

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
BENEFICIAL USE FIELD REPORT

**A. GENERAL INFORMATION**

**Permit No:** 95-17108  
**Exam Date:** 07/13/2020

1. Current Owner:  
HOWARD RUDE 6426 MAPLEWOOD POST FALLS ID 83854
2. Accompanied by: Howard Rude  
Phone No: 208-818-2101  
Address: Same as above  
Relationship to permit Holder: Permit Holder

3. **SOURCE:**  
GROUND WATER

**Method of Determination:** Arcmap and DRG.

**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: \_\_\_\_\_

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: \_\_\_\_\_

**C. DIVERSION AND DELIVERY SYSTEM**

1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER NW¼ SE¼, Sec. 26, Twp 48N, Rge 05W, B.M. KOOTENAI County

Method of Determination: GPS; POD is a well D0051652 located at -116°56.704, 47°28.397.

**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	
48N	05W	26														5.0			5.0

Total Acres: 5.0

**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	
48N	05W	26														X			

Method of Determination: Field exam and 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  
☒ 1:24,000 or greater.  
☒ Aerial Photo Attached (required for irrigation of 10+ acres).  
☒ 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
D0051652	HITACHI	3		GOULD	

**D. FLOW MEASUREMENTS**

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5 GAL BUCKET TEST						

2. Measurements: Three 5 gallon bucket tests were completed from frost free hydrant piped direct from well, with average of three resulting in diversion flow rate of 5 gal / 5.3 sec x 60 sec/min = 56.6 gpm = **0.13 cfs**.

**E. FLOW CALCULATIONS**

Measured Method: 5 GAL Bucket Test = (5 gal / 5.45 sec) x 60 sec/min = 55.0 gpm  
 = (5 gal / 5.35 sec) x 60 sec/min = 56.0 gpm  
 = (5 gal / 5.10 sec) x 60 sec/min = 59.0 gpm  
 Average of 3ea 5 GAL Bucket Tests = (55.0 gpm + 56.0 gpm + 59.0 gpm) / 3 = 56.67 gpm = 0.13 cfs

**F. VOLUME CALCULATIONS**

1. Volume Calculations for irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5.0 \text{ ac} \times 3.0 \text{ afa} = \mathbf{15.0 \text{ af}}$   
 $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.13 \text{ cfs} \times 246 \text{ days} \times 1.9835 = 63.4$   
 $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 15.0 \text{ af}$

2. Volume Calculations for Other Uses:

Domestic Component Annual Volume = 1 home without 1/2 acre irrigation (separate component) equals **0.6 af**  
 Maximum diversion volume = 0.6 af (domestic component) + 15.0 af (irrigation component) = **15.6 af**

**G. NARRATIVE/REMARKS/COMMENTS**

Field exam conducted on 7/13/2020 with applicant, Howard Rude, showed a well with 3 hp pump diverting water direct on demand for irrigation and domestic use. Applicant ran a 2 inch pvc pipe main trunk line upgrade to the uphill portion of the POU before splitting into a stub-in for domestic use, and an irrigation pipe that in turn split into 5 separate irrigation lines on the property. 3ea 5-gal bucket tests were completed from a frost free hydrant co-located with the well with the following results to obtain the maximum diversion rate:

$$\begin{aligned} 5 \text{ GAL Bucket Tests (5 gal / 5.45 sec)} \times 60 \text{ sec/min} &= 55.0 \text{ gpm} \\ &= (5 \text{ gal / 5.35 sec}) \times 60 \text{ sec/min} = 56.0 \text{ gpm} \\ &= (5 \text{ gal / 5.10 sec}) \times 60 \text{ sec/min} = 59.0 \text{ gpm} \end{aligned}$$

Average of 3ea 5 GAL Bucket Tests =  $(55.0 \text{ gpm} + 56.0 \text{ gpm} + 59.0 \text{ gpm}) / 3 = 56.67 \text{ gpm} = 0.13 \text{ cfs}$ , which will be applied to license as the maximum diversion rate. The irrigation beneficial use diversion rate equals  $5.0 \text{ ac} \times 0.03 \text{ cfs} = 0.15 \text{ cfs}$ , but applicant is limited to pump performance at the time of field exam. The domestic beneficial use diversion rate equals **0.04 cfs**, the department standard for one residence, but is not additive to the 0.13 cfs pump performance diversion rate. Combined, the two beneficial rates equal the applicant's pump performance with flow rate measured at 0.13 cfs.

Applicant had permitted for 10 acres of irrigation; at time of field exam, the applicant's irrigation system was identified and the irrigated area was sketched on a field exam map. Irrigation was completed by above ground 360 degree rain bird sprinklers, which split from the main trunk line into five separate lines that routed through the understory of the applicant's treed parcel. The applicant stated the irrigation was primarily conducted to keep the treed area green and help prevent dry fire fuels. During licensing review, Arcmap imagery was used to trace out the irrigation POU resulting in 5.0 acres. The irrigation annual volume equals 5.0 acres x 3.0 afa = **15.0 af**, which will be applied to license.

