

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 74-16114

Exam Date: 06/10/2024

1. Current Owner:
MARLENE SANTOS 651 LEMHI RD SALMON ID 83467-5145
2. Accompanied by: Verdell Olson
Phone No: (208)756-2463
Address: Neighbor
Relationship to permit Holder: representative

3. SOURCE:

SPRING

Tributary

LEMHI RIVER

Method of Determination: GARMIN TREX20 GPS and GIS

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
74-516	SPRING	STOCKWATER	DECREED (2000)
74-15957	LEMHI RIVER	IRRIGATION	DECREED (2012)
74-7328	LEMHI RIVER	IRRIGATION	LICENSE
74-10034	GROUNDWATER	DOMESTIC/STOCKWATER	DECREED (2000)
74-1681	LEMHI RIVER	FISH PROPAGATION	DECREED (2007)

Comments: Rights 74-516 & 74-15957 are both owned by the permit holder. Right 74-15957, 74-7328, 74-10034, & 74-1681 have different sources than the permit and are for a different beneficial use than the permit. Although right 74-516 has the same beneficial use and source type as the permit, the point of diversion (POD) is likely a centroid point. Since there is no adjudication backfile available for right 74-516 and the parcel on the decree no longer exists it is difficult to determine overlap. However, since the decree is for de minimus livestock use and the permit is for more livestock, and the spring observed in the field examination seems capable of exceeding the demand of both.

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

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: No other rights share the permitted point of diversion (POD).

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

SPRING ~~NE¼ SW¼ NE¼~~, NW¼ SE¼ NE¼, Sec. 30, Twp 21N, Rge 23E, B.M. LEMHI County
GPS COORDS: W113° 46.455' N45° 07.411'

Method of Determination: GARMIN TREX20 GPS and GIS imagery. Heavy overgrowth restricted access, however, the spring emerged from the hillside a couple yards north of the recorded point. To correct the POD of the right prior to licensing the legal description of the POD needs amended, as described above.

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	
21N	23E	30		X	X	X									X	X			

Method of Determination: Lemhi County tax parcel information, GIS, and Google Earth PRO.

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X 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
Distributed via irr. ditch	Gravity fed	NA	NA	NA	NA

D. FLOW MEASUREMENTS

1.

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

2. Measurements: IDAPA Beneficial Use Examination Rules 37.03.02.35.01.r.iii.states that a direct measurement of the diversion rate is not required for any uses other than irrigation or storage if the total combined diversion rate for all the uses established in connection with the permit does not exceed twenty-four one hundredths (0.24) cubic feet per second.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: Approximately 2 to 3 inches of water was observed passing through the 12" culvert which diverts water from the spring under the road discharging into the irrigation ditch used to distribute live water from the Lemhi River to laterals for irrigation throughout the POU. Cattle drink directly from the irrigation ditch and laterals where spring and Lemhi River waters comeingle. Google earth Pro (Figure 1) was used to determine the slope from the culvert inlet crossing under the road to the discharge into the irrigation ditch, and the Manning's Equation Calculator for flow rate in an open channel was used to make a theoretical calculation (Figures 2 & 3)



Figure 1- Google Earth Pro elevation (1ft drop) and length measurements (31.87ft) for corrugated steel culvert pipe passing under Lemhi Rd.

Wetted Perimeter and X-Sectional Flow Calculator for Flow Rate in a Circular, Rectangular, V-Notch, or Trapezoidal Open Channel

Select Channel Type from Pull Down Menu: Circular Clear Input Parameters

Input Parameters

Depth = 0.17 feet (depth of the flow of water)

Radius = 0.50 feet (radius of circular channel)

Input Parameter 3 = Not Used

Input Parameter 4 = Not Used

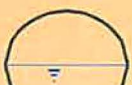
Gross Sectional Area of Flow

A = 0.09 square feet

Wetted Perimeter

WP = 0.85 feet

Channel Type Sketch



Export WP & A Values

Manning's Equation Calculator for Flow Rate in Any Open Channel

S = 0.0313 ft/ft

n = 0.024 manning's coefficient

A = 0.09 area (ft²)

WP = 0.85 wetted perimeter (ft)

R = 0.10 hydraulic radius (ft)

Q = 0.21 flow rate (CFS)

Channel Slope Slope Options

☐ Manual Entry ☒ Slope Calculator

Slope Calculator

Rise = 1 feet

Run = 32 feet

Slope, S = 0.0313 ft/ft

Channel Material, (n) corrugated metal pipe (CMP)

Figure 2-(Left) Cross section area and wetted perimeter calculations. Figure 3- (Right) The open channel flow calculation for corrugated pipe found the rate (Q) through the culvert exceeds the permitted rate.

