

**PLACE OF USE:** WILDLIFE STORAGE

Method of Determination: Point of diversion determined by using 2009 aerial photography and 2010 satellite imagery and verified the points of diversion to be in Twp 02S Rge 18E S 35 SESESE¼. 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

4.

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

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

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, and dimensions provided by the BLM in permit application.

Reservoir Capacity = 0.3 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 3.0 feet = 0.3 AF

Potential Stock and Wildlife Use:

$[(420 \text{ cattle} \times 12 \text{ gpd}) + (1000 \text{ sheep} \times 2 \text{ gpd})] \times 275 \text{ days} / 325850 = 5.9 \text{ AF}$  (Based on a potential 9 month grazing season)

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

Total:  $5.9 \text{ AF} + 0.40 \text{ AF} = \underline{6.3 \text{ AF}}$

G. NARRATIVE/REMARKS/COMMENTS

Field exam was completed in office using information provided by the BLM and Department Resources.

Permit 37-8919 is for stockwater storage and wildlife storage. Source is an unnamed stream and storage reservoir is referred to as Bottom Reservoir.

Application for permit 37-8919 submitted by the US Dept of Interior, Bureau of Land Management was received on September 20, 2000 and proof of Beneficial Use was submitted on the same date.

Bottom Reservoir is located approximately 10.6 miles north and 6.1 miles west of Richfield. Point of diversion and place of use are located in the SESESE1/4 of Sec. 35, Twp 02S, Rge 18E. Ephemeral runoff flows/seeps from an unnamed stream and collects in a small natural basin with a manmade embankment to capture the run off. Reservoir capacity is estimated to be 0.3 acre feet.

According to Clare Josaitis, BLM Rangeland Management Specialist, up to 420 cattle, 1000 sheep range in the area and varying numbers of wildlife use the water source. As this is a small desert reservoir that captures ephemeral flows from spring snow melt and runoff from storms, water is likely to be present in reservoir from spring into midsummer and after major rain events. Precipitation deficit data from the University of Idaho ET website indicates a mean of 695 mm (2.28 AF) per acre for small stockwater ponds in the Magic Dam area. Based on the calculated surface area of 0.1 acres, this indicates that approximately 0.23 AF could potentially evaporate from the reservoir each year. Where the permit for this reservoir is for wildlife and stockwater storage with no measurable flow rate, it should suffice to indicate that beneficial use is established by livestock and wildlife use, regardless of numbers and potential consumption rates. However, I did calculate numbers using those provided by the BLM and an assumed average of 30 ungulates for wildlife. Based on those numbers, the potential for water consumption by livestock and wildlife was estimated to be 6.3 AF, which exceeds the reservoirs capacity.

Place of use overlaps with water right 37-15173, an in-stream stockwater right.

Recommend <sup>licensing</sup>~~permitting~~ an annual volume of 0.3 AF.

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

#### H. RECOMMENDATIONS

##### 1. Recommended Amounts

| BENEFICIAL USE     | PERIOD OF USE  | ANNUAL VOLUME |
|--------------------|----------------|---------------|
| STOCKWATER STORAGE | 01/01 to 12/31 | 0.30 AF       |
| WILDLIFE STORAGE   | 01/01 to 12/31 | 0.30 AF       |
| <u>Totals:</u>     |                | 0.30 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 Brian Muth Date 12/5/2011  
 Reviewer Chris Martin Date 12/6/2011

State of Idaho  
Department of Water Resources  
**Attachment To Water Right License**  
37-8919

This map depicts the STOCKWATER STORAGE & WILDLIFE STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



**Legend**

-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.05 0.1 0.2 Miles





Bottom Reservoir  
QUAD. Shoshone Ice Caves  
CLAIM # \_\_\_\_\_  
ROLL 6 FRAME 2  
DATE 05/01/97 TIME —

MICROFILMED

APR 11 2001