

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 72-16662

Exam Date: 9/11/2012

1. Current Owner: US DEPT OF INTERIOR
BUREAU OF LAND MANAGEMENT
1387 S VINNELL WAY
BOISE ID 83709-1657
(208) 373-3831
2. Accompanied by: Jeff Cooper (IDWR)

3. SOURCE

ELLIS CREEK

TRIBUTARY

SALMON RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point of diversion: None

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

ELLIS CREEK

SE1/4NW1/4NE1/4

Sec. 11, Twp 16N, Rge 19E, B.M.

CUSTER County

Method of Determination: GPS and aerial photography

2.**PLACE OF USE:**

WILDLIFE

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
16N 19E 12														X			
16N 20E 5															X		
16N 20E 7								X									
16N 20E 8							X										

PLACE OF USE:

STOCKWATER

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
16N 19E 12														X			
16N 20E 5															X		
16N 20E 7								X									
16N 20E 8							X										

Method of Determination: Aerial photography

D. FLOW MEASUREMENTS

Not required for permits with irrigation of less than five (5) acres or permits with the total combined diversion rate for all the uses established in connection with the permit not exceeding twenty-four one hundredths (0.24) cubic feet per second per new Beneficial Use Examination Rules implemented 3/29/2012.

E. FLOW CALCULATIONSHazen-Williams Formula

$$V = 1.318 \times C_h \times R^{0.63} \times S^{0.54}$$

V = Velocity (ft/s)

C_h = Hazen-Williams Friction Coefficient = 130 (for old/plastic pipe)

R = Hydraulic Radius = Cross Sectional Area / Wetted Perimeter = D/4 (for round pipes)

for 2" dia pipe D = 2" = 0.167 ft (a portion of the exposed pipeline was observed and pipe size was measured)

$$R = 0.167/4 = 0.04167$$

S = h_f/L = Slope of Energy Grade Line = 0.0314 (obtained from approximate POD elevation of 6440 ft per quad map and approximate trough elevation of 6220 ft per quad map for the first trough in system and estimated pipe length of 7000 ft measured via ARCMAP)

$$V = 1.318 \times 130 \times (0.04167)^{0.63} \times (0.0314)^{0.54}$$

$$V = 3.57 \text{ ft / sec}$$

$$Q = VA \text{ where } A = \pi r^2 = \pi (1/12)^2 = 0.0218 \text{ ft}^2 \text{ for 2 inch diameter pipe}$$

$$Q = (3.57 \text{ ft/ sec})(0.0218 \text{ ft}^2) = 0.078 \text{ cfs}$$

Rate exceeds permitted amount of 0.02 cfs, therefore use permitted rate of 0.02 cfs

F. VOLUME CALCULATIONS

Not required for 42-111 type domestic uses per new Beneficial Use Examination Rules implemented 3/29/2012. Stockwater use can be considered a "part a" domestic use (up to 13,000 gpd). Consider wildlife use incidental to stockwater use.

G. NARRATIVE/REMARKS/COMMENTS

Application for Permit 72-16662 was filed on March 28, 2005 for the diversion of 0.02 cfs from Ellis Creek for stockwater and wildlife use north of Challis. Permit 72-16662 was approved on June 21, 2005. Proof of Beneficial Use was filed on April 14, 2008. On September 11, 2012, Jeff Cooper and I conducted the licensing exam for permit 72-16662.

The system consists of a diversion in Ellis Creek that leads to a buried pipeline to four troughs located in a generally easterly direction (down gradient towards the Salmon River). The furthest trough is located approximately 2.8 miles away from the point of diversion as the crow flies. Note that the exact location path of the buried pipeline is not known. Using ARCMAP it is estimated that the pipeline is approximately 7,000 feet long from the point of diversion to the first (highest elevation) trough. A small section of exposed pipeline was observed during the field exam and the pipeline consists of 2 inch diameter plastic pipe. An estimate of the system capacity using the Hazen-Williams Formula indicates that the system could theoretically divert more than the permitted rate of 0.02 cfs. The permit was issued with the point of diversion being described in the SWNENE of Section 11 (T16N, R19E). However, the point of diversion is actually located within the SENWNE of Section 11 (T16N, R19E). For this reason, a licensing amendment was solicited from the permit holder to correct the point of diversion. The signed licensing amendment and fee was recently received allowing for the licensing of 72-16662. During the exam, cattle and wildlife sign was observed around one of the troughs demonstrating stockwater and wildlife use.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