Comment: Based on the theoretical calculations and Administrative Memo #3 guidance for reasonable rates for stockwater use (see Table 1 below), I recommend the license is issued for the full permit rate of 0.05cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: **NA**
2. Volume Calculations for Other Uses: **STOCKWATER**

RANGE CATTLE		
No. of Stock (head)	Rate* c.f.s. (l)	Volume AF/yr. (l)
0 - 10	0.02	0.2
11 - 25	0.02	0.4
26 - 50	0.02	0.7
51 - 100	0.03	1.4
101 - 200	0.05	2.7
201 - 300	0.07	4.1
301 - 400	0.09	5.4
401 - 500	0.12	6.7
501 - 600	0.14	8.1
601 - 700	0.16	9.4
701 - 800	0.19	11.0
801 - 900	0.20	12.0
901 - 1000	0.23	14.0
1001 - up (3		

Table 1- Administrative Memo #3- Annual Use of Water for Stockwater Purposes.

Comment: A review of Google Earth PRO and GIS NAIP imagery supports the permit holder's assertion that at least 150 head of cattle have been grazing within the permit POU. The existing right 74-615 is for the minimum rate of 0.02cfs with no stated annual volume, which is reasonable for 0 to 10 head of range cattle and the beneficial developed has been adequate to allow the full permitted rate and an annual volume of 2.7 AF. I recommend the license is issued for the full permitted rate of 0.05cfs and an annual volume of 2.7 AF.

G. NARRATIVE/REMARKS/COMMENTS

The proof of beneficial use for permit 74-16114 was received by the Department on October 10, 2019. The field examination was conducted by Bob Howe (WRA) and Justin Shearer, Water Right Supervisor with Verdell Olson (representative named on proof) as an escort on June 10, 2024. The place of use is on the parcel adjacent to the permit holder's home at 651 Lemhi Rd. On the permit the spring POD is located within the permit POU on the permit holder's parcel. However, during the field examination we found spring POD is on the north side of Lemhi Rd. about 0.3 miles east of the permit holder's home on an adjacent parcel and in a different quarter-quarter. The spring flows along the north side of the road toward the west then crosses under the road through a 12" corrugated steel culvert discharging into the irrigation ditch at the north boundary of the permit POU. At the time of the field examination the culvert had about 2-3" of water flowing through it. Due to overgrowth and the ditch undercutting the south side of the road it was not possible to measure the discharge. However, field observations, GPS coordinates, and GIS measurements provided data for a theoretical open channel flow rate calculation using the Manning's Equation Calculator to find a reasonable theoretical rate for the system (Section E of this report). Based on the calculation the system is capable of the full permitted rate. The permitted rate the standard rate for providing stockwater to 100-200 head of range cattle (Table 1-in section F of this report). I recommend the license is issued with the full permitted rate of 0.05cfs.

To correct the point of diversion right prior to licensing the legal description of the point of diversion was amended. The permit amendment documents were signed by the permit holder and received by the Department on March 6, 2025, with the associated amendment fee of \$100.

I recommend the license be issued with an annual volume of 2.7 AF (per Admin. Memo #3, section F of this report) and conditions R05, 004 and 01P. Condition X02 should be removed for licensing, per current guidance. Condition 004 should be added for licensing, as the GPS coordinates collected during the field examination confirm that the POD is located outside of the parcel owned by the permit holder.

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>
STOCKWATER	01/01 to 12/31	0.05 CFS	2.7 AF

Totals: 0.05 CFS 2.7 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

Bob Howe - Water Resource Agent, Sr.

Field Examiner's Name

Date

Reviewer

Date



Figure 4- System Diagram- Spring water comingles with irrigation water in the irrigation ditch, then conveyed throughout the POU via lateral gravity fed ditches (darker blue lines).



Photo 1- Spring emerging from the overgrowth running along the north side of Lemhi Rd towards the west.



Photo 2- Spring flow entering corrugated steel culvert passing under the road.



Photo 3- Culvert discharging into the irrigation ditch on the south side of the road. The ditch carries water to lateral irrigation ditches throughout the POU.



Photo 4- Facing southwest into the POU near the northwest corner of the POU. Verdell, our escort, explained that the spring water is warm enough that the ditch does not freeze over just downstream of the discharge point, so the cattle are able to drink from the area pictured in the winter months. In the left side of the background cattle are visible along the fence line in.



IDAHO DEPARTMENT OF
WATER RESOURCES

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Governor Brad Little

Director Mathew Weaver

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MAR 06 2025

WATER RESOURCES
WESTERN REGION

February 26, 2025

MARLENE SANTOS
651 LEMHI RD
SALMON ID 83467-5145

RE: Water Right Permit No. 74-16114

Dear Permit Holder:

The Department of Water Resources is reviewing the permit referenced above prior to issuing water right license. By issuing a license, the Department confirms the extent of development that has been established in compliance with the terms of the permit.

The examiner who verified your water use reported that certain elements of the permit have been developed differently than described on your permit. Changes that do not increase the authorized use of water under the permit can be requested and approved in accordance with Idaho Code § 42-211. Before license can be issued, your permit must be amended to depict your water use as it was actually developed.

