

67-15088 Licensing Conditions

Permit Condition:

The right holder shall install a measuring device acceptable to the department on any point of diversion authorized under this right. The measuring device shall be capable of displaying instantaneous diversion rates and totalized volume measurements. The right holder shall record rate and volume measurements monthly for any calendar year during the first five irrigation seasons in which water is diverted in connection with this right and shall make the records available to the department upon request. One measurement shall be in April for each year this right is being used.

Proposed License Condition:

For the next four irrigation seasons following licensing of this right, the right holder shall record rate and volume measurements monthly for any calendar year in which water is diverted in connection with this right and shall make the records available to the department upon request. One measurement shall be in April for each year this right is being used.

Permit Condition:

Any well used as a point of diversion for this right shall include a measuring tube or other suitable method to allow measurement of water levels. The right holder shall measure water levels for any well used as a point of diversion for this right monthly for any calendar year during the first five irrigation seasons in which water is diverted in connection with this right and shall make the records available to the department upon request. One measurement shall be in April for each year this right is being used.

Proposed License Condition:

Any well used as a point of diversion for this right shall include a measuring tube or other suitable method to allow measurement of water levels. For the next four irrigation seasons following licensing of this right, the right holder shall measure static water levels for any well used as a point of diversion for this right monthly for any calendar year in which water is diverted in connection with this right and shall make the records available to the department upon request. One measurement shall be in April for each year this right is being used.

Other License Conditions:

01M

Any well used as a point of diversion for this right shall be cased with impermeable casing into or through the first confining layer below ground surface to prevent diversion of water having a direct hydraulic connection to surface water sources within the Weiser River Basin.

After notification by the department, the right holder shall annually submit a measurement report to the department. The report shall include the rate, volume and water level data for any irrigation well authorized by this right and all data from any observation well that could be required in a pump test and/or monitoring plan.

Upon notification by the department, the right holder shall conduct a pump test and/or shall participate in a monitoring plan subject to department approval prior to being implemented. This may be done by the right holder or in conjunction with another party.

R64

121

Looks good ✓
-JR
11/10

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 67-15088

Exam Date: 10/24/2014

1. Current Owner: STEVEN E RYALS
2429 LAPPIN LN
COUNCIL ID 83612
(208)484-1722
2. Accompanied by: Steve Ryals
Phone No: Same
Address: Same
Relationship to Permit Holder: Same

3. SOURCE TRIBUTARY
GROUND WATER N/A

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 NE1/4NW1/4 Sec. 8, Twp 12N, Rge 02W, B.M.
WASHINGTON County

Method of Determination: Garmin model GPSmap 76 Datum NAD 83 GPS Location N 44° 23.7294' W 116° 36.2880'

2. PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
12N	02W	8		34	27		32			19									112

Total Acres: 112

Method of Determination: Field verification. No 2014 high resolution aerial photo available for exam.

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). 2014 Landsat only 2014 imagery available.
- ☒ 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
D0064495	Unknown - Submersible	75	Unknown	Robbco	10" discharge

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

E. FLOW CALCULATIONS X Additional Computation Sheets Attached**Measured Method: Theoretical HP Equation:**

HP = 75

PSI = 60 (est. pressure closed system irrigation)

Z = 118 ft (measured by owner after 24 hours of pumping)

$$Q = (8.8 \times 0.7 \times \text{HP}) / [Z + (2.31 \times \text{PSI})] = (8.8 \times 0.7 \times 75) / [118 + (2.31 \times 60)] = \mathbf{1.80 \text{ cfs}}$$

Measured Method: Sprinkler System Estimation:Pivot (7 TWR ZIMMATIC 9500 FC) operation = 800 gpm (per spec. sheet & owner) = **1.78 cfs** discharge from pivot

OR

of solid set lines = 4 (7 total, max of 4 lines run @ one time)

of sprinkler heads = 122 heads (alternating 31 to 30 heads each line – max 4 lines @ one time = 122 heads)

Type of sprinklers = Hunter PGP

Nozzle = 5.0 rated for 5.0 gpm @ 45 psi (see attached sprinkler spec sheet)

$$Q = \# \text{ heads} \times \text{gpm} = 122 \times 5.0 \text{ gpm} = 610.0 \text{ gpm} = \mathbf{1.36 \text{ cfs}}$$
 est. discharge from sprinklers

Theoretical HP Equation est. = **1.80 cfs**Sprinkler System est. (max) = **1.78 cfs**Permitted Rate = **2.00 cfs**Beneficial Use Limit = 112 ac $\times$ 0.02 cfs/ac = **2.24 cfs**Proof of Beneficial Use fee paid = \$125.00 = up to **2.00 cfs****Recommend Permitted Rate = 2.00 cfs**Theoretical HP Equation est. 1.80 cfs $\geq$ 75% (90%) of recommended permit rate.**F. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 112 \text{ ac} \times 4.0 \text{ afa/ac} = 448.0 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 2.00 \text{ cfs} \times 231 \text{ days} \times 1.9835 = 916.4 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 448.0 \text{ afa} < 916.4 \text{ afa} = \mathbf{\text{Recommend 448.0 afa}}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS**SYSTEM DESCRIPTION:**

System consists of a 10" dia 418 ft deep well with a 10" steel discharge line to an 8" line for pivot (7 TWR ZIMMATIC 9500 FC) and a 6" line to the solid set sprinkler lines (seven lines with 31 to 30 Hunter PGP sprinkler heads one each line). System specification sheets are attached. Either the pivot OR up to four of the solid set sprinkler lines are operated at any one time.

IRRIGATION PRACTICES:

The well is the primary and only water source for irrigation within the POU. The majority of the POU is irrigated crop land, but a small portion (~8 acres in SENW) is irrigated pasture/crazing area. The owner grew alfalfa the one and only irrigation season of the permit development period (2014). The POU irrigated acres was determined by calculating pivot coverage area (radius of pivot arm 1100 ft + 100 ft end gun coverage) + 8 acres under solid set lines (based on area provided by Mr. Ryals at exam on aerial photo).

