

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 74-15907
Exam Date: 06/12/2024

1. Current Owner:
MC FARLAND LIVESTOCK CO INC PO BOX 50 LEMHI ID 83465-0050
2. Accompanied by: Thayme McFarland
Phone No: (208)-303-0318 (cell)
Address: Lemhi, ID
Relationship to permit Holder: Son

3. **SOURCE:** SPRING **Tributary** MC GINTY CREEK

Method of Determination: Garmin Trek 20 GPS, GIS, and Tax Lot Data

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
74-16181	MCGINTY CREEK	INSTREAM STOCKWATER	CLAIM/SW NOTICE FILED

Comments: No stockwater rights overlap the permitted place of use (POU). However, an instream stockwater notice was filed by the permit holder for an instream stockwater claim. The notice was filed for diversion from the creek to provide stockwatering in the permit POU and an adjacent BLM owned parcel.

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 water rights share the permit point of diversion (POD).

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:** GARMIN GPS COORDs: W113° 05.592', N44° 27.886' (Spring Box)

SPRING NE¼ NW¼ NW¼, Sec. 14, Twp 13N, Rge 28E, B.M. LEMHI County

Method of Determination: Garmin Trek 20 GPS and GIS.

PLACE OF USE: STOCKWATER

GARMIN GPS COORDs: W113° 06.368', N44° 28.365' (Water Trough)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
13N	28E	10									X								

Method of Determination:

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
Spring Box	NA	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: At the time of the field examination the system was installed and operational, but it was not possible to take a field measurement due to the water level at the discharge point in the stockwater tank. Beneficial Use Rule 035.01 r.iii. states that a direct measurement is not necessary for uses other than irrigation or storage if the total combined diversion rate for all the uses does not exceed 0.24cfs. As the permitted rate is only 0.04cfs, a theoretical calculation and current guidance were used to determine a reasonable rate.

E. FLOW CALCULATIONS

Measured Method: A theoretical calculation and Administrative Memo #03 were used to determine an acceptable rate of diversion.

Hazen-Williams Equation:

$$V = k \times C \times R^{0.63} \times S^{0.54}$$

$$V = 1.318 \times 120 \times 0.297^{0.63} \times 0.04143^{0.54}$$

$$V = 0.04 \text{ cfs}$$

k = 1.318 (conversion factor)

friction coefficient for steel "C" = 120

Hydraulic radius for 1 1/2" steel pipe "R" = 0.297 (1.188" ID)

Pipe length = approx. 4,465 ft

Drop in elevation = approx. 185 ft

Slope "S" 185ft / 4,465ft = 0.04143

Theoretical Calculation = 0.04cfs

Permit allowed = 0.04cfs

Recommendation = 0.04cfs

Comments:

The system diverts water from the spring using a spring box adjacent to the spring with a 1 1/2" steel pipe with a hand valve, which delivers water gravity fed to a round stockwater tank about 40ft south of McGinty Creek about 4,465ft northwest of the spring box. At the stockwater tank the line is reduced to a float valve with a manual shut off valve. At the time of the field exam the stockwater tank was full. The drain plug was pulled on the tank so the flow could be observed. Once the float valve was able to open a pipeful flow was observed (photo 4). However, due to the remote location and time needed to drain the large stockwater tank enough for a bucket test a theoretical calculation was used to determine the system is capable of diverting the full permitted rate.

The theoretical calculation found that the gravity fed diversion would be capable of 0.04cfs. The permitted rate of 0.04cfs is less than the standard rate for the watering of up to 500 head of range cattle, per Administrative Memo #3, however, the full permitted rate limits the license to 0.04cfs. I recommend a rate of 0.04cfs on the license.

F. VOLUME CALCULATIONS

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

No. of Stock (head)	RANGE CATTLE		DAIRY CATTLE	
	Rate* c.f.s. (1)	Volume AF/yr. (1)	Rate* c.f.s. (2)	Volume AF/yr. (2)
0 - 10	0.02	0.2	0.02	0.4
11 - 25	0.02	0.4	0.02	1.0
26 - 50	0.02	0.7	0.04	2.0
51 - 100	0.03	1.4	0.07	4.0
101 - 200	0.05	2.7	0.13	7.9
201 - 300	0.07	4.1	0.20	12.0
301 - 400	0.09	5.4	0.26	16.0
401 - 500	0.12	6.7	0.33	20.0
501 - 600	0.14	8.1	0.39	24.0
601 - 700	0.16	9.4	0.46	28.0
701 - 800	0.19	11.0	0.52	32.0
801 - 900	0.20	12.0	0.58	36.0
901 - 1000	0.23	14.0	0.65	40.0
1001 - up (3)				

Table 1- Acceptable rate and volume table from Administrative Memo #3-Annual Use of Water for Stockwater Purposes.