Applicant had permitted for domestic use for one home. During field exam, it was identified that from the main trunk line running upgrade from the POD, one line split for irrigation purposes, and one line split for domestic purposes. The domestic line routed to a currently undeveloped flat spot identified by applicant as the domestic POU for future home site. Domestic use includes plans for one home and a separate shop. As the applicant has developed a dedicated stub-in for the home, the domestic component is qualified, minus irrigation, which is part of the irrigation component of this right. The annual volume for domestic equals **0.6 af**. The Maximum diversion volume = 0.6 af (domestic component) + 15.0 af (irrigation component) = **15.6 af**.

Applicant had permitted for a stockwater component, but at time of field exam no water had been put to beneficial use for stock animals on the applicant's parcel. As such, the stockwater component was removed from permit during licensing review. Conditions 046, 26A, and X02 was removed from permit at time of licensing. Condition R62 was replaced with R66, to account for the reduction of irrigated acreage to 5.0 acres versus the 10 acres permitted for; irrigation is limited to no more than 0.03 cfs per acre nor more than 3.0 afa per acre at the field headgate. All other conditions on permit remain on license. There is no overlap concerns for this water right.

Have conditions of permit approval been met? ☒ 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	03/15 to 11/15	0.13 CFS	15.0 AF
DOMESTIC	01/01 to 12/31	0.04 CFS	0.6 AF

**Totals:** 0.13 CFS 15.6 AF

## 2. Recommended Amendments

Change P.D. as reflected above	Add P.D. as reflected above	X	None
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Change P.U. as reflected above      Add P.U. as reflected above      X    None

## I. AUTHENTICATION

Luke Bates - Water Resource Agent

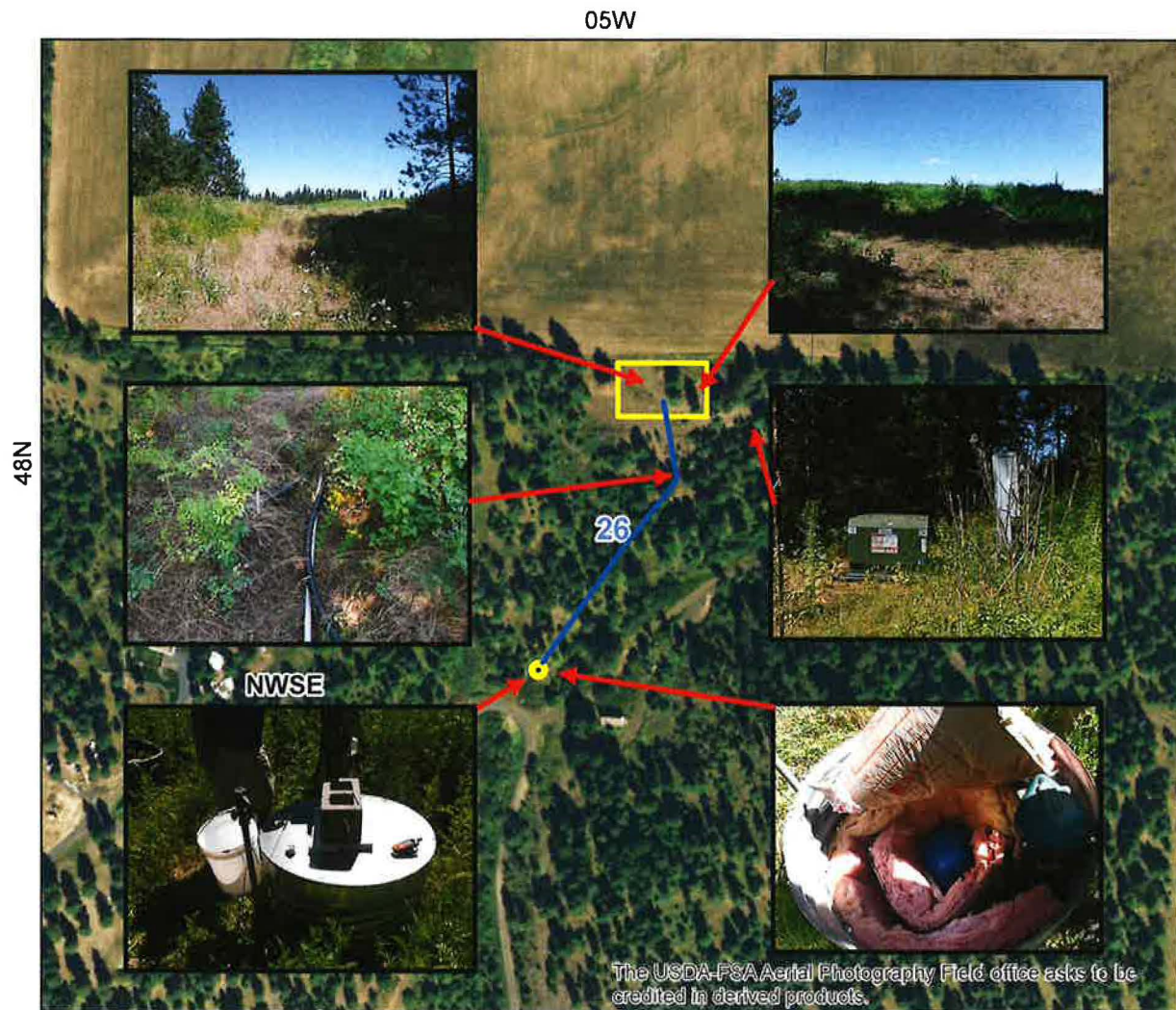
Field Examiner's Name Joe A. Bat Date 8/24/2020

