

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-18191
Exam Date: 6/22/2021

1. Current Owner:
DON HUMPHREY 3013 BENEWAH CREEK RD SAINT MARIES ID 83861
2. Accompanied by: Don Humphrey
Phone No: 208-245-3247
Address: Same as above
Relationship to permit Holder: Permit holder.

3. **SOURCE:**
UNNAMED STREAM

Tributary
SINKS

Method of Determination: Field examination, Arcmap, and DRG – clarified source from spring to unnamed stream.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-16234 & 95-18192	SPRING, UNNAMED STREAM	IRRIGATION, STOCKWATER, DOMESTIC	PERMIT – in process licensing review (original permit & split right respectively)

Comments: WRs 95-16234 & 95-18192 are the original water right permit & split water right respectively and have the same stockwater POU as right 95-18191. The three water rights share the same pastureland used by the applicant for their stock. Condition X35 was added during licensing review to each of the three rights designating irrigation diversion rate and stockwater diversion volume limitations that mitigate overlap concerns between 95-16234, 95-18191, & 95-18192.

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

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

UNNAMED STREAM SW¼ SE¼, Sec. 22, Twp 46N, Rge 03W, B.M. BENEWAH County

Method of Determination: GPS. POD is located at -116°41.984, 47°18.868.

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	
46N	03W	22															0.3		0.3

Total Acres: 0.3

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
46N	03W	22															X		

Method of Determination: Field examination and Arcmap aerial imagery.

3.

X 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
CULVERT IN ROADWAY					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
4 CUP MEASUREMENT						

2. Measurements: A 4-CUP flow measurement was completed from a roadway culvert where it discharges into a small 24-hr impoundment basin, with the resulting flow rate of 4 cups in 5.25 seconds or 16 cups per 21.0 seconds = approximately 3 gal per 1 min 3 seconds or 0.01 cfs considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 4 CUP measurement = 4 cups per 5.25 seconds = 16 cups per 21.0 seconds = 1 gal per approximately 1/3 minutes = 3 gal per minute or 0.01 cfs considering department rounding standards

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.3 \text{ ac} \times 3.0 \text{ afa} = 0.9 \text{ af}$$

$$V_{D.R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.01 \text{ cfs} \times 231\text{-day} \times 1.9835 = 4.6 \text{ af}$$

$$V = \text{Smaller of } V_{I.R} \text{ and } V_{D.R} = 0.9 \text{ af}$$

2. Volume Calculations for Other Uses:

- Stockwater annual volume = 4 cows x 12 gpd x 365 day = 17,500 gal a year / 325,850 gal per af = 0.05 af or **0.1 af** considering department rounding standards.
- Due to the unnamed stream source and irrigation component, no maximum diversion volume will be applied to the face of the license; irrigation volume is accounted for in the conditions for approval.

G. NARRATIVE/REMARKS/COMMENTS

Admin Note: this right was split from original permit 95-16234 due to the unnamed stream source (clarified) and water system being separate from the water source designated under right 95-16234. This right accounts for a portion of the whole irrigation acreage developed by the applicant & stockwater use from this unnamed stream.

Field exam performed on 6/22/2021 with the applicant, Don Humphrey, showed water being used from an unnamed stream for irrigation and stockwater uses. The water source applied for associated with this POD was described as a spring, and subsequently permit approved for as spring. Field exam findings found that water was being captured on the down slope from culvert spanning a roadway that was approximately 130 feet down-slope from the unnamed stream's spring headwater location. The source is recommended to be clarified during licensing review to reflect - unnamed stream tributary to sinks.

At the POD, the applicant has installed barrier material & 5-gallon bucket to collect water in a 24-hr impoundment basin as it flows from a culvert. A 4-CUP flow measurement was completed from an overflow discharge pipe routing from the spring's concrete cistern, with the resulting flow rate of 4 cups in 5.25 seconds or 16 cups per 21.0 seconds = approximately 3 gal per 1 min 3 seconds or **0.01 cfs** considering department rounding standards, that is recommended as the maximum diversion rate for licensing purposes. 0.01 cfs is less than the permit approved diversion rates for each the two beneficial uses, but the applicant is limited by the unnamed stream channel flow found during the field exam. Irrigation, & stockwater diversion rate(s) are not additive toward the maximum diversion rate.

The irrigation POU was walked with the applicant during the exam and sketched out using field maps. During licensing review Arcmap aerial imagery was used to trace out the POU equaling 0.3 acres. The applicant uses a small honda water transfer pump generator to draft water from the 24 hr impoundment to irrigate a small fenced in garden, as well as using hoses from the 5-gal bucket located in the 24-hr impoundment basin to flood irrigate pastureland stock feed using gravity flow. The irrigation annual volume equals $0.3 \text{ ac} \times 3.0 \text{ afa} = 0.9 \text{ af}$, but as this water right uses an unnamed stream source no volume metrics will be used on the face of the license for irrigation annual volume. Additionally, no maximum diversion volume will be applied to the face of the license; irrigation volume is accounted for in the conditions for approval using condition X31. Condition X35 was added describing right(s) 95-16234, 95-18191, & 95-18192 when combined shall not exceed 0.03 cfs for the irrigation of 1.0 acres as developed on the applicant's property.

