

[illegible]

Method of Determination: Arc Map (Aerial Photo)

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.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
N/A					

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
N/A						

2. Measurements: No field measurement. Spring discharges to a buried excavated ditch which terminates at a stock water storage pond.

E. FLOW CALCULATIONS

Attached

____ Additional Computation Sheets

Measured Method:

Flow calculation based on the dimensional data for buried ditch based on spring location indicated by applicant, 2' wide, 4' deep, and 400' long, filled with aggregate, and an assumed trench void ratio of 40%. Calculated maximum flow to fill ditch in a 24-hour period:

$$V = 2' \times 4' \times 400' \times 0.40 = 1,280 \text{ ft}^3$$

$$V = 1,280 \text{ ft}^3 \times 7.48 \text{ gallons/ft}^3 \times 1 \text{ day} = 9,575 \text{ gallons/day}$$

$$Q (\text{max}) = 9,575 \text{ gallons/day} \times 1 \text{ day/24 hours} \times 1 \text{ hour/60 minutes} = 6.65 \text{ gpm} = 0.015 \text{ cfs}$$

Conclusion: Based on the assumed data provided by the applicant, it appears that the buried trench filled with aggregate, and assuming a void ratio of 40%, has the capacity to convey a maximum flow rate of 0.02 cfs to the stock water pond.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

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

2. Volume Calculations for Other Uses: (Stock Water Storage Pond)

Pond area per aerial photo = 0.2 ac. (8,712 ft²); Maximum pond depth = 12'; Use average depth of 10'.

$$V (\text{pond}) = 8,712 \text{ ft}^2 \times 10' / 43,560 \text{ ft}^3 = 2.0 \text{ af}$$

Conclusion: Stock water storage volume(permit) = 2.0 af = Stock water storage volume(calculated) = 2.0 af.

G. NARRATIVE/REMARKS/COMMENTS**DIVERSION AND CONVEYANCE SYSTEM:**

A spring is located north of the barn and westerly of a stock water storage pond. An excavated trench, approximately 2' wide, 4' deep, and 400' long, and filled with aggregate wrapped in filter fabric, conveys spring water to a small stock water storage pond. The stock water storage pond provides water to a maximum of 45 head of cattle and 150 sheep. The applicant indicated that the spring discharges year round. A small spillway on the south end of the stock water storage pond prevents the stock water storage pond from overflowing.

OVERLAP:

Water Right Permit 63-15007 – Place of use overlap (stock water storage pond). A spring located on the neighbor's property to the north is used to provide stock water for the stock water storage pond. A 2" PVC pipe, connected to a buried spring box, discharges to the stock water storage pond.

STOCK WATER STORAGE POND VOLUME:

The stock water storage pond is filled by two separate springs on two different water right permits. This spring associated with Water Right Permit 63-14885, and another spring associated with Water Right Permit 63-15007. Each permit has a beneficial use of stock water storage for 2.0 AF. Since the stock water storage ponds maximum volume is 2.0 AF, the combined maximum volume for both permits shall be 2.0 AF.

RATE &/OR STORAGE RECOMMENDED FOR LICENSING

Description	Rate of Flow (cfs)		Storage (af)
Permit Amount	0.04	&/or	2.0
Beneficial Use Limit	0.04	&/or	
System Measurement	0.02 (Calculated)	&/or	2.0
Proof Fee Amount	0.20	&/or	20
Recommended Amount	0.02	&/or	2.0

Have conditions of permit approval been met? ☒ Yes ☐ No

Condition No.1 – Livestock numbers have changed. Stock water is for a maximum of 150 sheep and 45 cattle.

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DIVERSION TO STORAGE	01/01 to 12/31	0.020 CFS	
STOCKWATER STORAGE	01/01 to 12/31		2.00 AF
<u>Totals:</u>		0.020 CFS	2.00 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

