

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-11166
Exam Date: 07/07/2015

1. Current Owner:
ROGER D HANSEN 5649 W HAYDEN AVE RATHDRUM ID 83858 AND/OR
MARY JEAN HANSEN 5649 W HAYDEN AVE RATHDRUM ID 83858
2. Accompanied by: Mary J. Hansen
Phone No: 208-661-6009
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: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-13859	GROUND WATER	STOCKWATER, DOMESTIC	DECREED

Comments: Decreed WR 95-13859 used groundwater for domestic and stockwater purposes for the same owners & on the same parcel as this permit's POU; both stockwater use & domestic use authorized for development under permit 95-11166 would become stacked uses as they are identical and from the same groundwater source. As such, both domestic and stockwater beneficial uses were recommended for removal from permit 95-11166 during licensing review mitigating any overlap concerns. Condition X35 has been added to this permit during licensing review describing combined use between 95-13859 & 95-11166 associated with diversion rate and irrigation acreage, which mitigates overlap concerns between rights.

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-13859	GROUND WATER	STOCKWATER, DOMESTIC	DECREED

Comments: 95-13859 and this permit 95-11166 share the same groundwater POD. Condition F06 was added to the permit during licensing review describing each having the same POD between rights.

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER SE¼ SW¼, Sec. 17, Twp 51N, Rge 04W, B.M. KOOTENAI County

Method of Determination: GPS. POD is a groundwater well (old 1952 well) located at -116°52.198, 47°45.936.

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	
51N	04W	17												7.0					7.0

Total Acres: 7.0

Method of Determination: Field examination and Arcmap aerial imagery.

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
OLD 1952 WELL	FRANKLIN	10			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: I was unable to perform flow measurements due to inadequate pipe requirements. A Theoretic Pump Equation was developed to derive diversion rate equal to 90.7 GPM or 0.20 cfs considering department rounding standards. The 10 hp pump operating at 45 PSI is installed at approximately 260 ft (depth information collected from applicant's previous adjudication claim filed during the CSRBA).

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method: Theoretic Pump Equation = 10 HP pump @ 260 ft, with 45 PSI operating pressure = 90.7 GPM or 0.20 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 7.0 \text{ ac} \times 3.0 \text{ afa} = 21.0 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.14 \text{ cfs} \times 246\text{-day} \times 1.9835 = 68.3 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 21.0 \text{ af}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS

Department staff performed an initial field examination on 7/7/2015 with the applicant, Roger Hansen, which showed an old 1952 date groundwater well being used for irrigation, domestic, & stockwater purposes. At time of exam the applicant was irrigating for stock feed in a large pasture north of the main residence using a hand line irrigation system. Department staff took photographs of the well, diverting works, and a few pictures of the hand line in use, but did not capture sufficient data about the well pump motor nor diversion rate required to accurately license this water right.

A follow-up site visit was conducted on 4/11/2022 with Mrs. Mary J. Butler, and while the applicant's system was not actively irrigating at time of exam, additional data required to accurately finalize for licensing purposes was collected. A blend of information from the initial field exam & follow-up site visit is being used when making recommendations for licensing purposes. The applicant had a self-imposed short development period for the permit, from 1/22/2010 – 2/8/2010; at face value this indicates the irrigation practices were already in place with historic use when the permit was filed for by the applicant. Year 2011 & 2013 aerial imagery was used to validate irrigate practices toward acreage recommendations.

The applicant has an active decreed WR 95-13859 that authorizes groundwater use from the same POD as this permit, for stockwater & domestic use that is the same as permit approved to develop under 95-11166. After validating with Mrs. Butler that the single GW well is used and serves the single residence & stock on the property, I have removed both domestic & stockwater beneficial uses from this permit during licensing review; removal of the two B.U. components eliminate stacking of water rights for uses with an earlier priority date decreed under 95-13859.

At the GW well, the applicant has 10HP Franklin pump motor installed in the well. During the site visit I was unable to perform flow measurements due to inadequate pipe requirements. A Theoretic Pump Equation was developed to derive diversion rate equal to 90.7 GPM or 0.20 cfs considering department rounding standards. The 10 hp pump operating at 45 PSI is installed at approximately 260 ft (depth information collected from applicant's previous adjudication claim filed during the CSRBA).

The applicant's irrigation POU was observed during initial field exam and subsequent site visit. The POU was drawn out using field maps and consists of lawn/garden space around the home & fields watered for stock feed. Arcmap aerial imagery was used during licensing review to accurately trace out the irrigation POU equaling 7.5 acres total. Of this acreage, 0.5 acres is accounted for under domestic use associated with decreed right 95-13859; 7.0 acres is accounted for as permit approved for development. Hose bib-to-hose & sprinklers are uses by the applicants around the home, and a 4 inch main irrigation trunk line routes from the well north to a central point of the fenced pasture acreage where 3 inch irrigation hand line is still used for irrigation. The annual volume recommended for licensing permit 95-11166 equals 7.0 ac x 3.0 afa = **21.0 af**.