Comments:

This permit was issued for stockwater use for 500 range cattle from a natural stream/river source. According to Administrative Memo #3, 6.7 AF is a reasonable annual volume for the watering of up to 500 range cattle. I recommend an annual volume of 6.7 AF on the license.

G. NARRATIVE/REMARKS/COMMENTS

The proof of beneficial use for permit 74-15907 was received by the Department on October 18, 2021. The field examination was conducted by Bob Howe (WRA), Water Right Supervisor, Justin Shearer and Thayme McFarland (permit holder's son) as an escort on June 12, 2024. The location is about a 45min drive on single track roads and trails. Thayme acted as a guide to and from the site. The POD is a spring box constructed from a metal culvert pipe located adjacent to an unnamed spring just south of its confluence with McGinty Creek (Photo 1). A buried 1 ½" steel pipe diverts water about 4,465ft to a stockwater tank northwest of the POD and south of Mc Ginty Creek (Figures 1-3). A GIS measured 185 ft drop in elevation facilitates the gravity fed diversion to fill the stockwater tank. Each end of the pipe has hand valves, and a float valve is installed at the stockwater tank (Photos 2 & 4), per the permit condition 229. At the time of the field examination the stockwater tank was full and after about a half hour after shutting off the valve with the drain plug out it became evident that the large tank would have taken several hours to lower the level far enough to facilitate a measurement. However, we were able to observe a pipe full flow with the float valve cracked open (Photo 4). Field observations, GPS coordinates, and GIS measurements provided data for a theoretical pipeful calculation using a Hazen-Williams pipeful equation 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 is lower than the standard rate for providing stockwater to 500 head of range cattle (Table 1-in section F of this report). I recommend the license is issued with the full permitted rate of 0.04cfs.

I recommend the license be issued with an annual volume of 6.7 AF (per Admin. Memo #3, section F of this report) and conditions R05, 01P, and 229. Condition X02 should be removed for licensing, per current guidance. Condition 004 should be removed for licensing, as the GPS coordinates collected during the field examination confirm that the POD is located within a 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	0.04 CFS	6.7 AF

Totals: 0.04 CFS 6.7 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

Field Examiner's Name _____ Date _____

Reviewer Justin Shearer Date July 9, 2024



Photo 1- Facing south, standing at the confluence of the spring (source) and McGinty Creek. A metal culvert is used as a shallow spring box with a screened intake submerged to divert water from the spring through a buried downhill to the water trough within the stockwater POU. The black culverts were installed previously for an abandoned system.

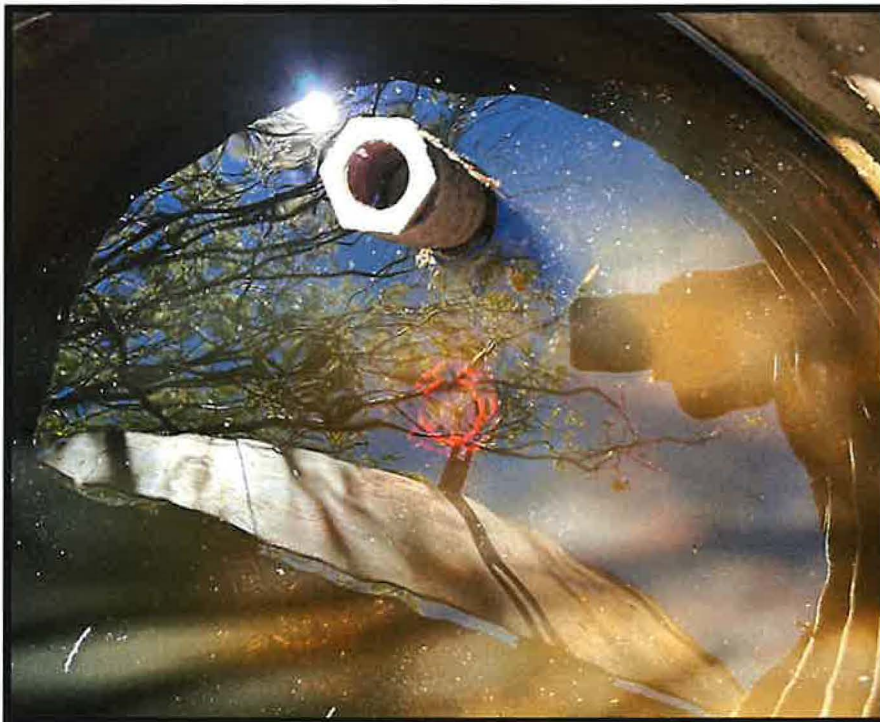


Photo 2- Looking downward into the culvert pipe the orange shut off valve can be seen submerged at the center of the image.



