

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 45-13486

Exam Date: 5/12/2011

1. Current Owner: UNITED STATES OF AMERICA ACTING THROUGH
USDI BUREAU OF LAND MANAGEMENT
IDAHO STATE OFFICE
1387 S VINNELL WAY
BOISE ID 83709-1657
(208)373-4000
2. Accompanied by: Jeff Cooper (IDWR)

3. SOURCE

BUCKHORN SPRING

TRIBUTARY

BUCKHORN CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 1-23A (Southwest Irrigation District)
2. Other water rights with the same point of diversion: 45-13502 (0.020; Stockwater; Joseph Tugaw)

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

BUCKHORN SPRING

SE1/4NW1/4NE1/4

Sec. 34, Twp 12S, Rge 20E, B.M.

CASSIA County

Method of Determination: Waypoints were collected with a Garmin GPS map 76S receiver and downloaded into an ArcMap shapefile that corresponds with 2009 aerial photography and verified the points of diversion to be in Twp 12S Rge 20E S 34 SENWNE1/4. See attached map.

2.

PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
12S	20E	24									X								

PLACE OF USE: WILDLIFE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
12S	20E	24									X								

Method of Determination: Waypoints were collected with a Garmin GPS map 76S receiver and downloaded into an ArcMap shapefile that corresponds with 2009 aerial photography and verified the points of diversion to be in Twp 12S Rge 20E S 24 NESW¼. See attached map.

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

D. **FLOW MEASUREMENTS** No flow measurement possible as spring source was dry.

E. **FLOW CALCULATIONS** _____ Additional Computation Sheets Attached
Measured Method: Theoretical: Hazen Williams Equation for Full Pipe Flow

$$Q=0.432C_1D^{2.63}S^{0.54}$$

Where:

C_1 = roughness coefficient

D = Diameter in feet

S = Slope

S = 0.097

C_1 = 130 (coefficient for pvc)

D = 0.25' (3" pvc pipe)

Q = 0.41 cfs

F. **VOLUME CALCULATIONS:**

1. Volume Calculations for Other Uses: Stockwater/Wildlife:

426 Range Cattle at 12 gpd/head:

12 gpd/head x 426 head x 275 days / 325850 gallons/AF = 4.3 AFA

30 ungulates (wildlife) at 12 gpd/ungulate:

12 gpd/head x 30 head x 365 days / 325580 gallons/AF = 0.40 AFA

Total Recommended = 3.3 AFA (Stock) + 0.40 AFA (Wildlife) = 4.7 AFA

G. NARRATIVE/REMARKS/COMMENTS

Permit 45-13486 is for 0.02 cfs stockwater/ 0.01 cfs wildlife in a trough and wildlife pond are supplied water from Buckhorn Spring.

Application for permit 45-13486 submitted by US Dept of Interior/ Bureau of Land Management was filed on July 3, 2002, and proof of Beneficial Use was submitted January 20, 2004.

Existing system consists of a 3 inch diameter perforated pipe which channels water into a headbox that in turn delivers water to a trough 2.5 miles northeast of the springs through a 3 inch pvc pipe system. The trough measures 8 foot in diameter x 2 foot deep. The pond was developed just east of the trough and received overflow directly from the trough. Pond surface area estimated at 0.1 acres with a maximum depth of 1 foot (estimated with ArcMap measure tool). Headbox and entire system was completely dry on the date of the exam. The Hazen Williams Full Pipe flow Calculation was utilized to estimate potential capacity of the system.

According to Joe Tugaw, he obtained the land and the trough in a BLM land swap (Twp 12S Rge 20E S24 NESW1/4) and that the system had been completely abandoned. The trough was too close to his irrigated cropland and the cattle would get into his crops. Current Taxlot data indicates the BLM retained ownership of the land where the point of diversion is located (Twp 12S Rge 20E S 34 SENWNE1/4). Mr. Tugaw has a decreed water right, 45-13502, for 0.02 cfs from the same point of diversion. According to Steve Davis, BLM Hydrologist, the site is utilized by 324 range cattle. Wildlife use of 30 deer was assumed from numbers used in previous field exams.

Per, Steve Davis the BLM utilizes a flexible season of use based on range and weather conditions. Based on this policy, the BLM requests a period of use is from 01/01 to 12/31. Volume calculations for range cattle are based on a potential nine month season where cattle may be present any time range and weather conditions permit.

Recommend permitting the requested amount of 0.02 cfs Stockwater, 0.01 Wildlife and 4.7 AFA.

