

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-12341
Exam Date: 6/21/2016

1. Current Owner:
RON STOOR 300 KNOB HILL CT EAGLE ID 83616 (208)939-6075
2. Accompanied by: Ron Stoor
Phone No: 208-484-1764
Address: 300 Knob Hill Ct. Eagle Id 83616-2034
Relationship to Permit Holder: Self

3. SOURCE:
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: The place of use comparison showed several Domestic and irrigation rights in the local vicinity. None of those overlap with this permit.
2. Other water rights with the same point-of-diversion: The POD Comparison shows nine other PODs in the same ¼ ¼ . This well is located on the permit holder's property and does not supply water to any other right at this time.

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

GROUND WATER NE¼SE¼ Sec. 29, Twp 05N, Rge 01E, B.M. ADA County

Method of Determination: Field exam POD GPS'd verified through ArcMap

2.

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	01E	29													X				

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	
05N	01E	29													0.8				0.8

Total Acres: 0.8

Method of Determination: Verified through field exam and ArcMap There appears to have been a slight shift in the PLS imagery in this area. This gives an appearance of this POU having crossed the QQ line into the NWSE. However, when you calculate the acres of the shape with WR Edit, it clearly identifies that the shape is located entirely in the NESE.

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components.
x 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.
- 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
A0019164	Unknown	1.5	Unknown	Unknown	Unknown

*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
Pitot tube w pressure gage						

2. Measurements:

We measured a 6 sprinkler zone with an average of 38 PSI. The static water level listed on the well log was 210 ft. This would put the pumping level from 200 ft. The sprinkler specs showed that the sprinklers used provided 2-3 GPM per sprinkler

E. FLOW CALCULATIONS

Measured Method:

 x Additional Computation Sheets Attached

$$2.17 \times 6 = 13.02 \text{ GPM}/448.83 = 0.03 \text{ cfs}$$

$$8.8 \times 1.5 \times 0.7 = 9.24$$

$$200 + 2.31 \times 38 = 287.8$$

$$9.24/287.8 = 0.03 \text{ cfs}$$

Theoretical shows that a 1.5 hp pump will produce 0.03 cfs from 200 ft. pumping level

$$0.8 \text{ acres} \times 0.03 = 0.02 \text{ cfs}$$

Permit was for 0.06 cfs recommend 0.02 cfs for Irrigation

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.8 \times 4.5 = 3.6 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \times 260 \times 1.9835 = 10.3 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 3.6 \text{ af}$$

Recommend 3.6 af for Irrigation

2. Volume Calculations for Other Uses:

G. NARRATIVE/REMARKS/COMMENTS

The well is located SW of the house along the right side of the pathway. It pumps underground to the house and irrigation system. The applicant was irrigating using rainbird 5000 sprinklers with 2.5 nozzles. Specs sheet shows that they will provide 2.17 GPM at 35 PSI. We measured the pressure on a 6 sprinkler zone at 38 PSI. The well control panel was located in the basement. It then goes into a pressure tank for the house use. The Department received the proof of beneficial use in 2010. The permit was for the domestic use for one home and the irrigation of 2 acres for 0.10 cfs. The proof was submitted for the same. However, aerial imagery confirms the irrigation of 0.8 acres worth of irrigation.

The permit has a condition that states:

7. This right does not authorize the irrigation of land not previously irrigated.

The permit was applied for in 1996. The permit was issued in 2008 with this condition. 2006 and 2004 aerial imagery shows that this property was irrigated in those years.

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	0.02 CFS	3.6 AF
DOMESTIC	01/01 to 12/31	0.02 CFS	0.6 AF
	<u>Totals:</u>	0.04 CFS	4.2 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 ☒ None

I. AUTHENTICATION: Clay Webster, Water Resource Agent

Field Examiner's Name Clay Webster Date 7/20/2016

Reviewer _____ Date _____

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

6

Water Right No.: 63-12341
 Examiner: Clay Webster
 Date of Field Exam: 7/20/2016

P/D No.:	Option 1	OPTION 2	OPTION 3	
PUMP HORSEPOWER	1.00	1.50	3.00	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	200	200	200	
DISCHARGE PRESSURE	38	30	22	
FRICTION	8	8	8	
RATE OF FLOW (cfs)	0.02	0.03	0.07	AVE
(gpm)	9.3	15.0	32.0	18.8

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:

This pump supplied water to the home as well as the irrigation system . The depth of the pump was 210 ft. The pump size was unknown. Our measurements are consistent with a 1 1/2 HP pump