Photo 3- Facing northwest, the water trough enclosure with cattle on the right. About 50ft north of the trough Mc Ginty Creek runs to the northwest. Numerous head of cattle were observed during the field examination as they approached through tall sage and bitter brush.



Photo 4- Facing northwest, the float valve mechanism on a 1" valve reduced from the 1 ½ inch steel pipe delivering water from the spring to the southeast. Although there is a drain plug in the tank, at the time of examination the tank was full and could only be drained enough to observe a pipeful flow .

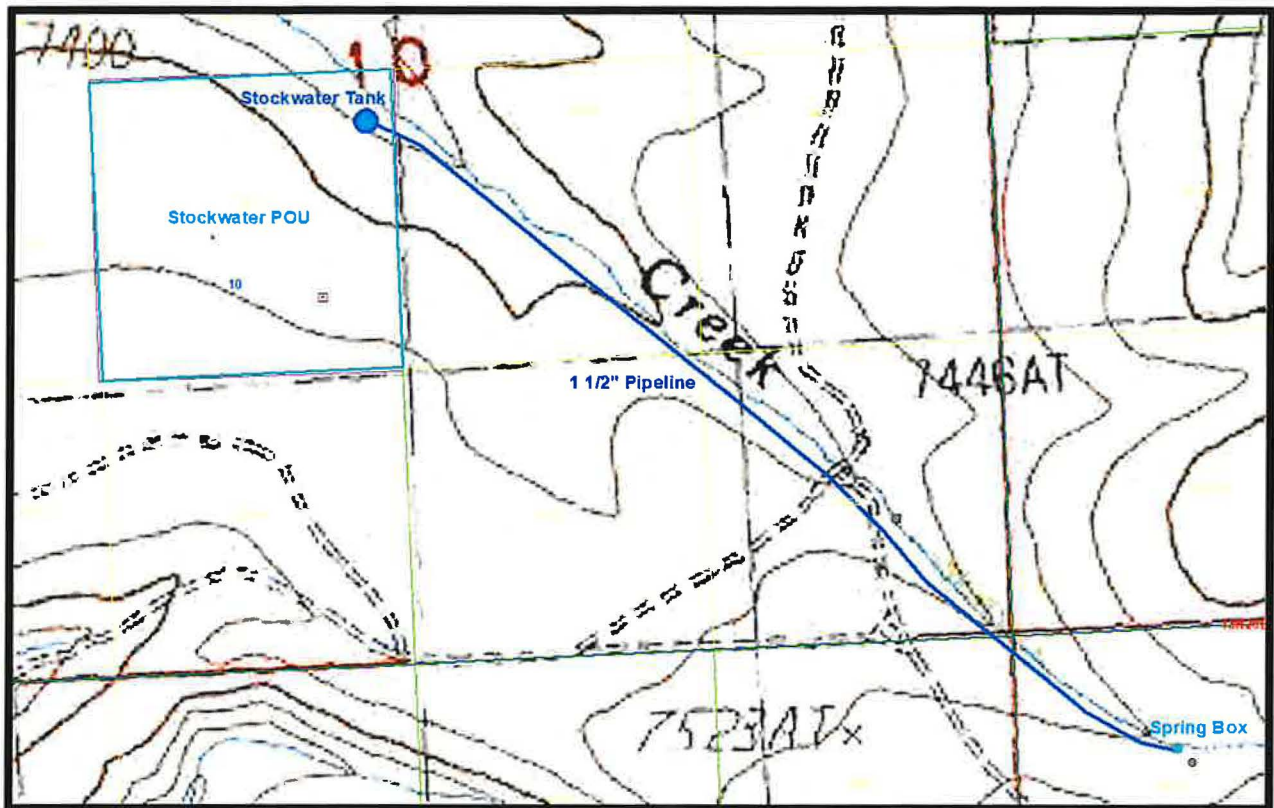


Figure 1- DRG System Diagram- steel line burial location is estimated based on the description provided by Thayme (escort) during the field examination.