OVERLAP:

There are no other authorized water right points of diversion within the QQ. There are no other water rights authorizing irrigation within the place of use.

The place of use property also has two small stockwater ponds within the draw of an unnamed stream tributary to Camp Creek. The largest of these two ponds in the SWNE Sec 8 is authorized by a portion of water right 67-14798 (informed Mr. Ryals during exam a change of ownership should be filed). The smaller pond in the NENW Section 8 (~3 ft deep with surface area ~0.2 ac) does not have water right authorization associated with it. I informed Mr. Ryals a water

G. NARRATIVE/REMARKS/COMMENTS CONTINUED

right permit should be filed for this small stockwater pond. There are no other water rights associated with this property.

COMPLIANCE WITH PERMIT CONDITIONS:

The permit conditions required the water right holder to; case the well through the first confining layer below ground surface, install a water level measuring tube inside the well, install a measuring device capable of displaying the instantaneous rate and totalized volume, and record water levels, rate and volume measurements monthly for any calendar year the well is used during the first five irrigation seasons. The well is cased to 296 ft and sealed to 114 ft through the first significant confining layer (blue clay & blue/green mudstone), deeper than most wells in the area. The well is equipped with a water level measurement port. Mr. Ryals recorded water levels during July, August, September, and October after the water level port was installed in May when the pump was installed (see attached "Water Table... Well Midvale"). Mr. Ryals did not provide documentation of monthly recordings for rate and volume, but did submit rate and total volume information for his irrigation season (see attached Ryals email dated 10/25/14).

Mr. Ryals requested a waiver (letter received 9/19/14) from the permit requirement to install a measuring device for instantaneous rate and totalized volume. Mr. Ryals is able to tell the instantaneous rate of flow through the computerized pivot program. The instantaneous rate of flow cannot be measured when the solid set lines are irrigating, however the rate of flow is always less than the pivot's 800 gpm operation rate based on the system design (system design provides an estimate of the diversion rate for the solid set lines). Mr. Ryals does not have a device in place that records the totalized volume. However, Mr. Ryals is capable of recording the number of hours the system operates and multiple that by the rate for each component to calculate the volume diverted. Measurement and monitoring conditions were placed on this permit as a precaution due to different permit contested for a neighboring property. This particular application was not protested during permit processing. Mr. Ryals complied with the intent (if not the letter) of all other permit conditions for this diversion including constructing the well to limit potential injury to neighboring ground water users in an unrestricted ground water area. These alternative methods/devices of measurement are typically not acceptable substitutes for a measuring device. However, this application was not contested, the measurement device requirement was placed on this permit as a precaution, and the owner has an alternative method of providing rate and volume data should it be necessary in the future; the measurement condition shall be modified to require installation of a measuring device upon future notification.

Permit condition(s) require monthly measurements of water level, rate, and volume be conducted for the first five years of irrigation. Mr. Ryals filed the proof of beneficial use and subsequently this exam was conducted after only the first year of irrigation. Recommend this condition(s) be modified to require this data be collected, using current measurement methods, for the 2015 through 2018 irrigation seasons and provided upon request considering there have been no complaints/concerns voiced regarding diversion under this permit.

Have conditions of permit approval been met? ____ Yes ____ **X** No*

*Condition modification recommendations discussed in the Narrative/Remarks/Comments section above approved by Western Region Interim Manager per discussion 11/6/2014.

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/15 to 10/31	2.00 CFS	448.0 AF
<u>Totals:</u>		2.00 CFS	448.0 AF

2. Recommended Amendments

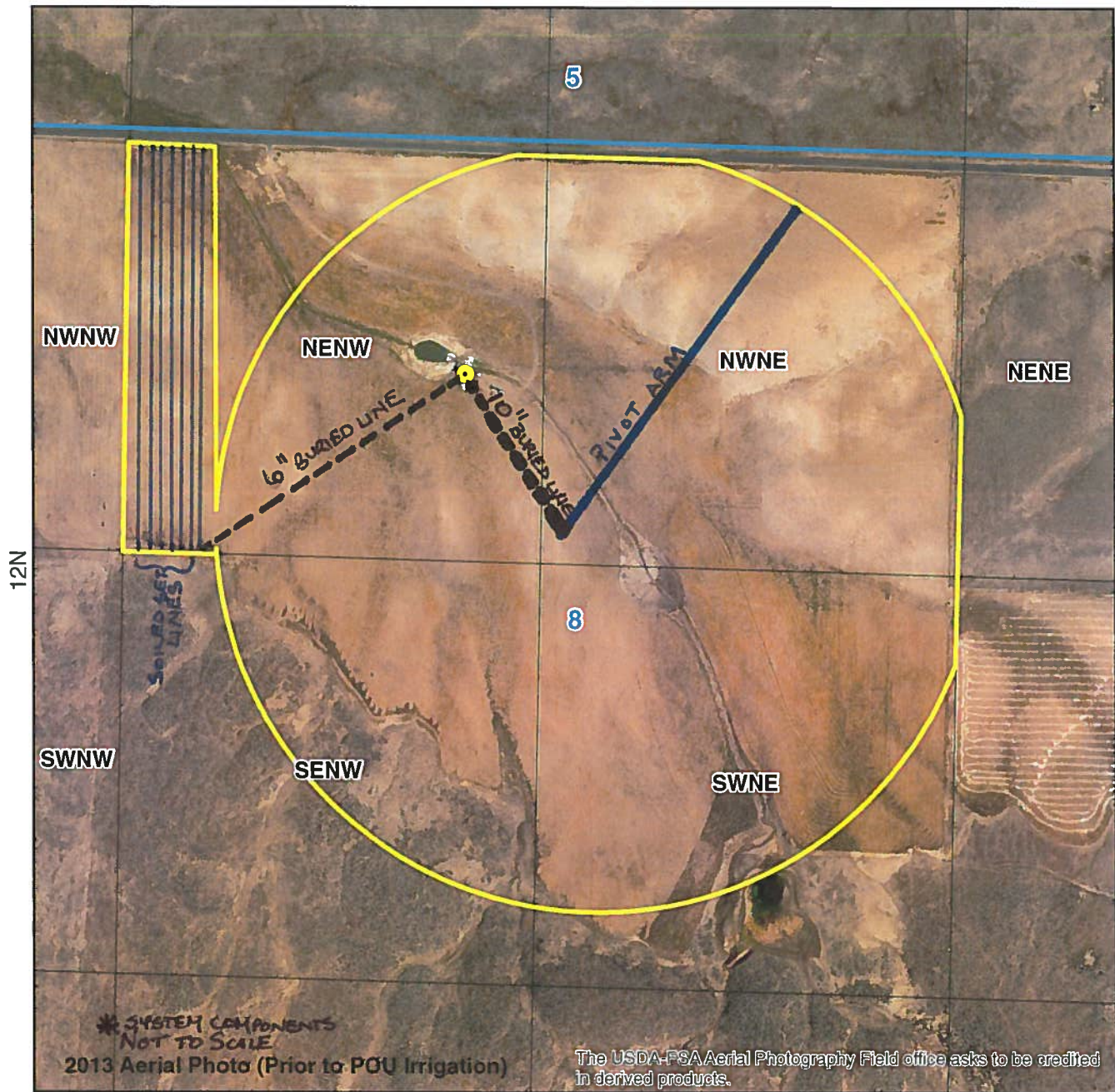
____ Change P.D. as reflected above ____ Add P.D. as reflected above **X** None
 ____ Change P.U. as reflected above ____ Add P.U. as reflected above ____ Other

