

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-08392
Exam Date: 6/15/2016

1. Current Owner:
MARK ANDERSON PEARL ROUTE EAGLE ID 83616 (208)939-0992
2. Accompanied by: Jason Sager
Phone No: 208-830-7249
Address: 164 Lucy Ct Eagle Id 83616
Relationship to Permit Holder: New Property Owner

3. SOURCE: GROUND WATER**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: None
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 SE¼NE¼ Sec. 29, Twp 05N, Rge 01E, B.M. ADA County

Method of Determination: Field exam, GPS

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: STOCKWATER

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				2.7													2.7

Total Acres: 2.7

Method of Determination: Field exam and aerial imagery

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
A0019189	Unk	5	Unk	Grundfos	79454509

*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						

2. Measurements: 33 PSI on 4 sprinkler zone with 8 mm nozzles

E. FLOW CALCULATIONS x Additional Computation Sheets Attached

Measured Method:

According to nozzle spec sheet the 8mm nozzle pumps 16 GPM at 33 PSI.

 $16 \times 4 = 68 \text{ GPM} / 448083 = 0.15 \text{ cfs}$ (capacity of system)

Theoretical shows that a 5 hp pump will produce 0.15 cfs from 120 ft. pumping level

 $2.7 \text{ acres} \times 0.03 = 0.08 \text{ cfs}$

Permit was for 0.12 cfs recommend 0.08 cfs for Irrigation

Application processing Memo No. 3 states we can allow 0.02 cfs for up to 10 head of stock.

The permit was for 0.02 cfs for stockwater

According to application processing memo 22 domestic use is authorized 0.04 cfs rate of flow for a single household.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

 $V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2.7 \times 4.5 = 12.2 \text{ af}$ $V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.12 \times 260 \times 1.9835 = 61.9 \text{ af}$ $V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 12.2 \text{ af}$

Recommend 12.2 af for Irrigation

2. Volume Calculations for Other Uses:

 $0.02 \times 365 \times 1.9835 = 14.48 \text{ af}$

Application processing Memo No. 3 we can allow 0.2 af for up to 10 head of stock.

Recommend 0.2 af for Stockwater

 $0.04 \times 365 \times 1.9835 = 29.0 \text{ af}$

According to the field examiners handbook domestic use is authorized 0.6 af when irrigation is separate.

Recommend 0.6 af for Domestic

G. NARRATIVE/REMARKS/COMMENTS

The taxlot information states that Jason Sager owns the property now. There was an attempt to schedule a field exam with Mrs Anderson-Pipin in 2012. However, that mailing was returned as undeliverable. An attempt was made to schedule a field exam with Jason Sager in 2014 with no response. I was able to contact Mr. Sager to schedule the exam. In reviewing the file and satellite imagery, I have determined that only 2.7 acres were irrigated, this was verified at the field exam. This was more acres than what was claimed on the proof of beneficial use. I verified through historical aerial imagery that the 2.7 acres were irrigated during the development period. The Place of use comparison shows several domestic and irrigation rights for the same legal description. None of them overlap with this permit. The POD comparison shows several domestic and irrigation rights and one application for permit in this area. The map shows that this permit shares the same POD as 63-18939. This was not the case found when performing the field exam. The well was tagged with A0019189. The well is a 5 hp Grundfos MS 4000 pump. I did a comprehensive search for the well log with no success. The application for permit was received in 1976. The permit was approved in 1978. The owner stated that the pump is set at 200 feet. This was verified through documentation in the file. We measured the pressure on 4 Sprinklers running with a 8mm nozzles out of a Big Sprinkler 1050F Sprinklers. Average PSI was 33. According to the sprinkler spec sheet, this would put him pumping about 16 GPM X 4 = 68 gpm 68/448.83 = 0.15 cfs (this is what his system is capable of doing)

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>
DOMESTIC	01/01 to 12/31	0.04 CFS	0.6 AF
IRRIGATION	03/15 to 11/15	0.08 CFS	12.2 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.2 AF
	Totals:	0.14 CFS	13.0 AF