Reviewer Adam Fink Date 8/31/2020



State of Idaho  
Department of Water Resources  
**Attachment to Field Exam**  
95-17108

DOMESTIC system diagram.



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

0 0.035 0.07 0.14 Miles





State of Idaho  
Department of Water Resources  
**Attachment to Field Exam**  
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IRRIGATION system diagram.

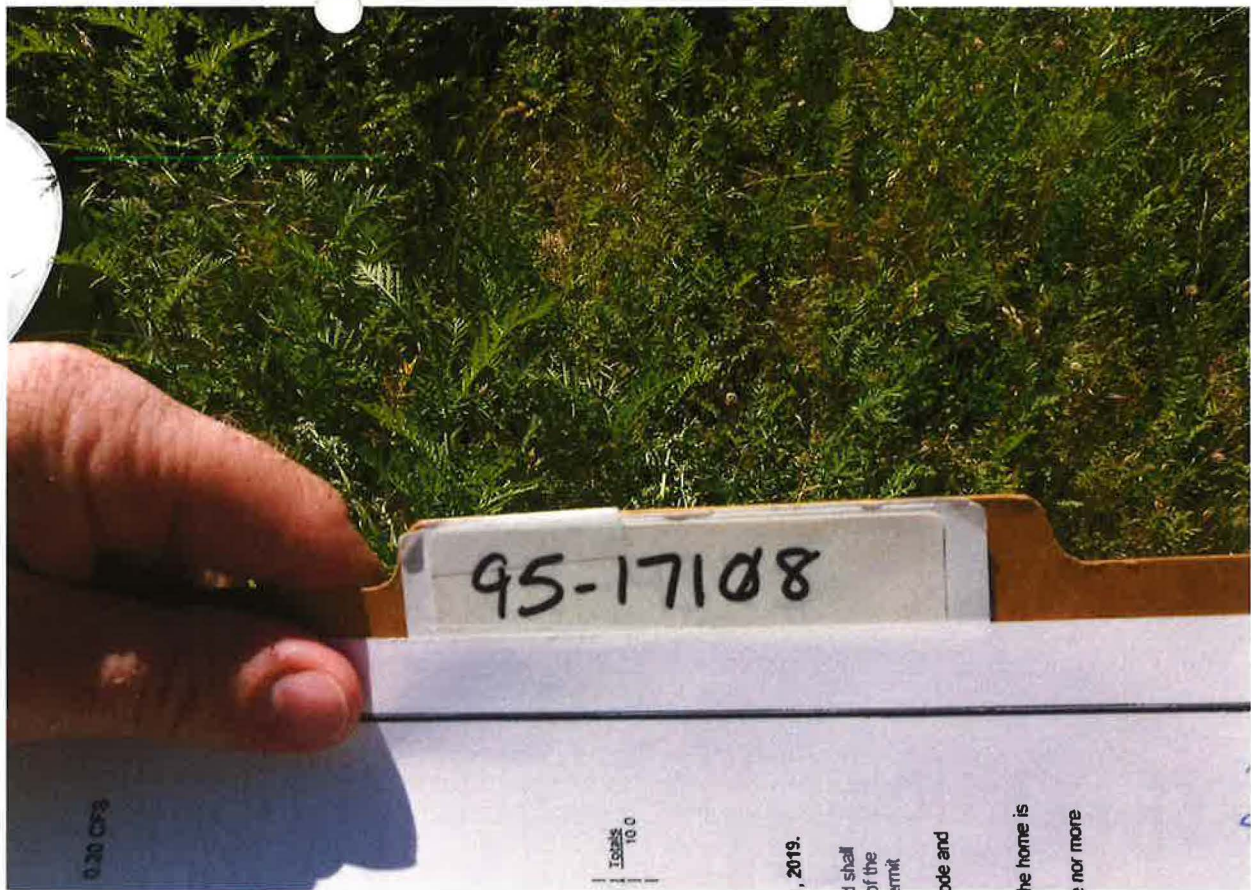


- Point of Diversion
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- PLS Sections
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0 0.035 0.07 0.14 Miles