I. AUTHENTICATION

Field Examiner's Name Angela M. Quinn Date 11/6/14
 Reviewer _____ Date _____

67-15088 Beneficial Use Field Report Map & System Diagram

02W



0 0.125 0.25 0.5 Miles

● Point of Diversion

Place Of Use Boundary

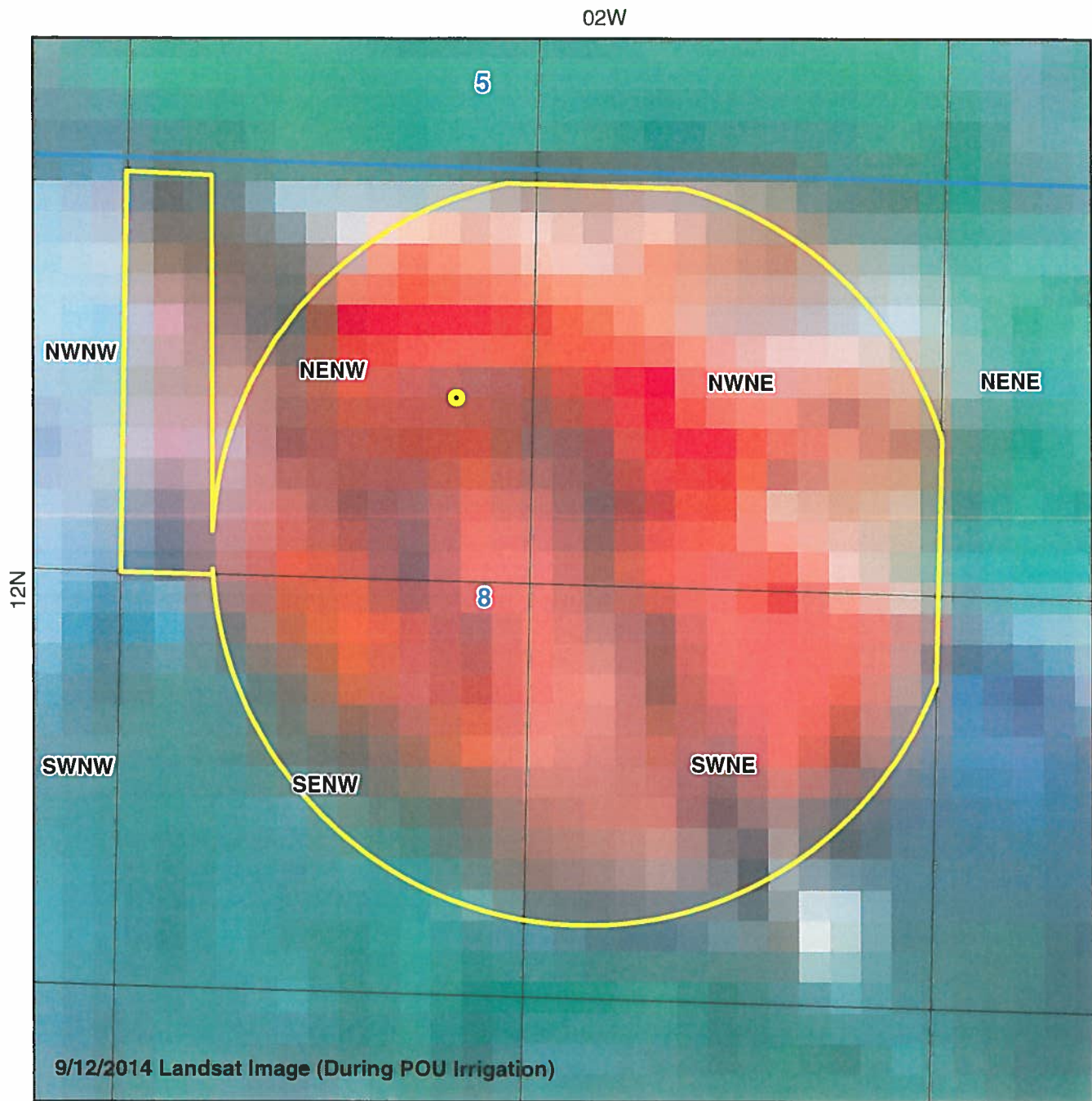
Townships

PLS Sections

Quarter Quarters



State of Idaho
Department of Water Resources
67-15088 Beneficial Use Field Report Map