The stockwater POU was identified as pastureland on both sides of a driveway running through the applicant's property used for 4 head cattle. Arcmap aerial imagery was used to designate the stockwater POU during licensing review. The POU is a common shape to this water right as well as two rights, 95-16234 & 95-18192, which are the original right and accompanying split right associated with the applicant's water uses. The stockwater annual volume equals $4 \text{ cows} \times 12 \text{ gpd} \times 365 \text{ day per year} = 17,500 \text{ gal per year} / 325,850 \text{ gal per af} = \mathbf{0.1 \text{ af}}$ considering department rounding standards.

Conditions X31 was added to this right describing irrigation diversion rate and diversion volume limitations for less than 1 acre for this portion of the applicant's irrigated acreage. Condition 004 was added to describe non trespass verbiage. Condition X35 was added as described below. Overlap concerns: right(s) 95-16234 & 95-18192 are the original water right permit & additional split water right respectively which have the same stockwater POU as right 95-18191. The three water rights share the same pastureland used by the applicant for their stock. Two (2) Condition X35s were added during licensing review to each of the three rights designating irrigation diversion rate limitations (as described in an above paragraph) and stockwater diversion rate and diversion volume limitations that mitigate overlap concerns between 95-16234, 95-18191, & 95-18192. There are no other 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	0.01 CFS	
STOCKWATER	01/01 to 12/31	0.01 CFS	0.1 AF

Totals: 0.01 CFS

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  Date 11/15/2021
Reviewer  Date 2/14/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-18191

IRRIGATION system diagram.

03W



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

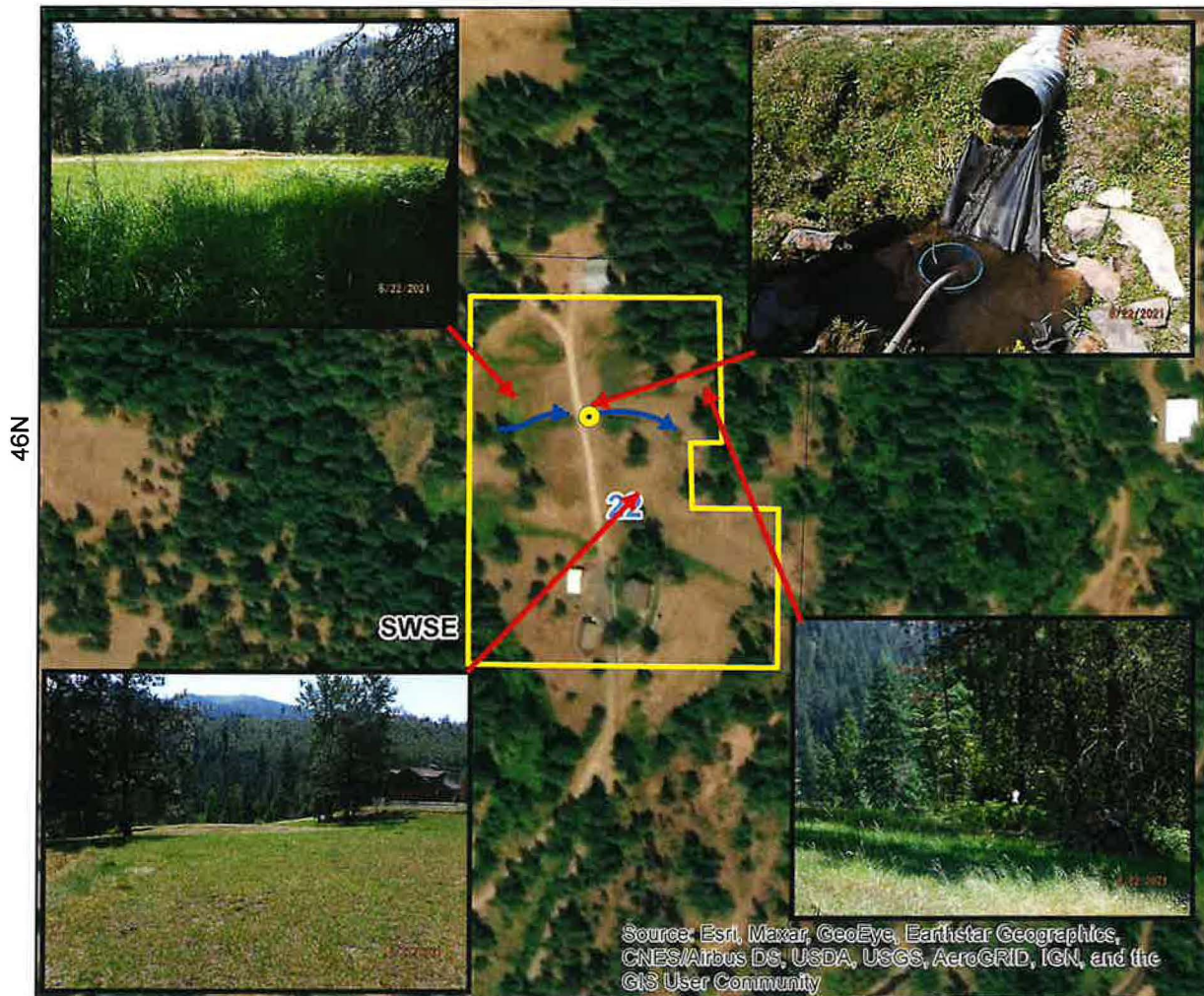
0 0.035 0.07 0.14 Miles



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STOCKWATER system diagram.