POD - WELL D0051652





POD – WELL D0051652



WELL HOUSING AND FROST FREE





DOMESTIC POU – STUB-IN



DOMESTIC POU – FUTURE HOME SITE





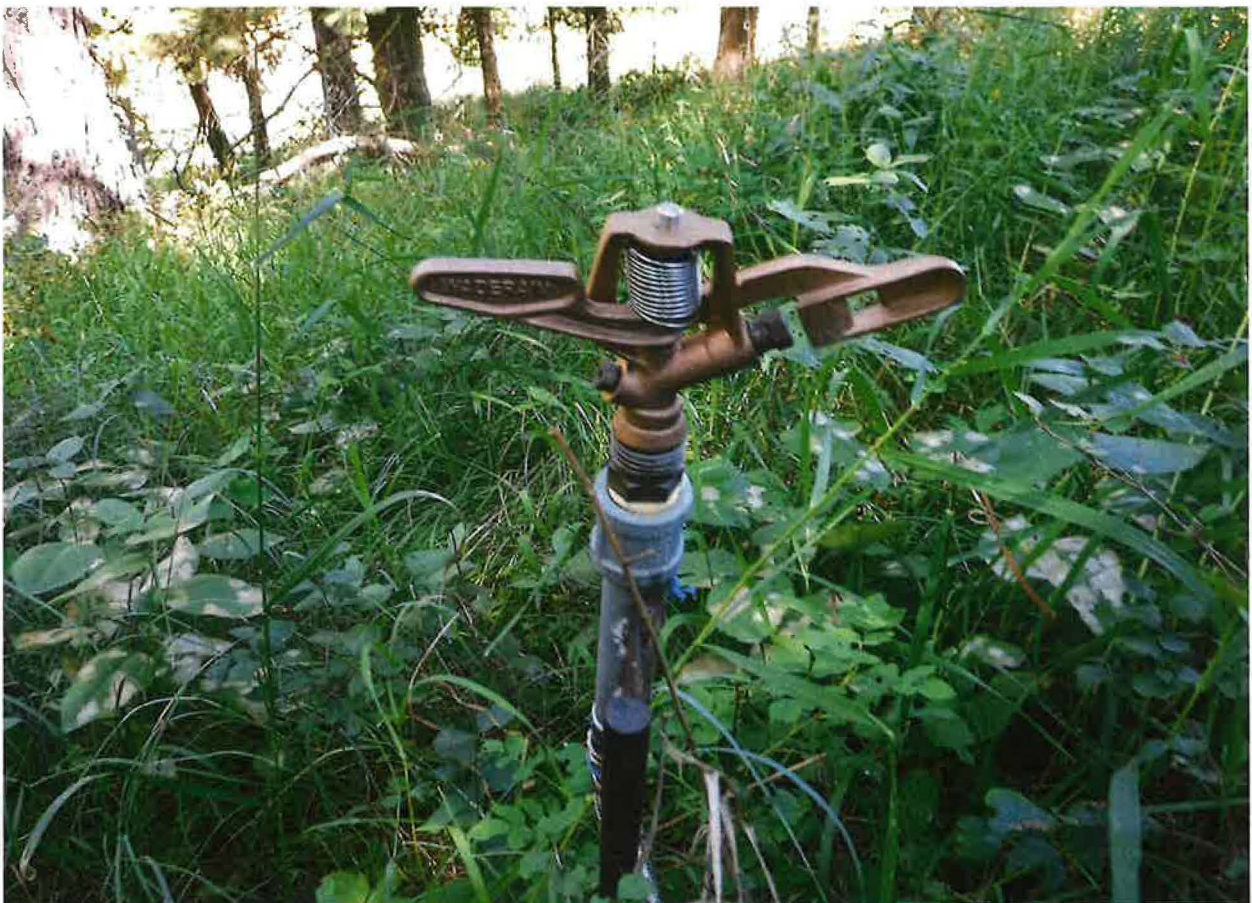
IRRIGATION SYSTEM PIPING FROM WELL TO POU







IRRIGATION POU



ABOVE GROUDN SPRINKLER SYSTEM





IRRIGATION POU







ABOVE GROUND SPRINKLERS AT POU



WATER FROM MAIN TRUNK IRRIGATION PIPE BEFORE SPLITTING TO STATIONS