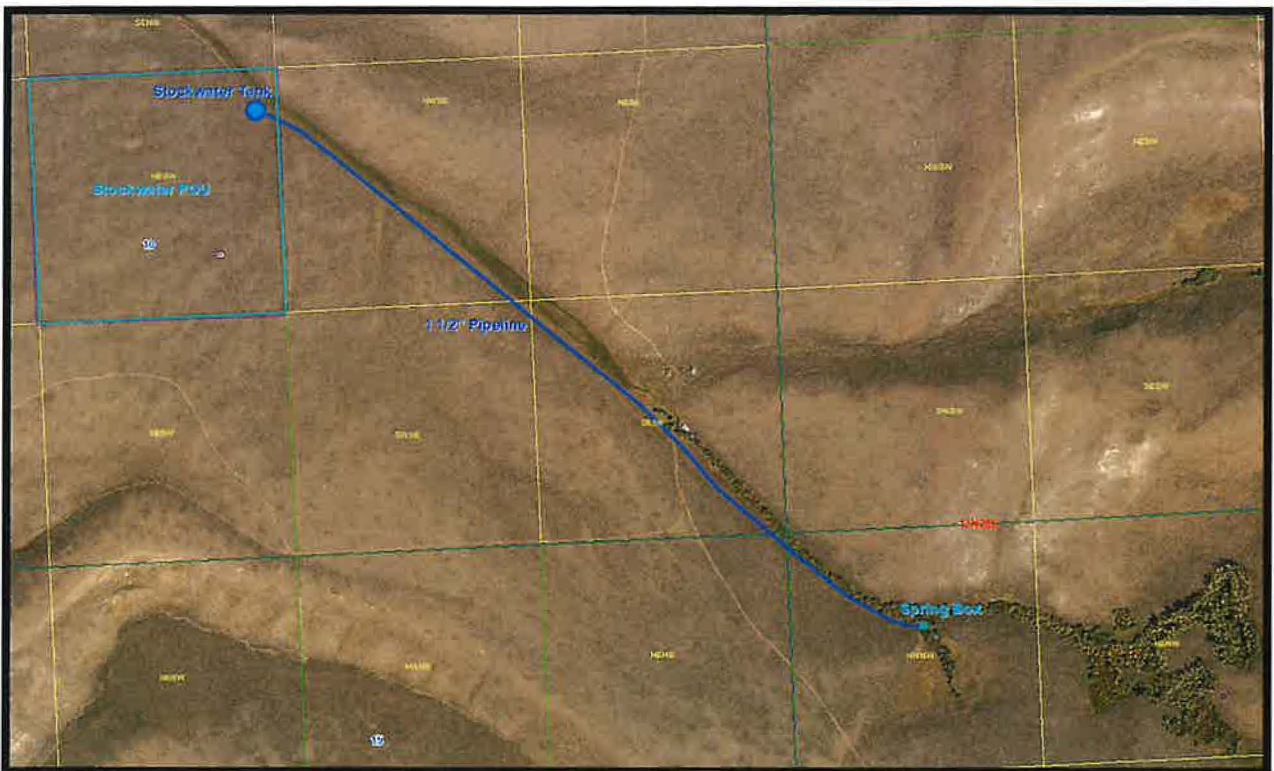


Figure 2- NAIP 2023 Imagery System diagram. The spring box is located at the confluence of one of several springs with the head of McGinty Creek. Pipeline burial location is estimated based the description of the escort during the field examination.