2. Recommended Amendments

Change P.D. as reflected above Add P.D. as reflected above x None

<u> </u> Change P.U. as reflected above	Add P.U. as reflected above	x	None
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I. AUTHENTICATION

Field Examiner's Name Clay Webster Date 7/13/2016

Reviewer _____ Date _____

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

6

Water Right No.: 63-8392
 Examiner: Clay Webster
 Date of Field Exam: 6/13/2016

P/D No.:	Option 1	OPTION 2	OPTION 3	
PUMP HORSEPOWER	5	5	5	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	120	130	150	
DISCHARGE PRESSURE	33	33	33	
FRICTION	8	8	8	
RATE OF FLOW (cfs)	0.15	0.14	0.13	AVE
(gpm)	67.7	64.5	59.0	63.7

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

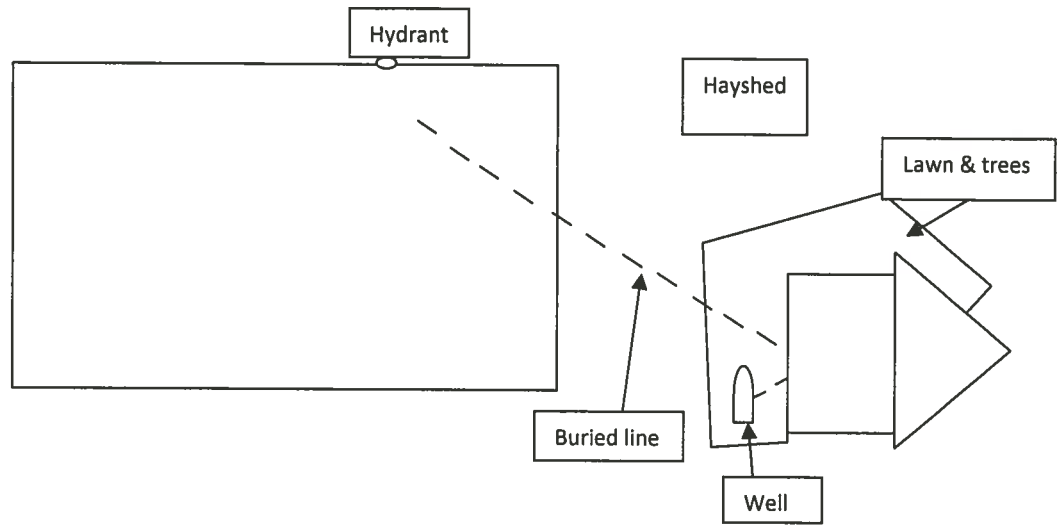
Assumptions: %70 efficiency.

Examiners Notes:

The application stated the well had a 200 ft depth for this system . There was no well log found to verify the pumping level. The measurements taken are consistent with a 120 ft pumping level.

TRS	Process	BasinSequen Draft	Owner	Source	PODPOU	Use	SENE	TotalAcres	
05N01E29	Water Permit	63-33847	N	CLARK, WILLIAM D	GROUND V POU	IRRIGATION	0.7	6.1	Located South of this right
05N01E29	Water Permit	63-8392	N	ANDERSON, MARK; ANDERSON, VI	GROUND V POU	DOMESTIC	X		
05N01E29	Water Permit	63-8392	N	ANDERSON, MARK; ANDERSON, VI	GROUND V POU	IRRIGATION	6	6	
05N01E29	Water Permit	63-8392	N	ANDERSON, MARK; ANDERSON, VI	GROUND V POU	STOCKWATER	X		
05N01E29	Water Right	63-18939	N	PINTAR, ROBERT R; PINTAR, VI	GROUND V POU	DOMESTIC	X		Located South West of this right
05N01E29	Water Right	63-20078	N	PEER, BONNIE M; PEER, DENN	GROUND V POU	DOMESTIC	X		Should be located in the SESE per lot # and lot and block description
05N01E29	Water Right	63-31604	N	GEARY, TIMOTHY M; NIEDERH	GROUND V POU	DOMESTIC	X		Located South West of this right
05N01E29	Water Right	63-31604	N	GEARY, TIMOTHY M; NIEDERH	GROUND V POU	STOCKWATER	X		Located South West of this right
05N01E29	Water Right	63-3483L	N	GEARY, TIMOTHY M; NIEDERH	GROUND V POU	IRRIGATION	7	7	Located South West of this right
05N01E29	Water Right	63-3483P	N	DOMECQ, CYNTHIA; DOMECQ	GROUND V POU	IRRIGATION	1.6	3	Located North West of this right

