cfs/day} \times 214 \text{ days/annual irrigation seasons} = 8.5 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{3.5 \text{ AFA}}$$

2. Volume Calculations for Other Uses:

$$12 \text{ range cattle} \times 12 \text{ gpd/range cattle} \times 365.25 \text{ days/year} = 52,596 \text{ gallons/year}$$

$$3 \text{ lambs} \times 2 \text{ gpd/lamb} \times 365.25 \text{ days/year} = 2,191.5 \text{ gallons/year}$$

$$23 \text{ chickens} \times 0.1 \text{ gpd/chicken} \times 365.25 \text{ days/year} = 840 \text{ gallons year}$$

$$55,627.5 \text{ gallons/year for livestock} / 325,851 \text{ gallons/AF} = 0.17 \text{ AF/year/livestock} = 0.2 \text{ AF/year/livestock.}$$

$$\text{One home} = 0.6 \text{ AF/year.}$$

G. NARRATIVE/REMARKS/COMMENTS

The system was developed using a domestic pump. 2017 Climate Engine data from Sentential 2 data was used verify that one acre of irrigation occurred.

In 2019, after the proof of beneficial use was filed, a 7 hp was installed in the same well hosting the domestic pump, and 12.5 acres were irrigated. Permit holder indicates that the 7 hp pump and the irrigation infrastructure for 12.5 acres will be sold off.

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	04/01 to 10/31	0.02 CFS	3.5 AF
STOCKWATER	01/01 to 12/31	0.01 CFS	0.2 AF
DOMESTIC	01/01 to 12/31	0.01 CFS	0.6 AF

Totals: 0.04 CFS 4.3 AF

2. Recommended Amendments

<u> </u> Change P.D. as reflected above	<u> </u> Add P.D. as reflected above	<u> X </u> None
<u> </u> Change P.U. as reflected above	<u> </u> Add P.U. as reflected above	<u> X </u> None

I. AUTHENTICATION Cooper Fritz - Water Resource Agent, Senior

Field Examiner's Name: Cooper Fritz Date: March 12, 2021

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 15-7380
 Examiner: Cooper Fritz
 Date of Field Exam: 7/1/2020

	Option 1	OPTION 2	OPTION 3
P/D No.:			
PUMP HORSEPOWER	2		
BOOSTER HORSEPOWER	0		
PUMPING LEVEL	78		
DISCHARGE PRESSURE	40		
FRICTION	0		
RATE OF FLOW (cfs)	0.07		
(gpm)	32.5		

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.

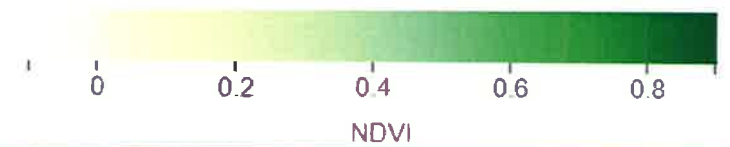
Examiners Notes:

Lift was taken from well log. Hp was found during site visit. A standard psi for domestic use of 40 to 60 psi was used to estimate the pressure against the pump.

Layers ▾ Masking ▾ Download ▾

NDVI (Sentinel 2 TOA)

2017-04-01 to 2017-10-31, Maximum



Generated t

System as developed in 2019
**after proof of beneficial use
was submitted.** Prior to
beneficial use, 1 acre was
irrigated from a domestic
pump located in this same
well.

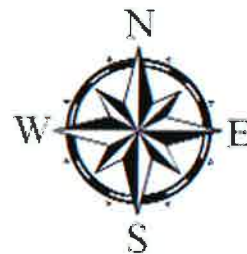


15-7380 Place of Use and Point of Diversion at Licensing



Legend

- Water Right POD
- Water Right POU
- Township/Range
- Sections
- QQ



0 0.0175 0.035 0.07 Miles