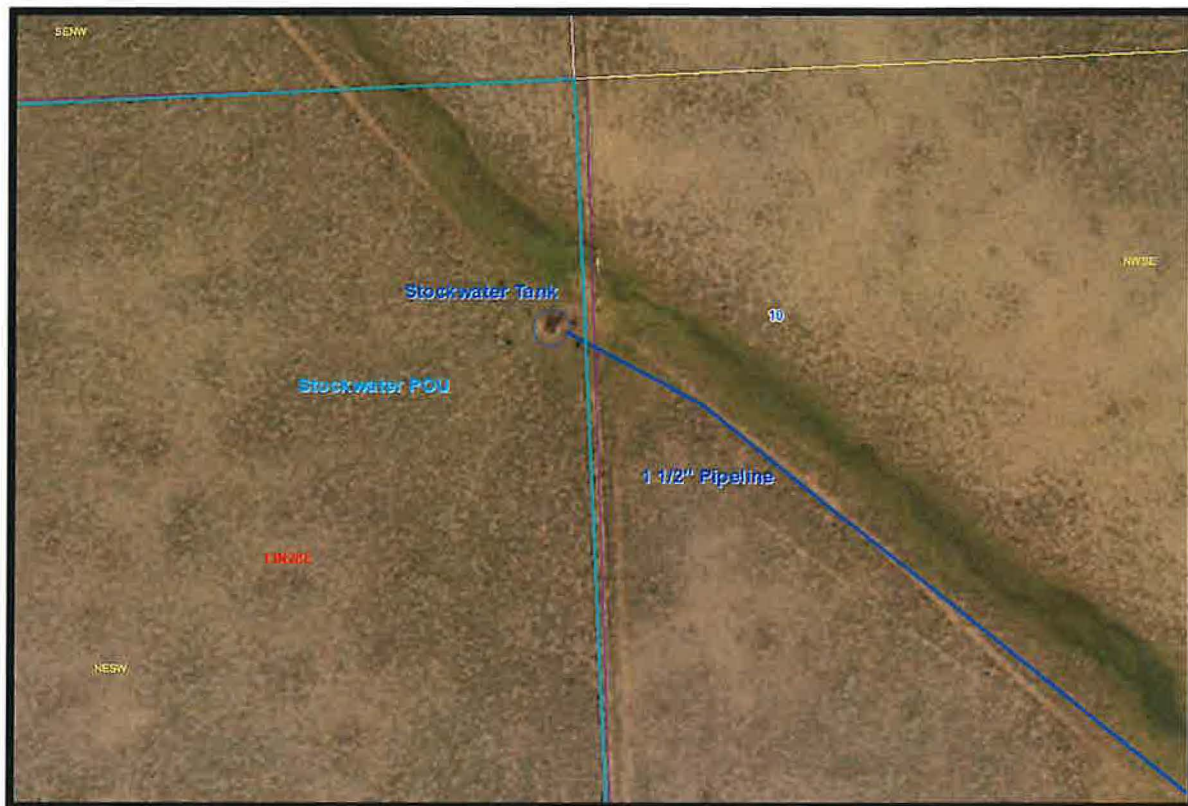


Figure 3- NAIP 2023 Imagery- System Diagram- The stockwater tank enclosure is visible in the northeast corner of the stockwater POU.



IDAHO DEPARTMENT OF
WATER RESOURCES

322 E Front Street, Suite 648, Boise ID 83702 • PO Box 83720, Boise ID 83720-0098

Phone: 208-287-4800 • Fax: 208-287-6700 • Email: idwrinfo@idwr.idaho.gov • Website: idwr.idaho.gov

Governor Brad Little

Director Mathew Weaver

May 2, 2024

MC FARLAND LIVESTOCK CO INC
PO BOX 50
LEMHI, ID 83465-0050

RE: Scheduling Field Exam for Water Right Permit No. 74-15907

Dear Permit Holder:

We are planning to conduct water right examinations in the vicinity of the above-referenced permit **on the week of June 10 to June 14, 2024**. An examination is needed to verify the water use in order to issue a water right license.

The above-referenced permit authorizes **0.04 CFS** from a **Spring tributary to McGinty Creek** for **Stockwater** use. **If you have developed a beneficial use and still own the place of use property, please contact me at your earliest convenience to schedule an examination. Please note that all conditions of the permit must be met before licensing can occur (see attached Permit Proof Report).**

If you did not develop a beneficial use of water under the permit during the beneficial use period, a license cannot be issued and the permit should be relinquished. If that use was developed, but have ceased using the water and you currently carry no interest in it, please relinquish the permit by submitting the enclosed Relinquishment of Permit form (no fee required).

If you did develop a beneficial use of water under the permit, but you no longer own the place of use property identified in the permit, please submit the enclosed Ownership Change form with the applicable \$25 processing fee.

Please contact me within the next thirty (30) days at (208) 287-4847 to either schedule an examination or submit a relinquishment or assignment form. If you no longer own the place of use property and/or do not respond to this letter, the department will work with the current property owner to issue a license or void the permit.

Sincerely,

Bob Howe



IDAHO DEPARTMENT OF
WATER RESOURCES

Bob Howe | Water Resource Agent

322 E Front St, PO Box 83720, Boise, ID 83720

(208) 287-4800 | www.idwr.idaho.gov

Enclosures: Relinquishment of Permit form
Change of Ownership form
Water Permit Report and Map