

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-21629

Exam Date: 9/3/2013

1. Current Owner: UNITED STATES OF AMERICA ACTING THROUGH
USDA FOREST SERVICE
2647 KIMBERLY RD
TWIN FALLS ID 83301-7976
(208)737-3200
2. Accompanied by: Jana Reeder (IDWR)

3. **SOURCE**

UNNAMED SPRING

TRIBUTARY

SINKS

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 SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

UNNAMED SPRING

NW1/4SE1/4SE1/4

Sec. 3, Twp 01N, Rge 13E, B.M.

CAMAS County

Method of Determination: GPS, aerial photography, and site investigation

2.

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	
01N	13E	3																X	

Method of Determination: GPS, aerial photography, and site investigation

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 1.5" dia pipe D = 1.5" = 0.125 ft (a portion of the exposed pipeline was observed and pipe size was measured)

$$R = 0.125/4 = 0.03125$$

S = h_f/L = Slope of Energy Grade Line = 0.08 (estimated from field observation based on estimated elevation difference and distance between spring and trough)

$$V = 1.318 \times 130 \times (0.03125)^{0.63} \times (0.08)^{0.54}$$

$$V = 4.93 \text{ ft / sec}$$

Q = VA where $A = \pi r^2 = \pi (.75/12)^2 = 0.01227 \text{ ft}^2$ for 1.5 inch diameter pipe

$$Q = (4.93 \text{ ft/ sec})(0.01227 \text{ ft}^2) = 0.0605 \text{ cfs}$$

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).

G. NARRATIVE/REMARKS/COMMENTS

Application for Permit 37-21629 was filed on December 16, 2005 for the diversion of 0.02 cfs from an unnamed spring (tributary to sinks) for stockwater use northwest of Fairfield. Permit 37-21629 was approved on April 24, 2006 and. Proof of Beneficial Use was filed on March 14, 2001. On September 3, 2013, Janna Reeder and I conducted the licensing exam for permit 37-21629.

During the exam, it was noted that the area surrounding the 37-21629 development had recently burned during this summer's McCan fire. We observed the remnants of a stock trough a short distance below a spring in the bottom of an unnamed channel within the permitted location(s). Portions of the stock trough were melted as a result of the recent fire, but the trough still had water in it. A portion of a buried plastic pipeline (1.5" in diameter) was exposed adjacent to the trough. The pipeline ran to the northwest, away from the trough, towards what appeared to be a spring in the bottom of an unnamed channel approximately 50 feet from the trough. Jana and I carefully examined the area around the spring and could not find evidence of a diversion such as a spring box. We also walked the bottom of the channel for a couple of hundred yards upstream of the spring and could find no evidence of a diversion. During our search, we observed that the channel was dry except for the small section of the channel that had standing water down gradient of a small aspen grove (see attached photo). It is suspected that the pipeline is buried into this wet spot in the channel which would consist of the point of diversion. It would be a reasonable assumption that the USFS developed the system to encourage livestock to drink away from this spring location to prevent damage to the spring. 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. During the exam, it was noted that livestock trails appeared to lead to and from the trough location demonstrating likely stockwater use. It is recommended that license 37-21629 be issued as originally permitted. One item of note, relates to the permit being flagged as being located within Water District 37. The recent order (signed 9/17/2013) creating Water District 37B excluded rights for 42-111 "domestic uses". Stockwater use can be considered a "part a" domestic use (up to 13,000 gpd), so it is recommended that the right not be associated with a water district.

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>
STOCKWATER	06/01 to 10/31	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