0 0.125 0.25 0.5 Miles

- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters



AGRI LINES IRRIGATION

MARCH 13, 2014

WISHNW-27599

CUSTOMER : STEVE RYALS

2014 LINDSAY 9500 - 90
7 TOWER - 1102.47 FT
SYSTEM 800 GPM @ 45 PSIP.O. NO. : 34458
JOB NO. :
LEGAL : 7 TWR ZIMMATIC 9500 FC
CROP :NELSON R3000 ROTATORS
NELSON 15 & 20 PSI REGULATORS
NELSON SR-100 .75 TB
ELEVATION 0 FT UP, 0 FT DOWN

115 NORTH SECOND

PARMA, IDAHO 83660

(208) 722-5121

PGP Ultra Blue Standard Nozzle Performance Data

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr ■ ▲
1.5	25	29'	1.2	0.27 0.32
	35	31'	1.4	0.28 0.32
	45	31'	1.5	0.30 0.35
	55	32'	1.8	0.34 0.39
	65	32'	1.9	0.36 0.41
2.0	25	33'	1.4	0.25 0.29
	35	33'	1.7	0.30 0.35
	45	34'	2.0	0.33 0.38
	55	34'	2.1	0.35 0.40
	65	32'	2.3	0.43 0.50
2.5	25	33'	1.7	0.30 0.35
	35	35'	2.1	0.33 0.38
	45	35'	2.5	0.39 0.45
	55	35'	2.6	0.41 0.47
	65	35'	2.9	0.46 0.53
3.0	25	35'	2.2	0.35 0.40
	35	36'	2.7	0.40 0.46
	45	38'	3.0	0.40 0.46
	55	39'	3.4	0.43 0.50
	65	39'	3.7	0.47 0.54
4.0	25	37'	3.0	0.42 0.49
	35	39'	3.5	0.44 0.51
	45	40'	4.0	0.48 0.56
	55	41'	4.5	0.52 0.60
	65	41'	4.8	0.55 0.63
5.0	25	37'	3.7	0.52 0.60
	35	39'	4.5	0.57 0.66
	45	42'	5.0	0.55 0.63
	55	42'	5.7	0.62 0.72
	65	42'	6.2	0.68 0.78
6.0	25	38'	4.3	0.57 0.66
	35	40'	5.6	0.67 0.78
	45	43'	6.0	0.62 0.72
	55	44'	6.7	0.67 0.77
	65	44'	7.3	0.73 0.84
8.0	25	37'	6.0	0.84 0.97
	35	41'	7.0	0.80 0.93
	45	44'	8.0	0.80 0.92
	55	46'	9.0	0.82 0.95
	65	46'	9.8	0.89 1.03

PGP Ultra Gray Low Angle Nozzle Performance Data

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr ■ ▲
2.0	30	25'	1.6	0.49 0.57
	40	27'	1.9	0.50 0.58
	50	28'	2.1	0.52 0.60
LA	60	30'	2.3	0.49 0.57
	30	27'	2.1	0.55 0.64
	40	30'	2.5	0.53 0.62
2.5	50	33'	2.8	0.49 0.57
	60	35'	3.0	0.47 0.54
3.5	30	29'	2.8	0.64 0.74
	40	32'	3.1	0.58 0.67
	50	35'	3.5	0.55 0.64
LA	60	37'	3.8	0.53 0.62
4.5	30	29'	3.4	0.78 0.90
	40	32'	3.9	0.73 0.85
	50	35'	4.4	0.69 0.80
LA	60	37'	4.7	0.66 0.76

Note: All precipitation rates calculated for 180 degree operation.
For the precipitation rate for a 360 degree sprinkler, divide by 2.

NON-STRIPPABLE BACKDRIVE

This PGP Ultra sprinkler is designed with an internal device that prevents damage to the internal gear drive if it should be turned by vandals. This important feature works when the nozzle turret is turning in either direction. This makes the sprinkler very durable in all applications.

AUTO ARC RETURN

This PGP Ultra sprinkler is designed with an internal device that re-aligns the arc if it is turned by vandals. This important feature works when the nozzle turret is turned in either direction. When forced

PGP Ultra 18' Short Radius Nozzle Performance Data

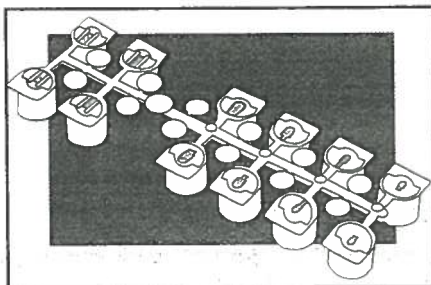
Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr ■ ▲
.50	30	17'	0.36	0.24 0.28
	40	17'	0.43	0.29 0.33
	50	18'	0.50 0.30	0.34
	60	19'	0.57	0.30 0.35
1.0	30	17'	0.78	0.52 0.60
	40	17'	0.90	0.60 0.69
	50	18'	1.0 0.59	0.69
	60	19'	1.1	0.59 0.68
2.0	30	17'	1.4	0.93 1.08
	40	17'	1.7	1.13 1.31
	50	18'	2.0 1.19	1.37
	60	19'	2.2	1.17 1.35

PGP Ultra 25' Short Radius Nozzle Performance Data

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr ■ ▲
.75	30	23'	0.58	0.21 0.24
	40	24'	0.68	0.23 0.26
	50	25'	0.75 0.23	0.27
	60	26'	0.83	0.24 0.27
1.5	30	23'	1.1	0.40 0.46
	40	24'	1.3	0.43 0.50
	50	25'	1.5 0.46	0.53
	60	26'	1.6	0.46 0.53
3.0	30	23'	2.5	0.91 1.05
	40	24'	2.7	0.90 1.04
	50	25'	3.0 0.92	1.07
	60	26'	3.1	0.88 1.02

Note: All precipitation rates calculated for 180 degree operation.
For the precipitation rate for a 360 degree sprinkler, divide by 2.