Although the theoretic pump equation derives a flow rate of 0.20 cfs, this permit is limited to the department standard diversion rate for 7.0 ac irrigation = $0.02 \text{ cfs} \times 7.0 \text{ ac} = \mathbf{0.14 \text{ cfs}}$ which is recommended for licensing. The 0.06 cfs difference is accounted for with decreed right 95-13859, eliminating any concern for enlargement by diversion for this water right.

Conditions X02 & 132 were removed from the permit during licensing review. Condition(s) 01R & 175 were added based on Rathdrum Prairie Groundwater Management Area (RPGWMA) requirements. Condition F06 was added due to the applicant having a separate decreed right claimed in the CSRBA which uses the same POD. Condition X35 was added in order to mitigate overlap concerns as discussed below. Overlap concerns: Decreed WR 95-13859 used groundwater for domestic and stockwater purposes for the same owners & on the same parcel as this permit's POU; both stockwater use & domestic use authorized for development under permit 95-11166 would become stacked uses as they are identical and from the same groundwater source. As such, both domestic and stockwater beneficial uses were recommended for removal from permit 95-11166 during licensing review mitigating any overlap concerns. Condition X35 has been added to this permit during licensing review describing combined use between 95-13859 & 95-11166 associated with diversion rate and irrigation acreage, which mitigates overlap concerns between rights. There are no additional 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 10/31	0.14 CFS	21.0 AF
<u>Totals:</u>		0.14 CFS	21.0 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 Luke Bates -

Field Examiner's Name SP DB Date 4/27/2022

Reviewer Ad Fink Date 5/1/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-11166

IRRIGATION system diagram.



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

0 0.0425 0.085 0.17 Miles



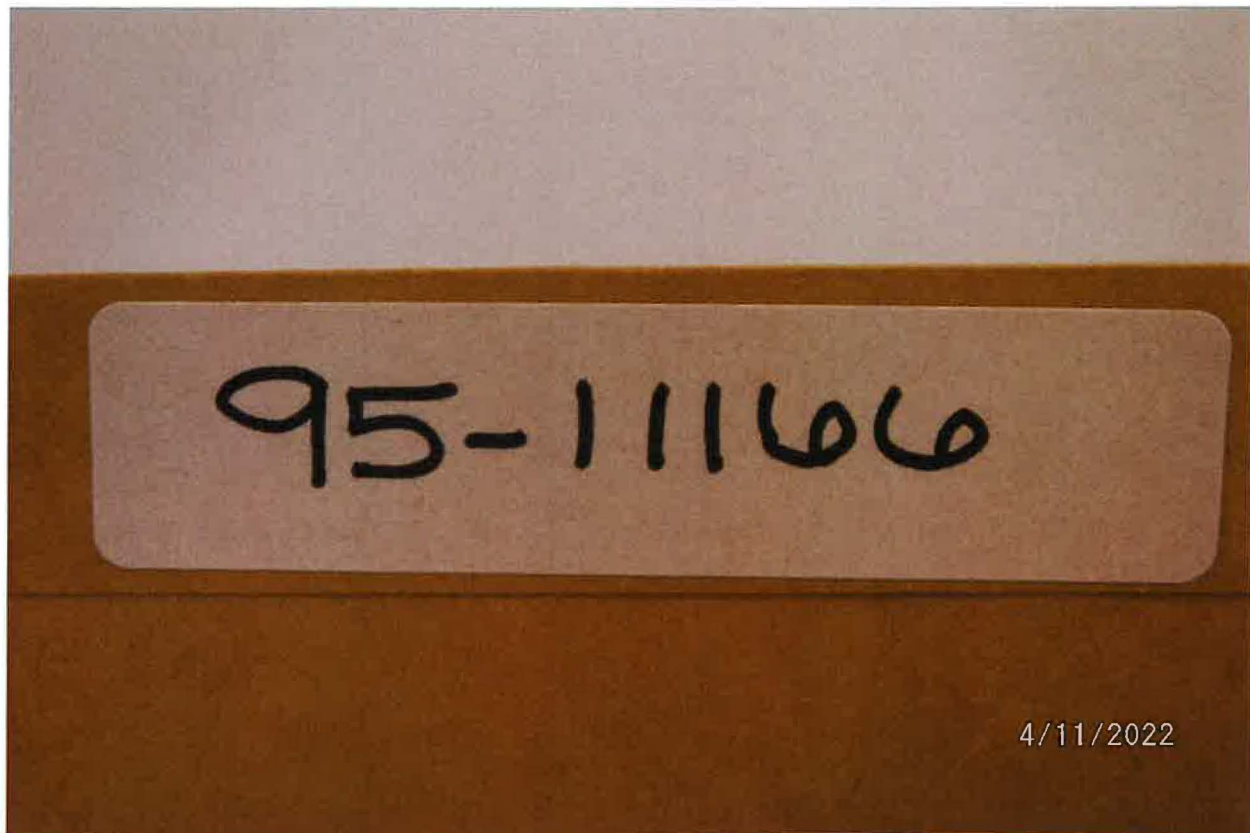
THEORETICAL PUMPING EQUATION(S) FOR WR# 95-11166

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 245ft, and running at 45 psi.