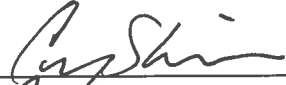
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
WILDLIFE	01/01 to 12/31	0.020 CFS	N/A
STOCKWATER	01/01 to 12/31	0.020 CFS	N/A
<u>Totals:</u>		0.020 CFS	N/A

2. Recommended Amendments

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

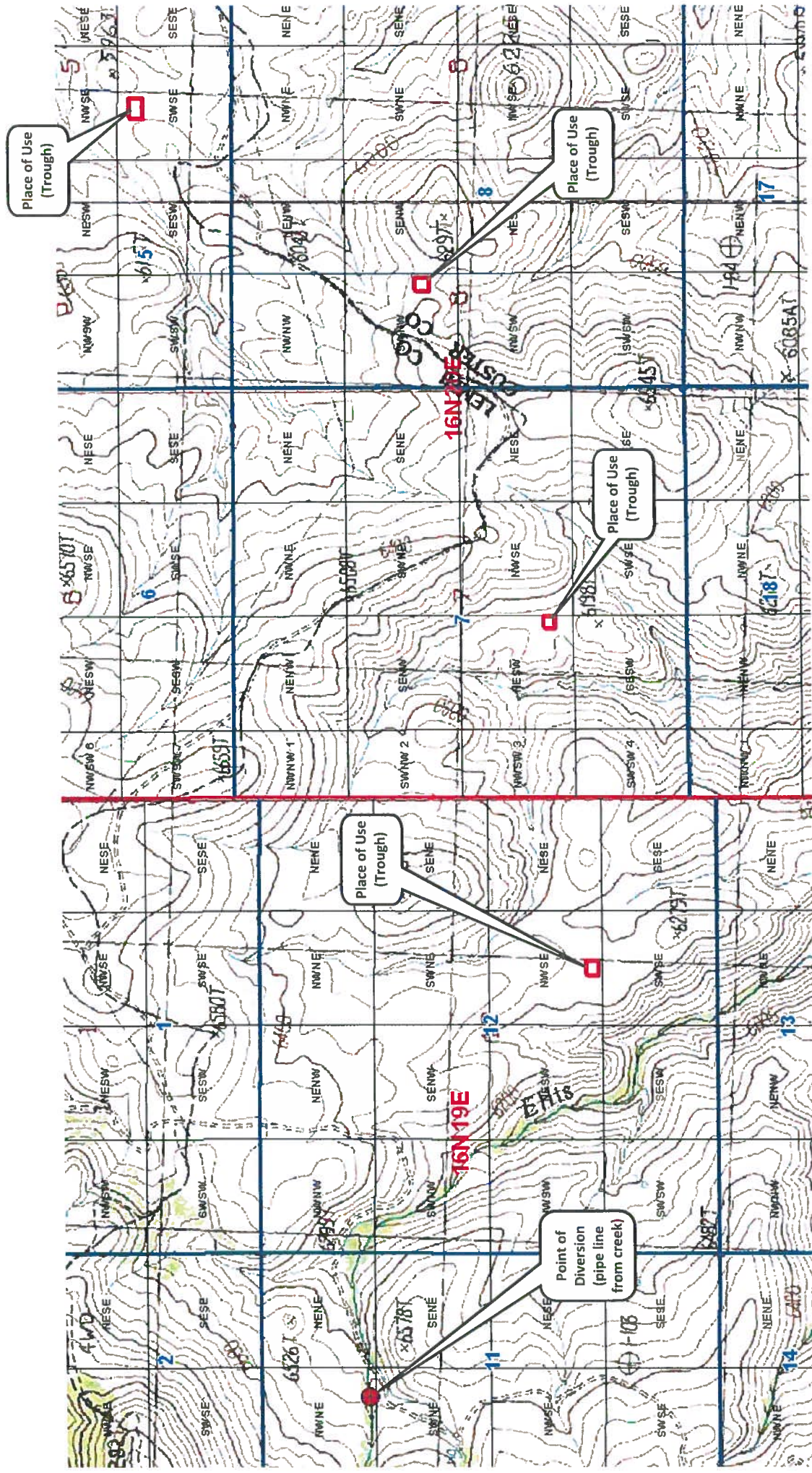
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name  Date 9/30/2013

Reviewer  Date 10/22/13

72-16662 Point of Diversion and Place of Use Map



72-16662 Point of Diversion and Place of Use Photos



ABOVE: View of Point of Diversion (in trees) from Ellis Creek. Note the white plastic pipeline leading from the point of diversion to the trough system below.

BELOW: View of typical water trough in the system. This particular trough is the trough located in Section 8. During the exam a pronghorn was observed near this particular trough. Cattle and wildlife sign was observed around the trough demonstrating stockwater and wildlife use.