PGP ULTRA BLUE NOZZLES P/N 732900



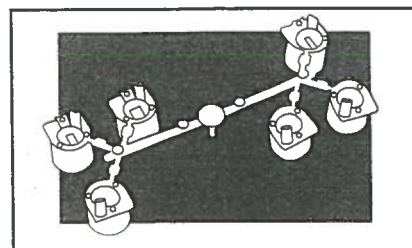
PGP Ultra 5.5 m Short Radius Nozzle Performance Data - Metric

Nozzle	Pressure Bars kPa	Radius m	Flow m³/hr l/min	Precip mm/hr ■ ▲
.50	1.7	172	4.9 0.07	1.2 6 7
	2.0	200	5.2 0.08	1.3 6 7
	2.5	248	5.2 0.09	1.5 7 8
	3.0	303	5.2 0.10	1.7 8 9
	3.5	352	5.5 0.12	1.9 8 9
1.0	4.0	400	5.5 0.13	2.1 8 10
	4.5	448	5.5 0.14	2.3 9 10
1.5	1.7	172	4.9 0.16	2.7 14 16
	2.0	200	5.2 0.17	2.9 13 15
	2.5	248	5.2 0.19	3.2 14 17
	3.0	303	5.2 0.21	3.6 16 18
	3.5	352	5.5 0.23	3.8 15 18
2.0	4.0	400	5.5 0.25	4.1 16 19
	4.5	448	5.5 0.26	4.3 17 20
2.5	1.7	172	4.9 0.28	4.7 24 27
	2.0	200	5.2 0.31	5.2 23 27
	2.5	248	5.2 0.36	6.0 27 31
	3.0	303	5.2 0.41	6.9 31 35
	3.5	352	5.5 0.45	7.6 30 35
SR	4.0	400	5.5 0.49	8.2 33 38
	4.5	448	5.5 0.53	8.9 35 41

PGP Ultra 7.6 m Short Radius Nozzle Performance Data - Metric

Nozzle	Pressure Bars kPa	Radius m	Flow m³/hr l/min	Precip mm/hr ■ ▲
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PGP ULTRA SHORT RADIUS NOZZLES P/N 466100



NON-REVERSING 360

This PGP Ultra sprinkler is designed as a part- and full-circle in one model. When the sprinkler is adjusted to the full-circle position, the sprinkler will rotate in a continuous counter-clockwise direction. This saves everyone from stocking additional full-circle only models while efficiently irrigating the landscapes.

PGP Ultra Blue Standard Nozzle Performance Data - Metric

Nozzle	Pressure Bars kPa	Radius m	Flow m³/hr l/min	Precip mm/hr ■ ▲
1.5	2.0	200	9.1 0.29	4.8 7 8
	2.5	250	9.4 0.32	5.4 7 8
	3.0	300	9.8 0.35	5.9 7 9
	3.5	350	9.8 0.38	6.4 8 9
	4.0	400	9.8 0.41	6.8 9 10
2.0	4.5	450	9.4 0.43	7.2 10 11
	2.0	200	10.1 0.35	5.8 7 8
	2.5	250	10.1 0.39	6.5 8 9
	3.0	300	10.4 0.43	7.2 8 9
	3.5	350	10.4 0.47	7.8 9 10
2.5	4.0	400	10.4 0.50	8.3 9 11
	4.5	450	10.4 0.53	8.8 10 11
	2.0	200	10.4 0.43	7.1 8 9
	2.5	250	10.7 0.48	8.0 8 10
	3.0	300	10.7 0.54	8.9 9 11
3.0	3.5	350	10.7 0.58	9.7 10 12
	4.0	400	10.7 0.62	10.4 11 13
	4.5	450	10.7 0.66	11.1 12 13
	2.0	200	10.7 0.54	9.1 10 11
	2.5	250	11.0 0.61	10.2 10 12
4.0	3.0	300	11.6 0.68	11.4 10 12
	3.5	350	11.9 0.74	12.3 10 12
	4.0	400	11.9 0.79	13.2 11 13
	4.5	450	11.9 0.84	14.0 12 14
	2.0	200	11.6 0.73	12.2 11 13
5.0	2.5	250	11.9 0.81	13.6 12 13
	3.0	300	12.2 0.90	15.0 12 14
	3.5	350	12.2 0.97	16.2 13 15
	4.0	400	12.5 1.04	17.3 13 15
	4.5	450	12.5 1.10	18.3 14 16
6.0	2.0	200	11.6 0.91	15.2 14 16
	2.5	250	11.9 1.02	17.1 15 17
	3.0	300	12.8 1.14	19.0 14 16
	3.5	350	12.8 1.24	20.6 15 17
	4.0	400	12.8 1.32	22.1 16 19
7.0	4.5	450	12.8 1.41	23.4 17 20
	2.0	200	11.9 1.09	18.2 15 18
	2.5	250	12.2 1.22	20.4 16 19
	3.0	300	13.1 1.36	22.7 16 18
	3.5	350	13.1 1.47	24.5 17 20
8.0	4.0	400	13.4 1.57	26.2 18 20
	4.5	450	13.4 1.67	27.9 19 21
	2.0	200	11.9 1.46	24.3 21 24
	2.5	250	12.5 1.63	27.2 21 24
	3.0	300	13.4 1.81	30.2 20 23
LA	3.5	350	13.7 1.95	32.6 21 24
	4.0	400	14.0 2.09	34.8 21 25
	4.5	450	14.0 2.22	36.9 23 26

PGP Ultra Gray Low Angle Nozzle Performance Data - Metric

Nozzle	Pressure Bars kPa	Radius m	Flow m³/hr l/min	Precip mm/hr ■ ▲
2.0	1.7	172	7.3 0.33	5.6 12 14
	2.0	200	7.6 0.36	6.0 12 14
	2.5	248	7.9 0.40	6.7 13 15
	3.0	303	8.2 0.45	7.4 13 15
	3.5	352	8.5 0.48	8.0 13 15
LA	4.0	400	8.8 0.52	8.6 13 15

Water Table...Well Midvale

Date	Static	Running	Notes
7/1/14	36'	76'	running for 10 minutes
7/30/14	34'	68'	running for 15 minutes solid set only
8/29/14	34'	110'	running for 10 hours at test
9/11/14		115'	running for 48 hours at test
9/17/14	31'		off for 4 days prior to test
9/24/14	32'		off for 3 days prior to test
9/26/14		118'	run for 24 hours prior to test
10/3/14	32'		shut down sysytem for winter

Grimm, Angie

From: Steve Ryals [Steve@Ryals.net]
Sent: Saturday, October 25, 2014 9:16 AM
To: Grimm, Angie
Subject: water info for pivot on Farm to Market Rd.

