

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-8921

Exam Date: 2/10/2012

1. Current Owner: US DEPT OF INTERIOR
BUREAU OF LAND MANAGEMENT
400 WEST F ST
SHOSHONE ID 83352
(208)732-7200
2. Accompanied by: Field exam completed in office utilizing Department resources.

- | 3. <u>SOURCE</u> | <u>TRIBUTARY</u> |
|------------------|------------------|
| UNNAMED STREAM | WILD HORSE CREEK |

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 37-17418 (in-stream stockwater; 0.02 cfs; BLM)
2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM SE1/4SE1/4NW1/4 Sec. 17, Twp 01S, Rge 11E, B.M.
ELMORE County

Method of Determination: Point of diversion determined by using 2009 aerial photography, 2010 Bing Maps satellite imagery and 2011 Google Earth satellite imagery. Point of diversion appears to be in Twp 01S, Rge 11E, S 17, SESENW¼. See attached map.

2.

PLACE OF USE: STOCKWATER STORAGE

[illegible]

PLACE OF USE: WILDLIFE STORAGE

[illegible]

Method of Determination: Place of use determined by using 2009 aerial photography, 2010 Bing Maps satellite imagery and 2009 Google Earth satellite imagery. Point of diversion appears to be in Twp 01S Rge 11E S 17 SENW¼. See attached map.

3. ☒ 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 N/A

E. FLOW CALCULATIONS N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for Other Uses: Stockwater Storage and Wildlife Storage:

Surface area of reservoir = 0.1 acres

Determined using 2009 aerial photography and 2010 satellite imagery in ArcMap.

Reservoir Capacity = **0.4 AF**

Determined using flat bottom reservoir equation from IDWR Field Examiners Handbook and information provided in permit application.
(Capacity = Surface area x Maximum Depth)
0.1 acres x 4.0 feet = 0.4 AF

Potential Stock and Wildlife Use:

$[(1550 \text{ range cattle} \times 12 \text{ gpd}) + (7700 \text{ sheep} \times 2 \text{ gpd}) \times 182 \text{ days} / 325850 = 19.0 \text{ AF}$ (Based on a potential 6 month grazing season)

$30 \text{ wild ungulates} \times 12 \text{ gpd} \times 365 \text{ days} / 325850 = 0.40 \text{ AF}$

Total: $19.0 \text{ AF} + 0.40 \text{ AF} = \underline{19.4 \text{ AF}}$

G. NARRATIVE/REMARKS/COMMENTS

Permit 37-8921 is for stockwater storage and wildlife storage. Source is an unnamed stream tributary to Wild Horse Creek and storage reservoir is referred to as Mustang Reservoir.

Application for permit 37-8921 submitted by the US Dept of Interior, Bureau of Land Management was received on September 01, 2000 and proof of Beneficial Use was submitted the same day.

Mustang Reservoir is located approximately 19.3 miles west and 0.3 miles south of the intersection of Hwy 20 and Soldier Rd in Fairfield. Point of diversion and place of use are located in the SESENW¼ of Sec. 17, Twp 01S, Rge 11E. The reservoir is a small pit reservoir with a capacity of 0.4 acre feet that was constructed in wetlands near the headwaters of an unnamed stream tributary to Wild Horse Creek.

According to the application for permit, up to 1550 range cattle, 7,700 sheep and varying numbers of wildlife use the water source. Precipitation deficit data from the University of Idaho ET website indicates a mean of 679 mm (2.22 AF) per acre for small stockwater ponds in the Hill City area. Based on the calculated surface area of 0.1 acres, this indicates that approximately 0.2 AF could potentially evaporate from the reservoir each year. Potential stock and wildlife use was calculated at 19.4 AF, far exceeding the 0.4 AF reservoir capacity. Calculations were based on stock numbers listed on the permit and a number of wild ungulates thought to represent the size of an average deer herd.

Overlap analysis indicates the place of use and point of diversion for right 37-17418, an in-stream stockwater right, are listed in the same tract. Right 37-17418 permits stockwater use directly from the stream, while 37-8921 permits stockwater storage in the reservoir.

The application for permit requested 0.6 AF. As the reservoir has a storage capacity of 0.4 AF and a potential for evaporative loss of 0.2 AF, evaporative losses will be included in the recommended volume for a total of 0.6 AF.