5000/5000 Plus Std. Angle Rain Curtain™ Nozzle Performance					
Pressure psi	Nozzle	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h
25	1.5	33	1.12	0.20	0.23
	2.0	35	1.50	0.24	0.27
	2.5	35	1.81	0.28	0.33
	3.0	36	2.26	0.34	0.39
	4.0	37	2.91	0.41	0.47
	5.0	39	3.72	0.47	0.54
	6.0	39	4.25	0.54	0.62
	8.0	36	5.90	0.88	1.01
35	1.5	34	1.35	0.22	0.26
	2.0	36	1.81	0.27	0.31
	2.5	37	2.17	0.31	0.35
	3.0	38	2.71	0.36	0.42
	4.0	40	3.50	0.42	0.49
	5.0	41	4.47	0.51	0.59
	6.0	43	5.23	0.54	0.63
	8.0	43	7.06	0.74	0.85
45	1.5	35	1.54	0.24	0.28
	2.0	37	2.07	0.29	0.34
	2.5	37	2.51	0.35	0.41
	3.0	40	3.09	0.37	0.43
	4.0	42	4.01	0.44	0.51
	5.0	45	5.09	0.48	0.56
	6.0	46	6.01	0.55	0.63
	8.0	47	8.03	0.70	0.81

Pressure psi	Nozzle	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h
55	1.5	35	1.71	0.27	0.31
	2.0	37	2.30	0.32	0.37
	2.5	37	2.76	0.39	0.45
	3.0	40	3.47	0.42	0.48
	4.0	42	4.44	0.48	0.56
	5.0	45	5.66	0.54	0.62
	6.0	47	6.63	0.58	0.67
	8.0	50	8.86	0.68	0.79
65	1.5	34	1.86	0.31	0.36
	2.0	35	2.52	0.40	0.46
	2.5	37	3.01	0.42	0.49
	3.0	40	3.78	0.45	0.53
	4.0	42	4.83	0.53	0.61
	5.0	45	6.16	0.59	0.68
	6.0	48	7.22	0.60	0.70
	8.0	50	9.63	0.74	0.86

Precipitation rates based on half-circle operation

■ Square spacing based on 50% diameter of throw

▲ Triangular spacing based on 50% diameter of throw

Performance data collected in zero wind conditions

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1.

See page 224 for complete ASAE Test Certification Statement.

TRS	Process	BasinSequence	Owner	Source	PODPOU	Use	NENE	NESE	TotalAcres	
05N01E29	Water App	63-34201	JOHN FOLEY, GENA foley	GROUND V	POU	IRRIGATION			2.5	5 Located NE of this Property
05N01E29	Water Perr	63-12341	STOOR, RON	GROUND V	POU	DOMESTIC		X		
05N01E29	Water Perr	63-12341	STOOR, RON	GROUND V	POU	IRRIGATION			2	2
05N01E29	Water Perr	63-33469	WEST, ALASYA N; WEST, ROBERT H	GROUND V	POU	IRRIGATION			3.5	3.5 Located East of this property
05N01E29	Water Perr	63-33847	CLARK, WILLIAM D	GROUND V	POU	IRRIGATION			5	6.1 Located East of this property
05N01E29	Water Perr	63-33852	HUNSAKER, DAVE D; HUNSAKER, HOLLY	GROUND V	POU	IRRIGATION			3	3 Property is located SE of this POU
05N01E29	Water Righ	63-10037	CHRISTIE, DAVID; STILLWELL, GARY	GROUND V	POU	IRRIGATION			3.4	3.4 Property is located SE of this POU
05N01E29	Water Righ	63-24079	DANN, DIANE M; DANN, N ANTHONY; GILBRE	GROUND V	POU	STOCKWATER		X		Located East of this property
05N01E29	Water Righ	63-32486	WEST, ALASYA N; WEST, ROBERT H	GROUND V	POU	DOMESTIC		X		Located East of this property
05N01E29	Water Righ	63-33360	DOYLE, CHRISTOPHER E; DOYLE, TRACY; STILL	GROUND V	POU	IRRIGATION		6		6 This POU is located North of this property
05N01E29	Water Righ	63-3483P	DOMECQ, CYNTHIA; DOMECQ, MICHAEL; GR.	GROUND V	POU	IRRIGATION		1.4		3 This POU is located North of this property
05N01E29	Water Righ	63-8348	LYONS, JOAN E; LYONS, ROBERT E	GROUND V	POU	IRRIGATION			4	4 This POU is located South of this property



Pump Control Box



System pressure 65 PSI



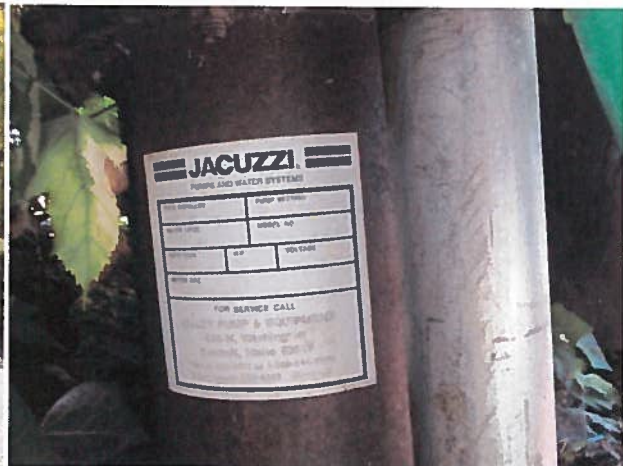
1" water line down to 2ea ¾" lines



Yard and Trees and flower beds around house



Treeline at West side of driveway with garden in background



Well head



Well head located along path SE of house



Well tagged with A0016164