

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-16494

Exam Date: 6/21/2016

1. Current Owner:
HOWARD RUDE 6426 MAPLEWOOD POST FALLS ID 83854 (208) 818-2101

2. Accompanied by: Howard Rude

3. SOURCE:
GROUND WATER

TRIBUTARY:

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 NW¼NW¼ Sec. 25, Twp 51N, Rge 05W, B.M. KOOTENAI County

Method of Determination: GPS and maps. POD location at 47° 44.527, 116° 54.811 (A0015434)

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	
51N	05W	25						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	
51N	05W	25						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	
51N	05W	25						8.9											8.9

Total Acres: 8.9

Method of Determination: GPS and maps.

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 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
D0061135		25			

*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

2. Measurements: UNABLE TO PERFORM FLOW MEASUREMENT. THE WAY APPLICANT HAD MAIN LINE SET UP IT WAS BEING IRRIGATED ON AND THERE WAS NO DRY PLACE TO HOOK UP METER.

E. FLOW CALCULATIONS

Measured Method: THEORETICAL PUMPING EQUATION X Additional Computation Sheets Attached
ESTIMATES FLOW RATE AT 0.41 CFS. APPLICANT IS LIMITED TO DIVERSION RATE ON LICENSE.

$$(25\text{HP})(8.8)(0.8) / (290 + (60 \times 2.3087)) = 0.41 \text{ CFS}$$

APPLICANT HAD 15 SECTIONS OF PIPE WITH 5/32" HEADS ON EACH SECTION WITH FLOW RATE AT 5.47 GPM
PER HEAD = 5.47 GPM X 15 = 82 GPM OR 0.18 CFS

F. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 8.9 \text{ AC} \times 3.0 \text{ AF} = 26.7 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.18 \times 246 \times 1.9835 = 87.8 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 26.7 \text{ AF}$$

2. Volume Calculations for Other Uses: DOMESTIC FOR 1 HOME = 0.6 AF

$$\text{STOCKWATER FOR 50 HEAD OF CATTLE} = 50 \times 12 \text{ GPD} \times 365 \text{ DAYS} / 325,850 \text{ GAL/AF} = 0.7 \text{ AF}$$

G. NARRATIVE/REMARKS/COMMENTS

FIELD EXAM SHOWED APPLICANT HAD WELL WITH 25 HP PUMP AND WAS IRRIGATING 8.9 ACRES OF LAND. APPLICANT HAD DOMESTIC HOME AND HAD CATTLE THAT WERE GRAZING ON ANOTHER FIELD. APPLICANT HAD IRRIGATION PIPE THAT WERE USING 5/32 HEADS THAT ARE RATED AT 5.47 GPM. APPLICANT WAS USING 15 SECTIONS OF PIPE WHICH IS RIGHT ON DIVERSION RATE OF 0.18 CFS FOR 8.9 ACRES OF IRRIGATION.

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>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	0.18 CFS	26.7 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.7 AF
<u>Totals:</u>		0.200 CFS	28.00 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 X None

I. AUTHENTICATION

Field Examiner's Name Adam Frederick Date 7-22-2014

Reviewer Morgan Case Date 7/28/2014

THEORETICAL PUMPING EQUATION FOR WATER RIGHT 95-16494. APPLICANT SAID HE HAD PUT 25 HP PUMP IN WELL AND IT WAS RUNNING AT 60 PSI.

PUMP EQUATIONS WATER RIGHT No. 95-16494						
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	25	428.7755	0.8	290	60
Q = 0.411 cfs 184.5 gpm						



RAIN BIRD

PERFORMANCE DATA

20JH

20JH

1/2" Full Circle, Brass Impact Sprinkler

Bearing: 1/2" Male NPT, Brass
Trajectory Angle: 23°
Operating Range: 35-80 psi
Flow Rate: 2.0-5.47 GPM
Radius: 35-44 ft.

FEATURES

- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant Teflon™ washers
- Two-year warranty

BENEFITS

- Spoon drive arm runs on larger nozzles and higher pressures
- Corrosion and grit resistant
- Built to last

Straight Bore Nozzle (SBN-1) (Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	7/64"		1/8"		9/64"		5/32"	
Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	
35	38 2.05	38 2.68	39 3.39	39 4.19				
40	38 2.19	39 2.86	40 3.62	39 4.47				
45	39 2.32	39 3.03	40 3.84	40 4.73				
50	39 2.45	39 3.20	40 4.05	40 5.00				
55	39 2.57	40 3.35	40 4.24	40 5.23				
60	39 2.68	40 3.50	41 4.43	41 5.47				

Straight Bore Nozzle with Vane (SBN-1V) (Stream Height: 7 ft.)

PSI @ Nozzle	NOZZLE SIZE							
	7/64"		1/8"		9/64"		5/32"	
Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	
35	38 2.05	39 2.68	41 3.39	42 4.19				
40	39 2.19	40 2.86	41 3.62	42 4.47				
45	39 2.32	40 3.03	42 3.84	42 4.73				
50	40 2.45	41 3.20	42 4.05	43 5.00				
55	40 2.57	41 3.35	43 4.24	43 5.23				
60	40 2.68	41 3.50	43 4.43	44 5.47				

Rain Flow Nozzle (RFN-1)

BASE PRESSURE PSI	RADIUS	
	2.0 GPM	2.5 GPM
30	35	37
40	36	38
50	-	38
60	-	38
70	-	39
80	-	39

PART NUMBERS AND ORDERING INFORMATION

Ordering Example

To order a 20JH sprinkler with a 7/64" Straight Bore Nozzle the part number would be:

MAKE YOUR SPRINKLER CHOICE FROM CHART 1

A05841-

CHOOSE NOZZLE SIZE(S) FROM CHART 2

07

ADD THEM TOGETHER TO CREATE THE PART NUMBER

= A05841-07

Chart 1	PART NUMBER: FIRST HALF
SPRINKLER ONLY	
Sprinkler without Nozzle	A05840
SPRINKLER WITH SINGLE NOZZLE INSTALLED	
Sprinkler with SBN-1	A05841-
Sprinkler with LPN-1	A05842-
Sprinkler with RFN-1	A05843-
Sprinkler with SBN-1V	A05846-

Chart 2	PART NUMBER: SECOND HALF			
NOZZLE	7/64"	1/8"	9/64"	5/32"
Brass Straight Bore Nozzle (105780-) SBN-1	07	08	09	10
Brass Low Pressure Nozzle (104571-) LPN-1	07	08	09	-
Brass SBN-1 with Straightening Vane (106160-) SBN-1V	07	08	09	10
RAIN FLOW NOZZLE		2.0 GPM	2.5 GPM	
Brass Rain Flow Nozzle (111088-) RFN-1	02-00		02-50	

Bold nozzle size numbers denote the most common nozzle choices.

State of Idaho
Department of Water Resources
Water Right License
95-16494



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

0 0.035 0.07 0.14 Miles



State of Idaho
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05W

51N



0 0.035 0.07 0.14 Miles

-  Point of Diversion
-  Place Of Use Boundary
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05W

51N



0 0.035 0.07 0.14 Miles

-  Point of Diversion
-  Place Of Use Boundary
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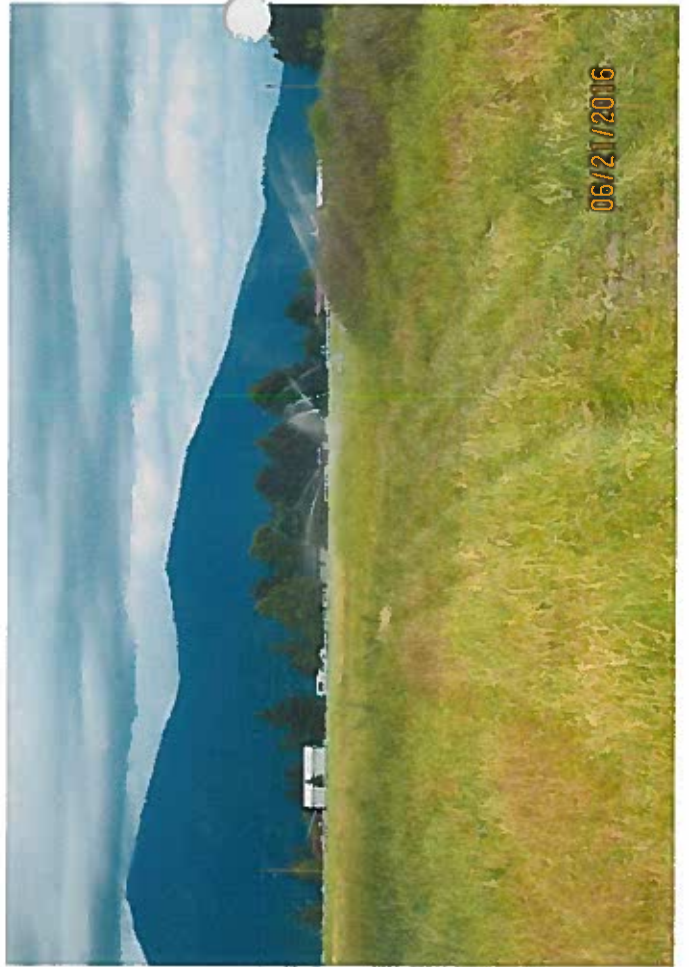
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95-16494

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0061135

Drilling Permit No. 864128
Water right or injection well # 95-16494

2. OWNER:

Name Howard Rude
Address 6426 Maplewood Rd.
City Post Falls State ID Zip 83854

3. WELL LOCATION:

Twp. 51 North ☒ or South ☐ Rge. 5 East ☐ or West ☒
Sec. 25 1/4 NW 1/4 NW 1/4

Gov't Lot _____ County Kootenai
Lat. 47 44.527 (Deg. and Decimal minutes)
Long. 116 54.809 (Deg. and Decimal minutes)
Address of Well Site NE Corner of Greens Ferry and Killdeer Rd.
City Post Falls

(Write all total 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 ft ³)	Placement method/procedure
Bentonite	0	18	1200lbs	Overbored

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Linear	Threaded	Welded
8	+2	300	.250	Steel	☒	☐	☐	☒

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 300

9. PERFORATIONS/SCREENS:

Perforations ☒ Y ☐ N Method Air Perforator

Manufactured screen ☐ Y ☒ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
275	300	1/4x3	25	8	Steel	.250

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☒ N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method
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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) 240 Static water level (ft) 240

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Basin	Air	Flowing artesian
300	200+	240	☐	☐	☒	☐

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
12	0	18	Top Soil and Gravel		X
10	18	210	Gravel		X
10	210	217	Boulder		X
10	217	240	Gravel Medium to Large		X
10	240	248	Gravel Medium to Large	X	
10	248	255	Boulder	X	
10	255	300	Gravel Large	X	

RECEIVED

11 28 2012

IDWR/NORTH

Completed Depth (Measurable): 300

Date Started Aug 13, 2012 Date Completed Aug 15, 2012

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 Horsley Drilling Inc. Co. No. 632

*Principal Driller C. Mark Horsley Date Aug 17, 2012

*Driller Rob Chant Date Aug 17, 2012

*Operator II Josh Horsley Date Aug 17, 2012

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

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