Recommend permitting an annual volume of 0.6 AF.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>ANNUAL VOLUME</u>
STOCKWATER STORAGE	01/01 to 12/31	0.60 AF
WILDLIFE STORAGE	01/01 to 12/31	0.60 AF
<u>Totals:</u>		0.60 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 *Paul Mott* Date 2-10-2012

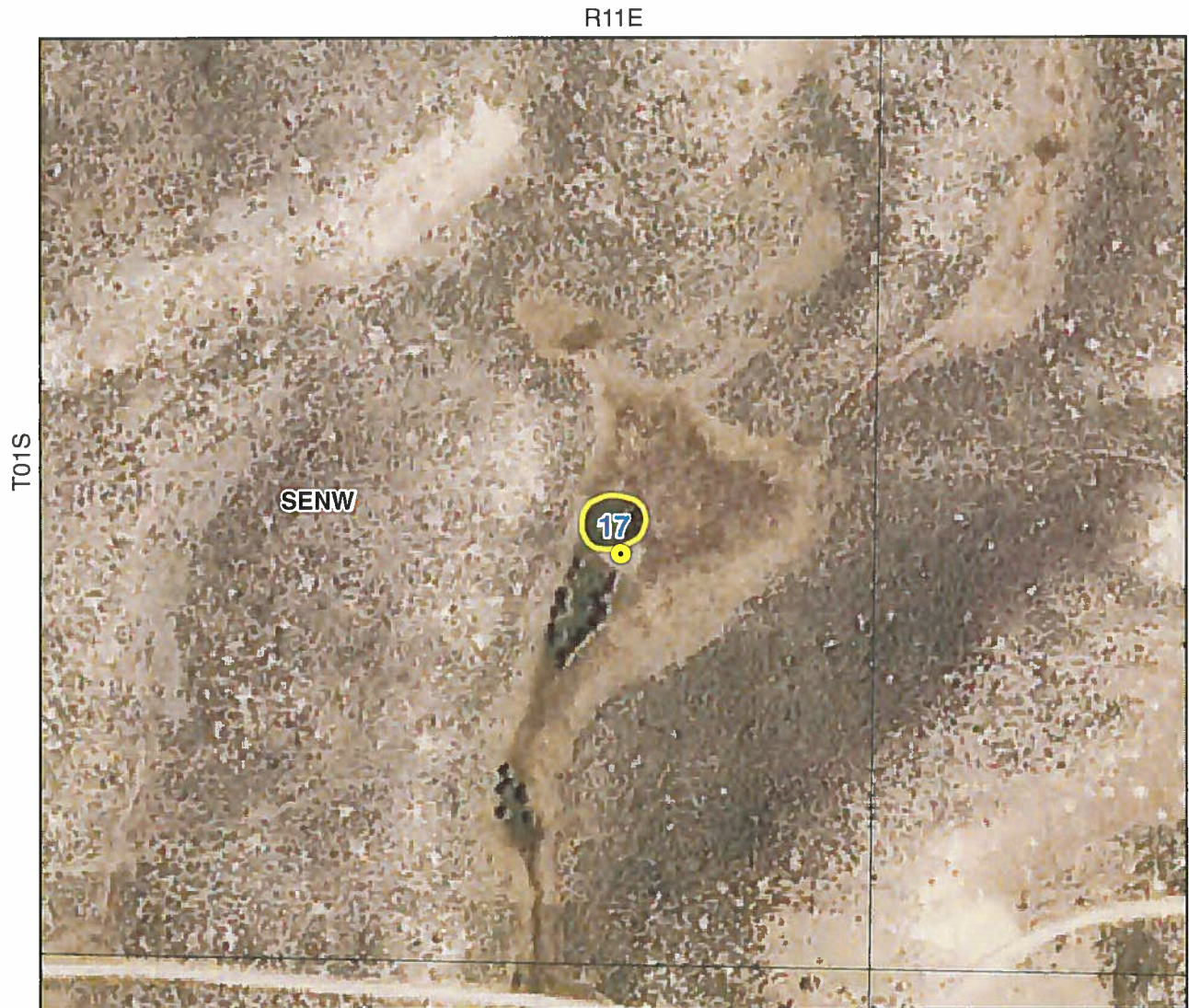
Reviewer *William* Date 2/14/2012



State of Idaho
Department of Water Resources
Water Right License

37-8921

Water Service Area Boundary for Us Dept Of Interior



0 0.03 0.06 0.12 Miles

● Point of Diversion

□ Place Of Use Boundary

□ Townships

□ PLS Sections

□ Quarter Quarters