Angie

Thanks for coming out and doing the field exam on Friday. I calculated the total water use for the 5/1/14 to 10/1/14 period. It is as follows

Pivot: $775 \text{ hr. run time} \times 800 \text{ gpm} \times 60 \text{ minutes/ hr} = 37,200,000 \text{ gal.}$

Solid set: $65.5 \text{ hr. run time} \times 615 \text{ gpm} \times 60 \text{ min/ hr} = 2,416,050 \text{ gal.}$

Next year it will run longer in all probability because the entire system is up and operational. I think the 5/1 to 10/30 is a good operational period for any calendar year.

If possible, I would still like to waive the requirement on the flow meter. With the computer print out of the pivot water used and the hour meter on the solid set, I can do an exact calculation at any time for the water used.

If you need any more info from me, just email or call.

Steve Ryals



PO Box 720 Parma, Idaho 83660
Office 208.722.6731 Fax 208.722.6736
Email riverside@rsicorp.net

Invoice

Customer Number

RILES, STEVE

Invoice Number

PR11602

Contact

Order Date

3/12/2014

Shipped Date

5/16/2014

Invoice Date

5/16/2014

Bill To:

STEVE RILES
2429 LAPPIN ROAD
COUNCIL, ID 83612
(208) 253-0285 x

Ship To:

STEVE RILES
2429 LAPPIN ROAD
COUNCIL, ID 83612
(208) 253-0285 x

Ship Via

BESTWAY

Terms

Due On Receipt

Salesperson

House Employee

Customer PO

Original Order #

3-08931

ID PMI1176

Rating HP

Product ID	Qty	Ship	Description	Sales Price	Total
Labor	6	6	BOOM TRUCK WITH CREW TO INSTALL PUMP IN MIDVALE, IDAHO INCLUDES TRAVEL	170.00	1,020.00
9LC-2 PUMP	1	1		3,700.00	3,700.00
75HP SUB MOTOR	1	1		8,281.25	8,281.25
1/0 SUB CABLE	175	175		10.53	1,842.75
1/0 SPLICE KIT	2	2		22.50	45.00
6IN PIPE	* 147	147		16.26	2,390.22
6IN CHECK VALVE	1	1		764.29	764.29
Shop Supplies	1	1	MISC SHOP SUPPLIES	300.00	300.00

Reason Sent For Repair: NEW INSTALL OF 75 HP SUBMERSIBLE PUMP IN MIDVALE, IDAHO. INCLUDES NEW COLUMN, PUMP, WIRE, CHECK VALVE, AND ALL OTHER NECESSARY IMPLEMENTS. THERE WAS A CHANGE IN THE PRICE DO TO

			Subtotal:	18,343.51
			Freight:	0.00
			Other:	0.00
			6.000% Sales Tax 1:	1,021.41
			0.000% Sales Tax 2:	0.00
			Total:	19,364.92
Thank You!		Charge Card:	Exp Date:	
		...		

Our Tax ID: 82-0457462

Your Tax ID:

Page 1 of 2

Taxable Material 17,023.51

Taxable Labor 0.00

* 147 FT OF PIPE TO PUMP SETTING. AH, IDWR 10/24/14.

Company:
Name:
Date: 12/17/2013



Pump:

Size: 9CLE (2 stage)
Type: SUBMERSIBLE
Synch speed: 3600 rpm
Curve:
Specific Speeds:
Dimensions:
Vertical Turbine:
Speed: 3450 rpm
Dia: 6.38 in
Impeller:
Ns: 2282
Nss: —
Suction: 6 in
Discharge: —
Bowl size: 9.25 in
Max lateral: 0.88 in
Thrust K factor: 4.9 lb/ft

Search Criteria:

Flow: 800 US gpm Head: 220 ft

Fluid:

Water
SG: 1
Viscosity: 1.105 cP
NPSHa: —
Temperature: 60 °F
Vapor pressure: 0.2563 psi a
Atm pressure: 14.7 psi a