63 - 8392 System diagram



Layout map for 63-8392





Pasture



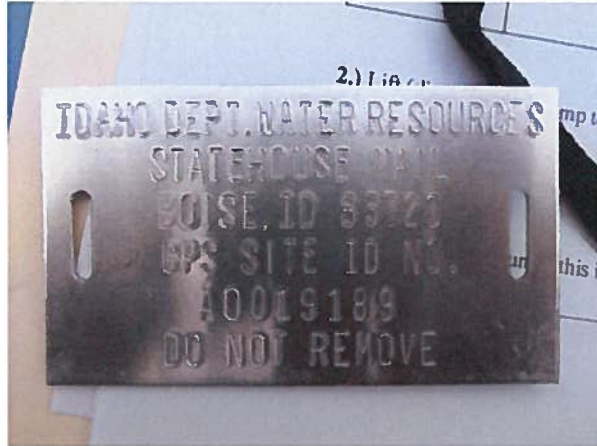
House with trees and hayshed



Pasture irrigated and horses by hayshed



Well head



Well tag A0019189

Frost-free hydrant



Some irrigation being used for yard



Piping from old system



Pasture irrigation



Sprinklers being used



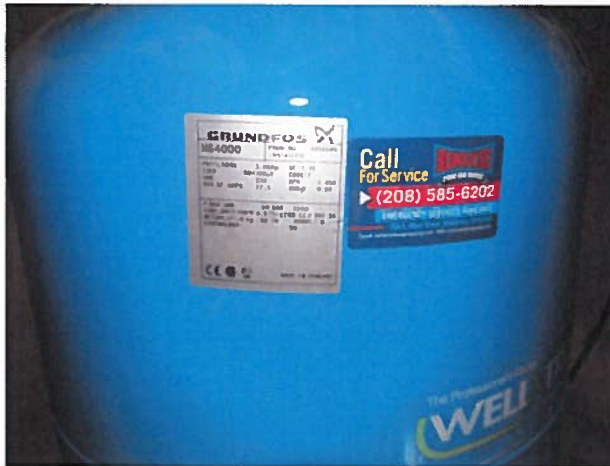
8 mm nozzles used



Control panel in room off of garage 5 hp pump



System pressure 50 PSI



35 gal pressure tank data sticker for well MS4000 5 HP Pump



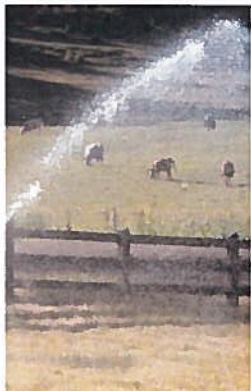
Nozzel Specs



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Sprinkler



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Description

Specifications

Features and Benefits

Primary Application

Product Video

Specifications:

- **Flow Range:** 10-47 gal/min
- **Coverage:** Up to 150' Diameter
- **Construction:** Aluminum w/ Brass Lower Turning Union
- **Trajectory:** 30°
- **Inlet Size:** 1 25" Female Standard Pipe Thread, Jet Stream Breaker
- **Nozzle Size Included:** 7, 8, 9, & 10 mm (Available Upon Request 12 mm & 14 mm)

K1 (30° Trajectory) 1 25" FNPT Connection								
PSI	Nozzle 8mm (.315")		Nozzle 9mm (.354")		Nozzle 10mm (.394")		Nozzle 12mm (.472")	
	GPM	Diameter	GPM	Diameter	GPM	Diameter	GPM	Diameter
22	13	102	16	108	20	112	29	112
29	15	112	19	114	23	118	34	124
44	18	124	23	128	28	134	41	136
58	21	134	26	138	33	144	47	154