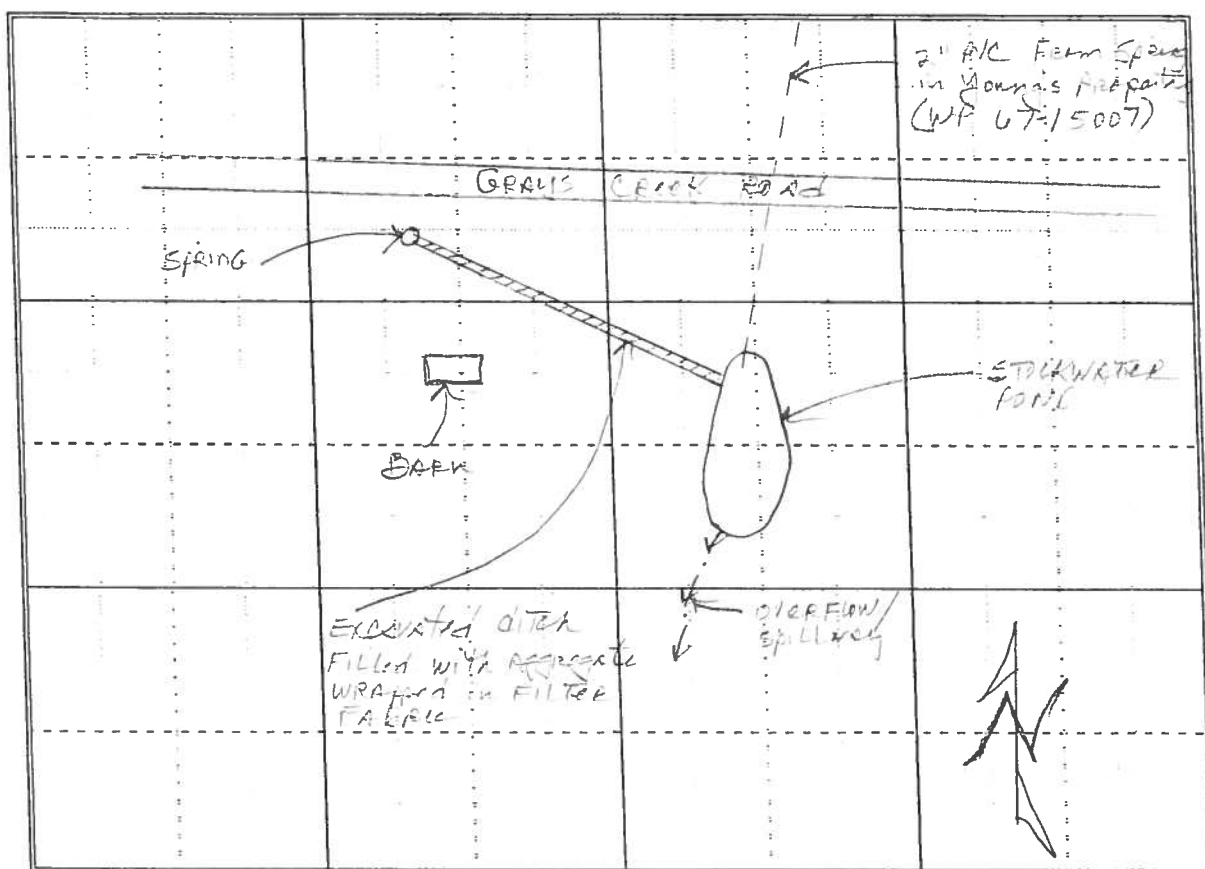
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Rick Collingwood Date 8/7/12

Reviewer _____ Date _____

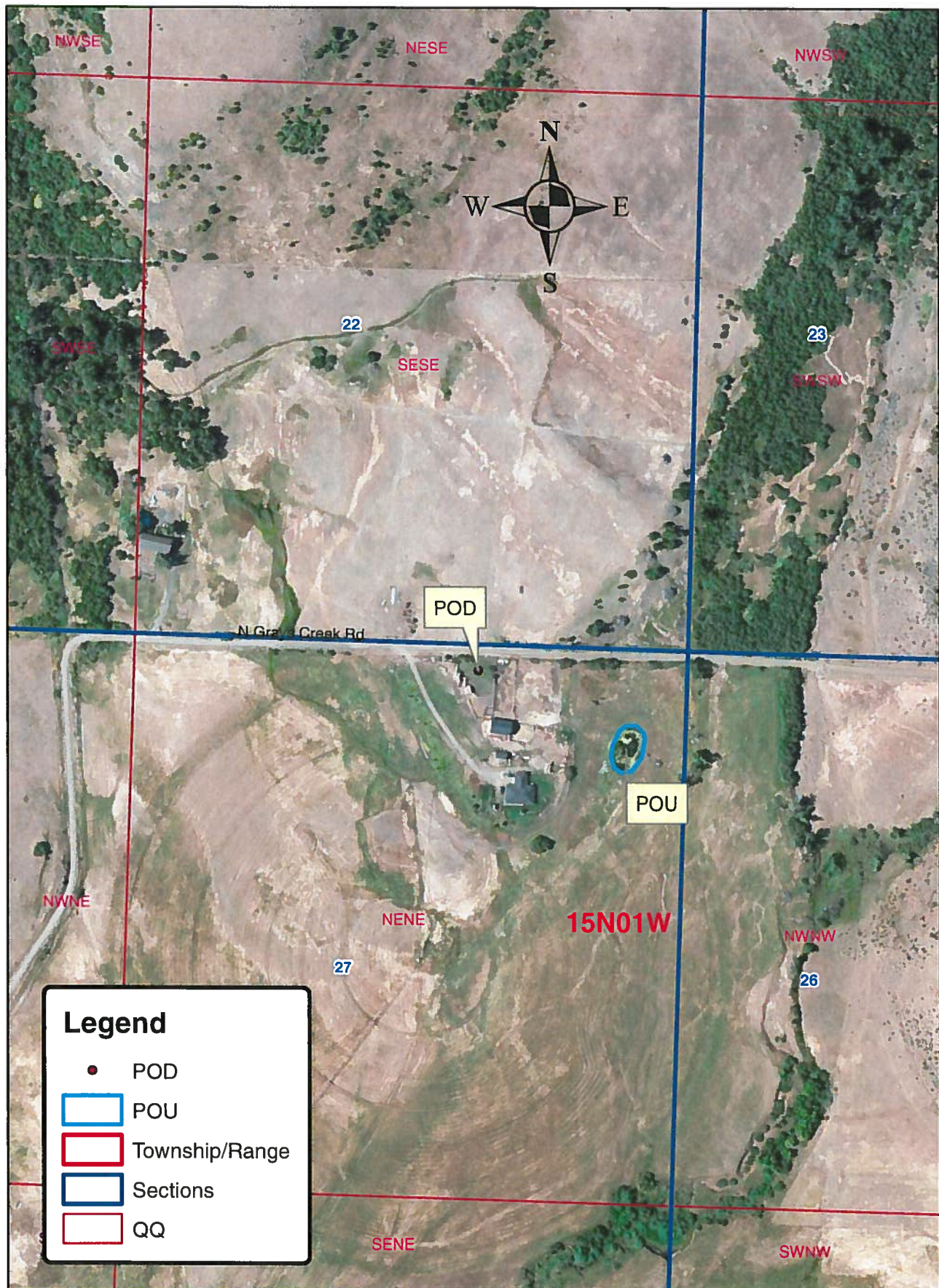
- 3 **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.