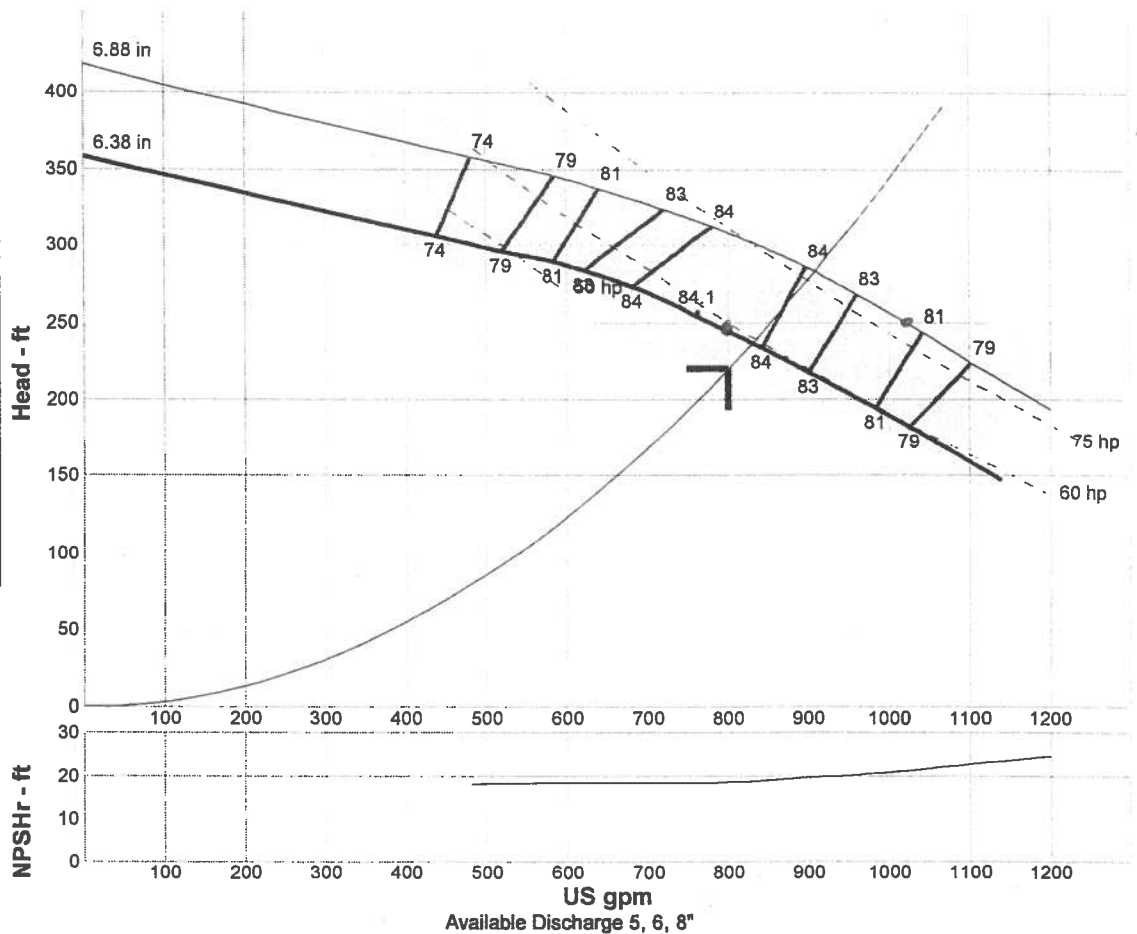
Motor:

Standard: NEMA
Enclosure: SUB
Sizing criteria: Max Power on Design Curve
Size: 60 hp
Speed: 3600
Frame: 6 inch

Pump Limits:

Temperature: 120 °F
Pressure: 400 psi g
Sphere size: 0.56 in
Power: —
Eye area: —

Data Point	
Flow:	800 US gpm
Head:	245 ft
Eff:	84%
Power:	58.7 hp
NPSHr:	18.7 ft
Design Curve	
Shutoff head:	358 ft
Shutoff dP:	155 psi
Min flow:	—
BEP:	84.1% @ 762 US gpm
NOL power:	59.7 hp @ 1025 US gpm
Max Curve	
Max power:	79.2 hp @ 1041 US gpm



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
960	3450	201	81.6	59.6	20.4
800	3450	245	84	58.7	18.7
640	3450	280	83.3	54.3	18.4
480	3450	301	76.6	47.5	18.2
320	3450	—	—	—	—

Riverside, Inc.

P.O. BOX 720
111 S. Roswell Blvd.
Parma, ID 83660
(208) 722-6731 * FAX (208) 722-6736

Well Test

Air Line Setting 262
Pump Suction Setting 266
Static Water Level 17'

*15 GPM
Per Foot*

Date: 11-26-13
Customer: Steve Riles

Well Location: Midvale

Well Dia: 10" to
 to
 to

67' @ 750 84' @ 1000 GPM

Time	Water Level	GPM	RPM	Water Condition	Temp F	Motor Amps	Total GPM Pumped	Calculated GPM
12:00	38'6"	620		clear				
12:02	39'8"	620						
12:04	41'4"	620						
12:06	43'5"	" "						
12:08	45'1"	" "						
12:10	46'6"	" "						
12:15	48'4"	" "						
12:20	49'1"	" "						
12:25	49'11"	" "						
12:30	50'4"	" "						
12:35	50'11"	" "						
12:40	51'4"	" "						
1:00	51'11"	" "						
1:20	52'2"	" "						
1:40	53'3"	" "						
2:00	54'5"	" "						
2:30	55'6"	" "						
3:00	55'6"	" "					1000 GPM	
3:15	55'7"	" "					191 TON	
3:30	55'7"	" "						
3:45	55'7"	" "						
4:00	55'7"	" "		clear				
	Shut down							
	Recovered immediately							

4/2011

IDAHO DEPARTMENT OF WATER RESOURCES
FIELD EXAMINERS
WELL INSPECTION FORM

1. IDENTIFICATION # D0064495 (Tag #, etc.)

OTHER APPLICABLE # 67-15088 (Water right #, etc.)

2. OWNER STEVEN RYALS Phone (208) 484-1722

Address 2429 LAPPIN LN City COUNCIL

State ID Zip 83612 Email _____

3. WELL LOCATION (GPS required in Degrees Decimal Minutes – use PLS if GPS not available)

Lat. N 44° 23.7294' Long. W 116° 36.2880'

Twp 12N Rge 2W Sec 8 ¼ NE ¼ NW

4. WELL CONSTRUCTION ☒ Well log attached ☐ Well log not found

Any obvious construction problems that may be a source for contamination or waste? ☐ Yes ☒ No

If yes, describe below &/or see attached (list any that apply): ☐ Photos ☐ Diagram ☐ Other

5. HYDROLOGIC INFORMATION

Static water if measured N/A ft. Water temperature if measured N/A °F

Flowing artesian ☐ Yes ☐ No Pressure if measured N/A psi

NOTES NO WATER LEVEL OR TEMPERATURE MEASUREMENTS TAKEN AT EXAM.