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

H. RECOMMENDATIONS**I. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
STOCKWATER	01/01 to 12/31	0.020 CFS	4.3 AFA
WILDLIFE	01/01 to 12/31	0.010 CFS	0.40 AFA
<u>Totals:</u>		0.020 CFS	4.7 AFA

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 Bill Muth Date 6/20/2011

Reviewer [Signature] Date 6/30/2011



Figure 1: View looking down on Buckhorn Springs point of diversion. Perforated pipe system buried in the springs delivered water to headbox



Figure 2: Jeff Cooper adjacent to headbox

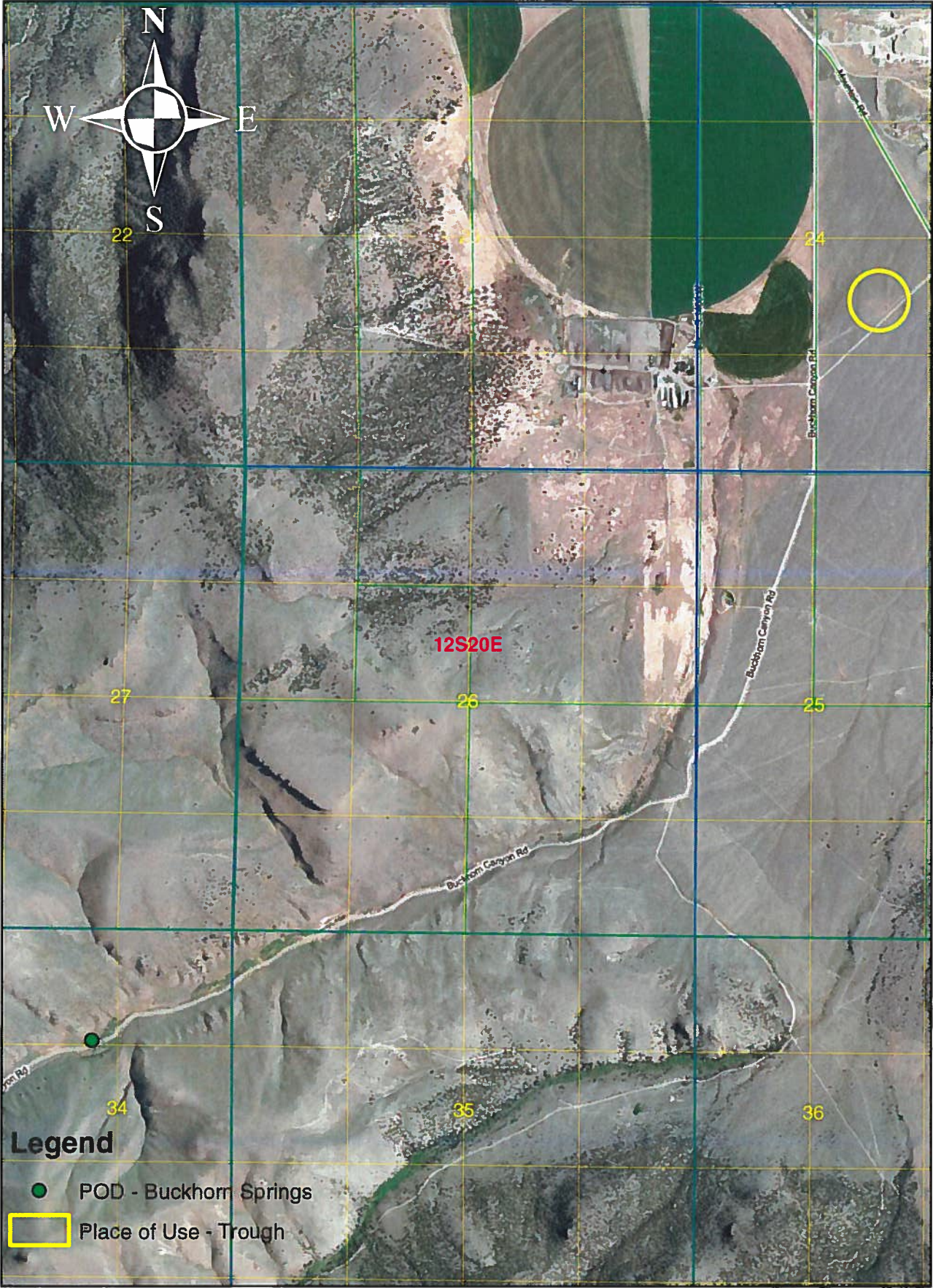


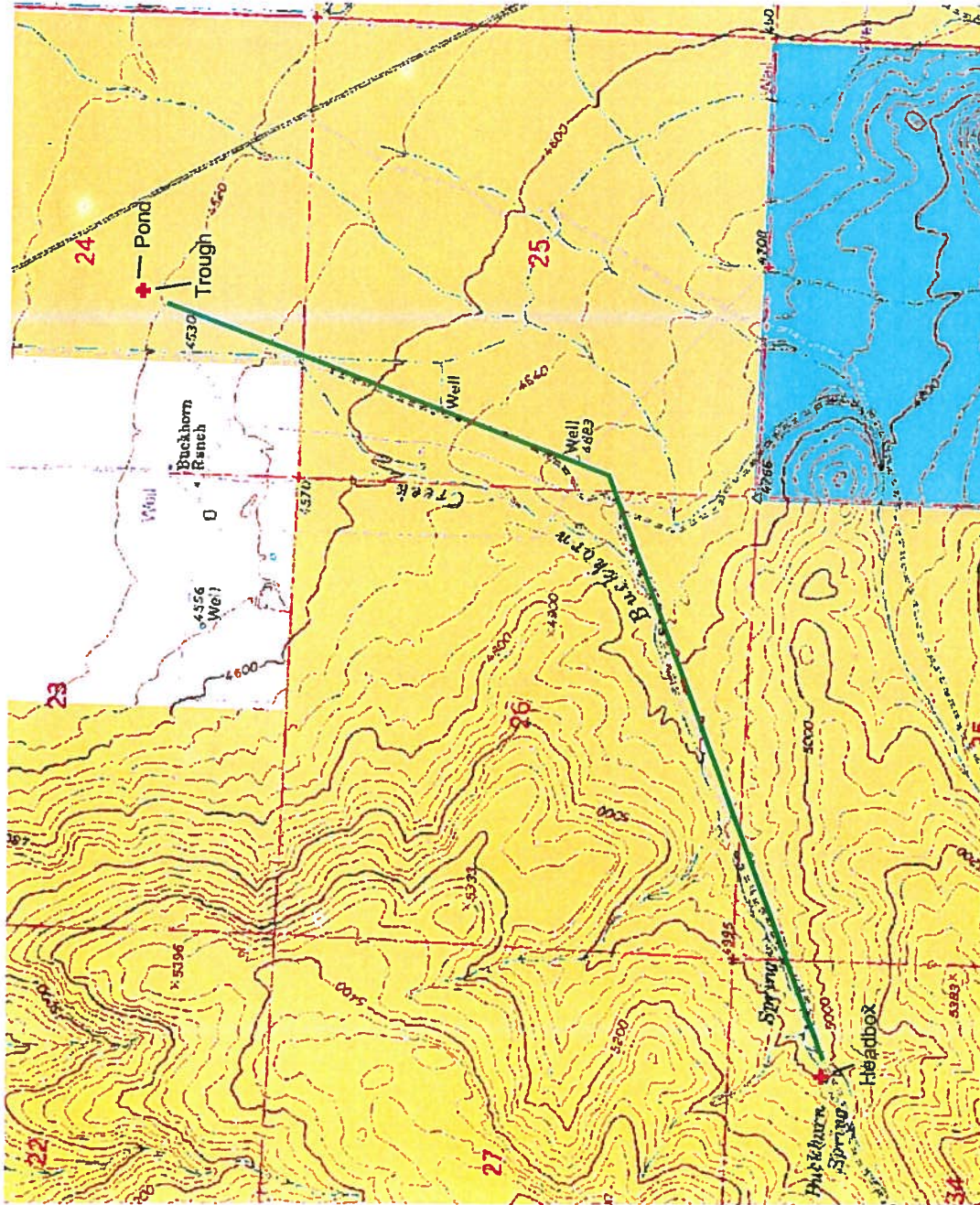
Figure 3: Trough



Figure 4: Overflow area east of trough

Permit 45-13486





- + Point Determined by GPS
- Polygon Determined by GPS
- Digitized Pipeline (not actual route)
- Surface Ownership
 - BLM
 - BIA
 - LU_DOI
 - LU_USDA
 - MIL
 - NPS
 - USFWS
 - PRIVATE
 - STATE
 - US Forest Service



No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.

DRAFT



Quad Map Name: Buckhorn Canyon



1:24000

RECEIVED
JUL 03 2002
Department of Water Resources
Southern Region

R. 20 E

NOTE: The actual POD could not be located because it is evidently buried somewhere between Buckhorn Spring and the headbox, which are shown on the map above.

T. 12 S

45-13486