Based on the examiner's report, the following elements were developed differently than described on your permit:

☒ Point(s) of Diversion

☐ Place(s) of Use

☐ Other

The enclosed Application for Amendment form depicts the elements of the water right as they will appear on the license when issued. Please review the amendment form carefully. If you concur with the information presented, please sign and return the form with the filing fee of \$100.00 within fourteen (14) days.

If you have any questions, please call me at (208)605-4628.

Sincerely,

Bob Howe
Water Resource Agent, Sr.

Enclosure(s): Application for Amendment
Explanatory Map for Amendment

Explanatory Map for Amendment

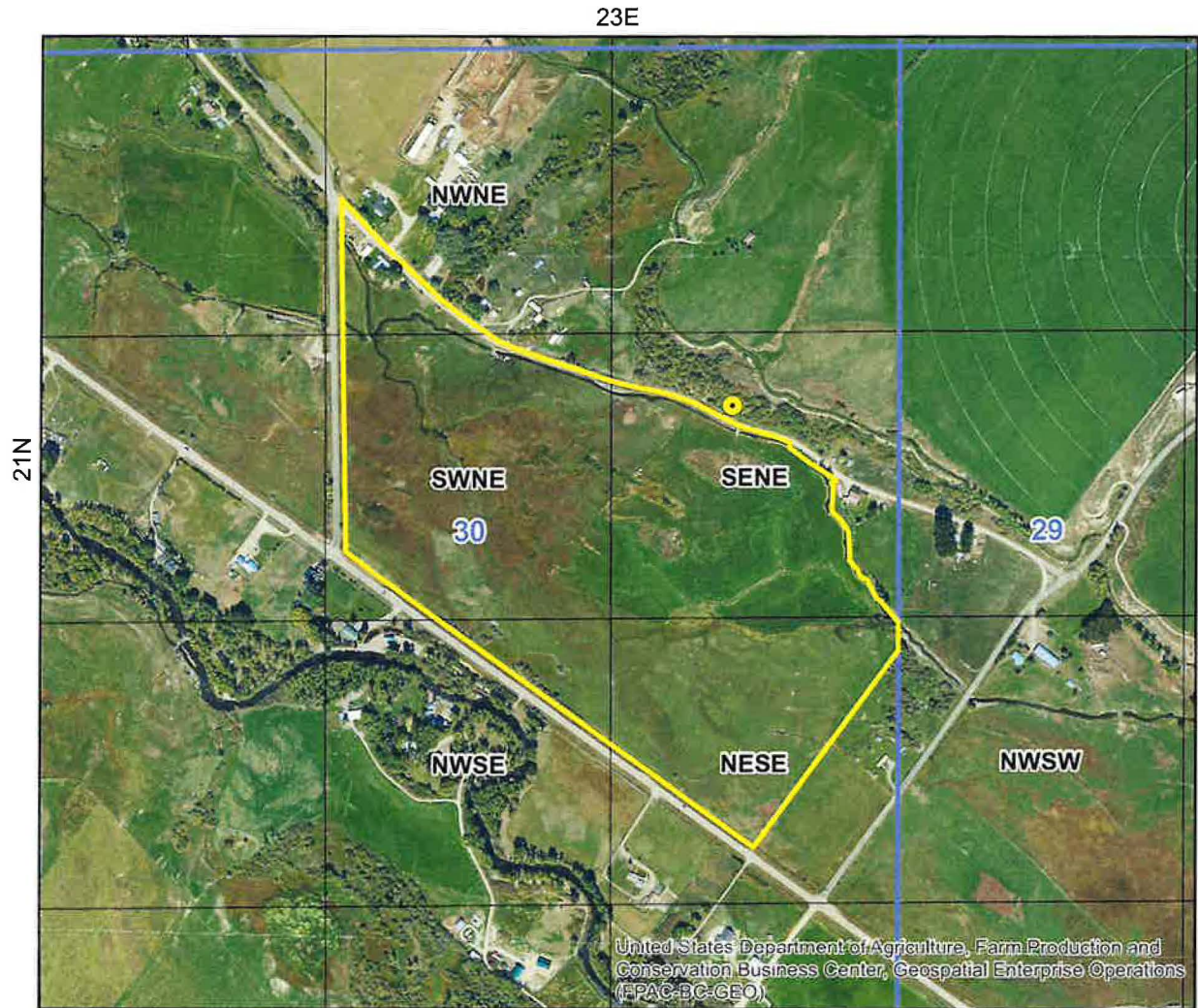


Figure 1- (GIS NAIP Imagery)- The permit place of use is outlined in blue. The permit spring-source point of diversion (POD) indicated by the purple point in the SWNE of section 30. The actual spring source POD indicated by the yellow point, is in the SENE of section 30. The proposed amendment will correct the legal description of the location of the spring source based on the GPS coordinates recorded during the field examination.

State of Idaho
Department of Water Resources

Attachment to Permit Amendment for Water Right 74-16114

This map depicts the STOCKWATER place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



0 500 1,000 2,000 Feet

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