PUMP EQUATIONS

WATER RIGHT No. 95-11166

	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $\frac{HP \cdot 8.8 \cdot \text{Eff}}{H}$	10	349.0816	0.8	245	45
Q = 0.202 cfs 90.7 gpm					



INITIAL F.E. DATE = 7/7/2015; FOLLOW-UP SITE VISIT DATE = 4/11/2022



POD – OLD 1952 GROUNDWATER WELL



10 HP WELL PUMP MOTOR INSTALLED





WELL A-TAG A0015702 – NO WELL DRILLER REPORT ON FILE



IRRIGATION POU



IRRIGATION POU – 3 INCH HAND LINE TO HAY FIELD



IRRIGATION POU



IRRIGATION POU





IRRIGATION POU





IRRIGATION POU





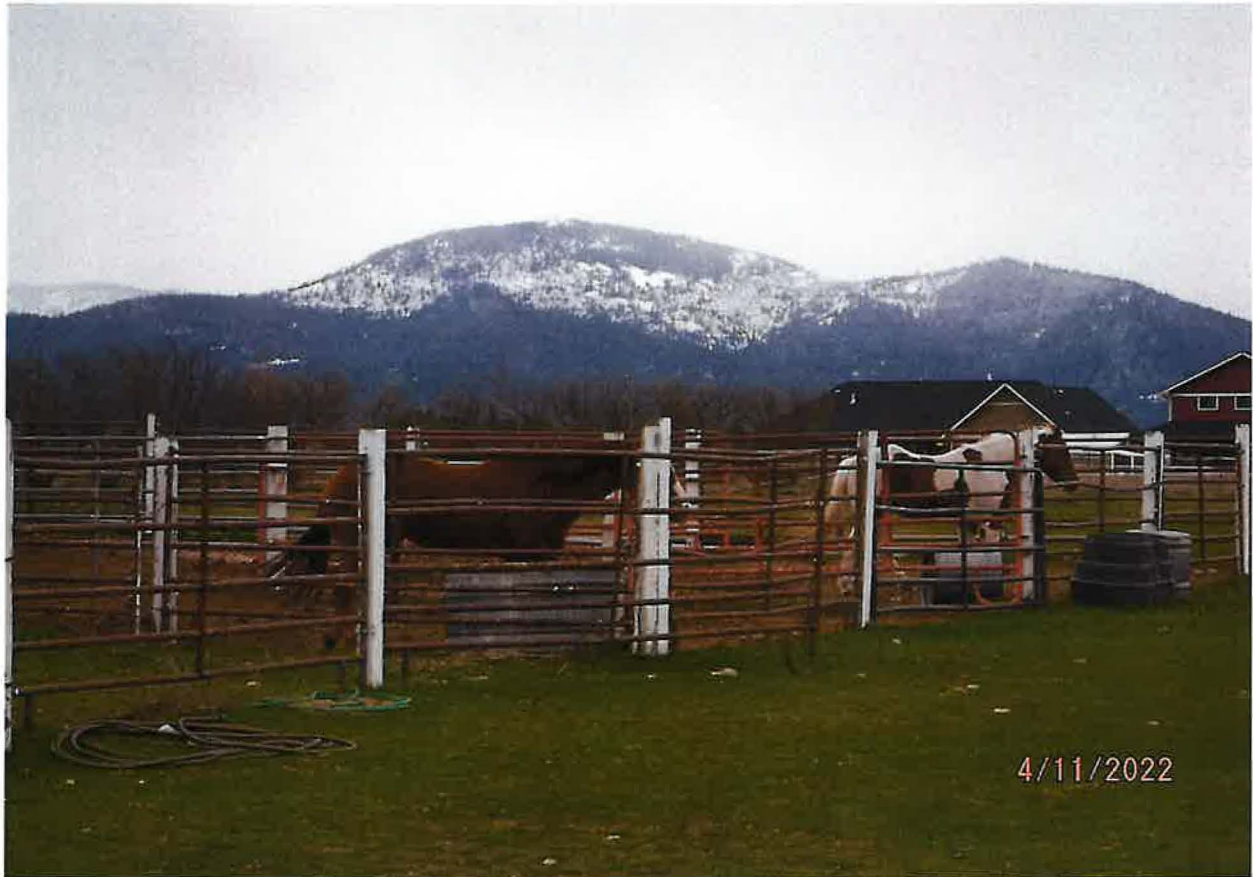
IRRIGATION POU – AROUND RESIDENCE





IRRIGATION POU – HAND LINE SPRINKLER SYSTEM





STOCK WATER USE ON PROPERTY