INSPECTED BY  DATE 10/24/14

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064495

Drilling Permit No. 963390-869449 ✓
Water right or injection well # 67-15088

2. OWNER:

Name Steve Ryals
Address 2429 Lappin Lane
City Council State Id. Zip 83612

3. WELL LOCATION:

Twp. 12 North ☒ or South ☐ Rge. 02 East ☐ or West ☒
Sec. 08 1/4 NE 1/4 NW 1/4

Gov't Lot _____ County Washington
Lat. 44 ° 23.82 (Deg. and Decimal minutes)
Long. 116 ° 36.30 (Deg. and Decimal minutes)
Address of Well Site None, Farm to Market Road

City Midvale
(Give at least name of road + Distance to Road or Landmark)
Lot _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite Chips	.75	114	3 Spr. Sks	Pour & Tag
			+ 30 bags	

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Liner	Threaded	Welded
10.75	1.34	296+	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 296.75

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type 304 Stainless Cont. Wound

Method of installation Cut 8" Shoe, Set on Bottom & pull back 8"

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
293+	410	.025		6"IPS	St. St.	

Length of Headpipe 8' Length of Tailpipe 7.8'

Packer ☒ Y ☐ N Type (2) 8 X 6 & (2) 10 x 8

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
8-12 & 6-9	327+	418	33,900 lbs.	Pour & Tag

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 10 Static water level (ft) 17
Water temp. (°F) 65+- Bottom hole temp. (°F) 65+-

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
TBD x Pump	TBD x Pump		☒	☐	☐	☐
Test	Test		☐	☐	☐	☐

Test method:

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
24	0	2	Hard Dry Black Adobe Clay (Soil?)		n
24	2	2.5	Hard Rusty Brown Sandstone		n
17.5	2.5	10	Gray / Brown Mudstone		n
"	10	16	Soft Clay Sand	x	
"	16	20	Brown Sandy Mudstone		n
"	20	30	Blue / Black Mudstone		n
"	30	39	Blue Clay		n
"	39	41	Blue / Green Mudstone		n
14.75	41	65	Blue / Green Mudstone		n
"	65	74	Brown & White Sand	x	
"	74	104	Blue / Green Mudstone		n
"	104	108	Brown and White Sand	x	
"	108	114	Blue / Green Mudstone		n
12	114	145	Blue / Green Mudstone		n
"	145	148	Fractured Basalt	x	
"	148	161	Blue / Green Mudstone		n
"	161	166	Sand	x	
"	166	-	Blue / Green Mudstone, Sand &	-	-
-	-	293	Cemented Sand	x	
12	293	294	Fractured Basalt	x	
"	294	296	Sand ?	x	
"	296	296-9	Fractured Basalt	x	
9.875	296-9	304	Fractured Basalt	x	
"	304	315	Mudstone / Cemented Sand	x	
"	315	316	Fractured Basalt	x	
"	316	318	Mudstone / Cemented Sand	xx	
"	318	321	Fractured Basalt	x	
"	321	323	Sand?	x	
"	323	329	Fractured Basalt	x	
"	329	331+	Sand?	x	
"	331+	-	Fractured Basalt w/Sand, Sand &	-	-
-	-	418	Cemented Sand & Mudstone	x	

Completed Depth (Measurable): 418 ft.

Date Started: Aug 5, 2013 Date Completed: Oct 28, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Robert Dawson Drilling, Inc. Co. No. 589

*Principal Driller Robert Dawson Date Jan 11, 2014

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

RECEIVED

JAN 13 2014

WATER RESOURCES
WESTERN REGION

67-15088 Beneficial Use Field Report Photos



67-15088 Field Exam 10/24/2014: POD well with measurement port (small red tube) facing west. 10 inch line to pivot center valve with 6 inch line off to right.



67-15088 Field Exam 10/24/2014: Portion of POU under pivot facing southeast from well.

CONVERSATION MEMO

FROM: Steve Lester 
DATE: October 3, 2014
RE: Permit 67-15088, Steve Ryals

Several calls from 9/25 thru 10/3/2014:

1) Steve Ryals: Said pivot system includes internal controls allowing smart phone (?) tracking of how long it is on & he has documentation of system pumping rate:

- use information to estimate flow rate & volume diverted if necessary?
- substitute for installing measuring device if okay with IDWR?
- already installed water level measuring tube.

IDWR response: Probably, send letter to IDWR requesting modified measuring device condition. Previous concerns generated from senior filing 67-14750 for Heck just west of Ryals led to Ryals conditions of approval. But has been quiet in that area since approvals issued, assume things are okay, allowing us to be more liberal with conditions.

2) Pending Buyer (name uncertain): Basic water right questions, permit & license process, anything to be concerned about etc.

IDWR response: Assuming can modify measuring device condition, assuming other conditions have been met & if can confirm adequate beneficial use, will probably be okay.

3) Mike Creamer, attorney for pending buyer: Called to discuss possible exam by private examiner (SPF) & expedited licensing to facilitate sale, timing, problems, any other issues?

IDWR response: Private exam possible but everything appears in place for expedited IDWR exam & licensing if Ryals requests this.

4) Finally, Steve Ryals: Called to discuss more, **requested expedited exam & licensing. He is gone thru 10/24 but anytime 10/27-10/31 is okay. Best # to call is 484-1722** (don't need 1 or 208 prefix).

IDWR response: **We will call then for expediting exam & licensing, will factor in his measuring device request. Appears okay to modify condition in licensing but still require records-keeping for 1st 5 years as required in permit.**

Department of Water Resources
2735 Airport Way
Boise, Idaho 83705-5082
% Steve Lester

RECEIVED

SEP 29 2014

WATER RESOURCES
WESTERN REGION

9/19/14

Steve Ryals
2429 Lappin Ln.
Council, Id. 83612

Re: Permit # 67-15088

Steve:

As per our conversation on 9/17/14, this is a request to modify Item #6 on the water right listed above. The well, pump, and center pivot are installed and operational. The center pivot is computer controlled and has the capability of displaying the total run time at any time. The pivot is new and uses 800 gpm when running. It would be a simple matter to do the math and calculate the water used at any time that was requested by the department.

I would request that Item #6 be modified to eliminate the requirement for the monitoring device and instead put the requirement that the permit holder shall make available to the department the total water used based on the hours the unit is run multiplied by the gpm of the pivot.

All other conditions of this permit have been met including the tube installed in the well to record and measure ground water levels.

Steve Ryals