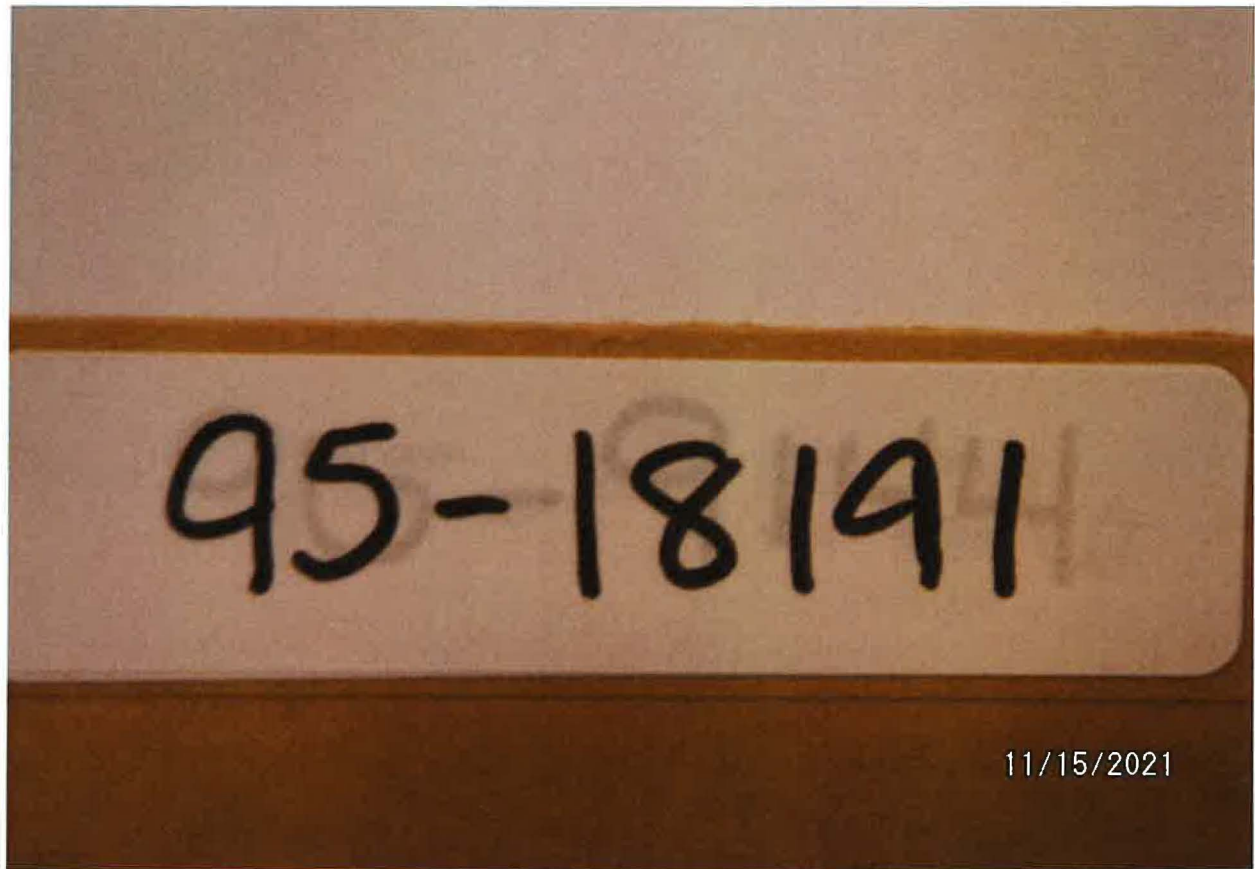
03W



-  Point of Diversion
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-  Quarter Quarters

0 0.035 0.07 0.14 Miles





FIELD EXAM 6/22/2021



POD – UNNAMED STREAM FLOWS THROUGH ROAD CULVERT



4-CUP MEASURING DEVICE USED AT CULVERT TO CAPTURE DIVERSION RATE



SMALL 24HR IMPOUNDMENT BASIN USED TO DRAFT IRRIGATION WATER FROM



SMALL WATER TRANSFER PUMP FROM 24 HR IMPOUNDMENT FOR IRRIGATION USE



IRRIGATION POU



STOCKWATER & IRRIGATION POU – FLOOD IRRIGATION BY HOSE





STOCK ON PROPERTY DURING EXAM