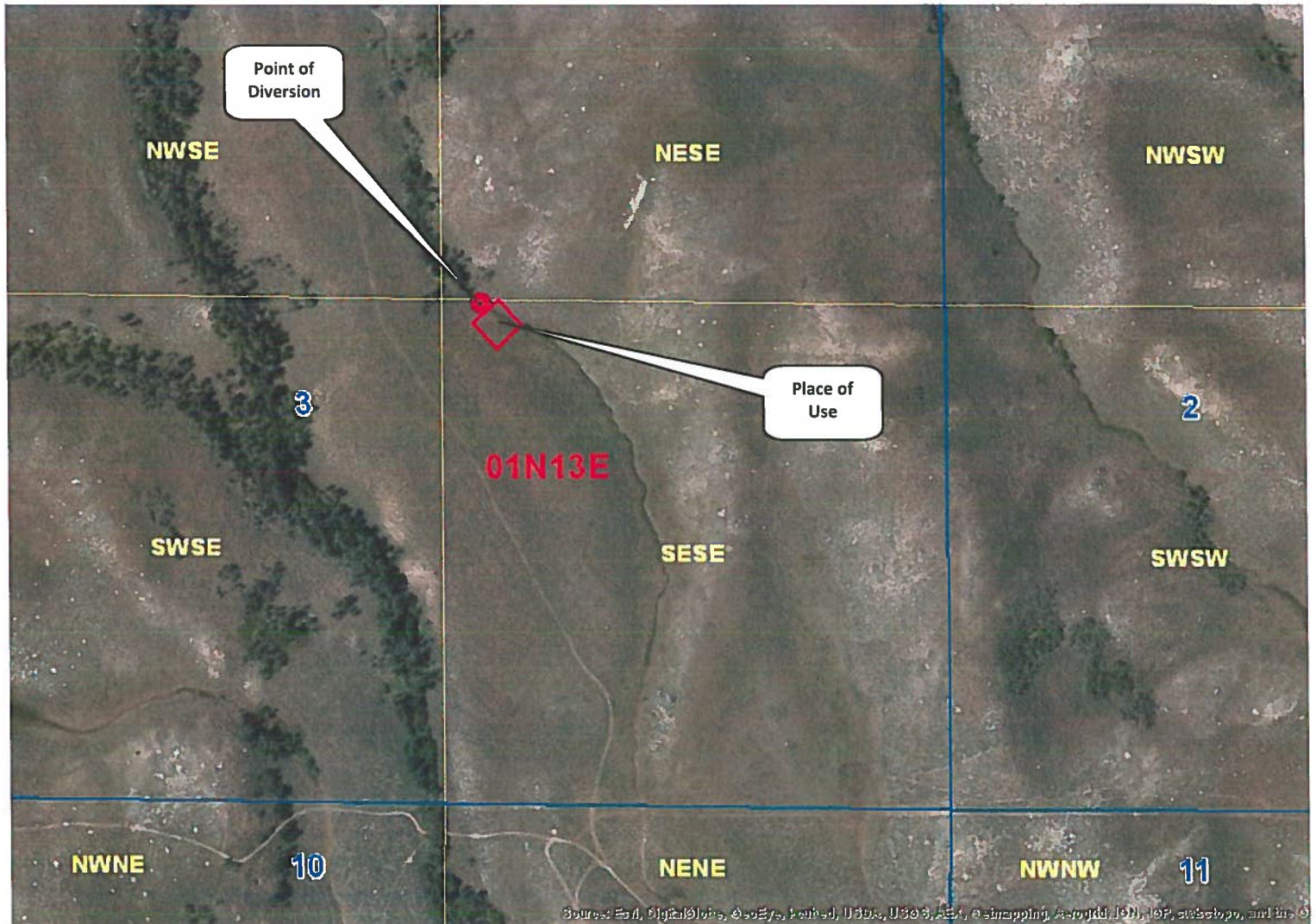
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Ray Shin Date 9/30/2013

Reviewer Anna Mena Date 10/18/13

37-21629 Point of Diversion & Place of Use Map



37-21629 Point of Diversion and Place of Use Photo



View of place of use (single stock water trough). Note that the area, and trough, burned in this summer's McCan fire. However, note that the remaining portion of the plastic trough still has water in it. A portion of a 1.5" diameter plastic pipeline was exposed on the uphill side of the trough. Note that the channel (unnamed stream on USGS quadrangle) is dry near the trough. Approximately 50 feet upstream of the trough, water was observed in a portion of the channel (bottom of green area indicated in photo). Close physical examination of the channel bottom in the green wet area, and further up the channel in the aspen grove, did not reveal an exposed pipeline intake. It was observed that the water in the channel did not extend up into the aspen grove, but it is suspected that the water is just under the ground surface in order to support tree growth. Also note how this area is not burned compared to the surrounding area. It is suspected that the buried pipeline extends into the green area (spring area with water at the ground surface) downstream of the aspen grove. This would place the point of diversion in the green spring area downhill of the aspen grove shown in this photo. Note the livestock trails leading to the trough in the burned areas in this view indicating that the trough was utilized by livestock.