Scale: 1" = 200'

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☐ Photo of diversion and system attached

67-14885



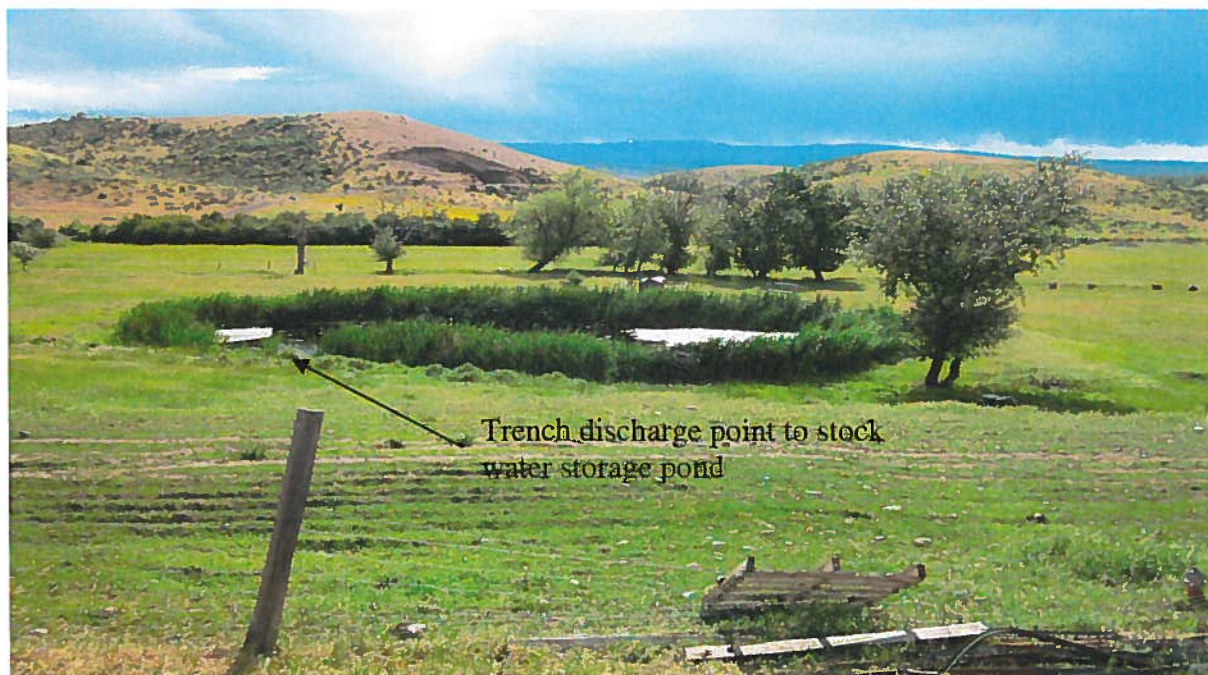
FIELD EXAM PHOTOS

Water Right Permit: 67-14885

Field Exam Date: 6-4-12

PLS: NE1/4, NE1/4 Section 27, T.15N, R.01W.

Field Examiner: RC



Place of Use: View easterly of stock water storage pond. Buried aggregate filled trench from spring connects to stock water storage pond at northwest corner of pond.