

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 43-7296

Exam Date: 4/27/2011

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. SOURCE TRIBUTARY
UNNAMED STREAM 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 SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

UNNAMED STREAM	NW1/4SW1/4SW1/4	Sec. 20,	Twp 09S,	Rge 28E, B.M.
CASSIA County				
UNNAMED STREAM	SW1/4SW1/4SW1/4	Sec. 20,	Twp 09S,	Rge 28E, B.M.
CASSIA County				

Method of Determination: Tracks were collected with a Garmin GPS map 76S receiver and downloaded into an ArcMap shapefile that corresponds with 2009 aerial photography and verified the ponds to be in Twp 09S Rge 28E S 20 SWSW ¼. See attached map.

2.

PLACE OF USE: WILDLIFE STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
09S	28E	20											X						

WATER QUALITY IMPROVEMENT STORAGE same as
WILDLIFE STORAGE

Method of Determination:

3. _____ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
 ___x___ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
 ___x___ Aerial Photo Attached (required for irrigation of 10+ acres).
 _____ Photo of Diversion and System Attached

D. FLOW MEASUREMENTS: N/A

1. Measurements: N/A

E. FLOW CALCULATIONS: N/A

_____ Additional Computation Sheets Attached

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: Water Quality Improvement/Wildlife storage

Surface area of reservoirs = 0.4 acres

Determined by downloading tracks into ArcMap shapefile and utilizing calculate acres tool

Reservoir Capacity = 1.0 AF

Determined using v-shaped reservoir equation from IDWR Field Examiners Handbook
 (Capacity = Surface Area x Maximum Depth X 0.4)
 Maximum Depth of upper reservoir determined to be 4.7 ft:
 $0.2 \times 4.7 \times 0.4 = 0.38 \text{ AF}$
 Maximum Depth of lower reservoir determined to be 8.0 ft:
 $0.2 \times 8.0 \times 0.4 = 0.64 \text{ AF}$

G. NARRATIVE/REMARKS/COMMENTS

Permit 43-7296 is for water quality improvement/wildlife storage from an unnamed stream. Reservoirs are referred to as Gifford Springs Reservoirs.

Application for permit 43-7296 submitted by the US Dept of Interior, Bureau of Land Management, was received May 5, 1989 and proof of Beneficial Use was submitted April 11, 1994.

The reservoirs are located approximately 0.87 and 0.9 miles east, 1.4 and 1.5 miles north of Exit 15 (Raft River) on Interstate 86. The reservoirs are situated in a dry gully and apparently receive the majority of their water from waste water originating from pivot irrigation. However, on the exam date prior to the 2011 irrigation season, there was water present in the upper reservoir, clearly captured from rain and snow melt. As such, the source of water has been classified as an unnamed stream and not as waste water as listed on the original application for permit. The reservoir on the upper end of the gully has a 6.0 foot embankment on the east side. Spillway is located on the south-east side approximately 4.7 feet above the lowest point in the reservoir. Reservoir capacity measures 0.38 AF per v-shaped reservoir equation ($C = \text{Surface Area} \times \text{Maximum Depth} \times 0.4$). Surface area determined by loading tracks taken from a Garmin GPS Map 76S receiver into an ArcMap shapefile and using calculate acres tool. The lower reservoir has an eight foot embankment across the north end of the gully. I was not able to ascertain actual height of the spillway as it had completely eroded down to the base of the embankment. Therefore, reservoir holding capacity was calculated based upon the eight foot height of the embankment and measures 0.64 AF per v-shaped reservoir equation.

Direct measurement of flow was not feasible as there was no irrigation occurring on the exam date. The upper reservoir was partially filled on the exam date (1.5 foot maximum depth; 0.12 AF).

Precipitation deficit data from the University of Idaho ET website indicates a mean of 742 mm (2.43 AF) per acre for small stockwater ponds in the American Falls area. Based on the calculated surface area of 0.4 acres, the data indicates that approximately 0.97 AF could potentially evaporate from the reservoirs each year.

The application for permit stated that the reservoirs will expand waterfowl habitat and provide perennial water for 20 mule deer. On the date of the exam, I saw two mallards on the upper reservoir, flushed 2 sharptail grouse, approximately 12 hungarian partridges and 2 mule deer. The upper reservoir indicated use by deer as hoof prints were clearly visible around the water's edge on the upper reservoir. Water quality is improved as the reservoirs clearly act to decrease erosion, allow settling of suspended solids and uptake of nutrients via plants and microbes present at edge of reservoir.

Recommend the permitted amount 1.0 AF for water quality improvement storage and 2.0 AF for wildlife storage.

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>
WATER QUALITY IMPROVEMENT STORAGE	4/15 to 9/30		1.00 AF
WILDLIFE STORAGE	1/01 to 12/31		2.00 AF
<u>Totals:</u>			2.00 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 Mith Date 5/20/2011

Reviewer [Signature] Date 7/21/2011



Figure 1: Upper reservoir



Figure 2: Upper reservoir spillway



Figure 3: Lower reservoir



Figure 4: Earthen Dam on lower reservoir

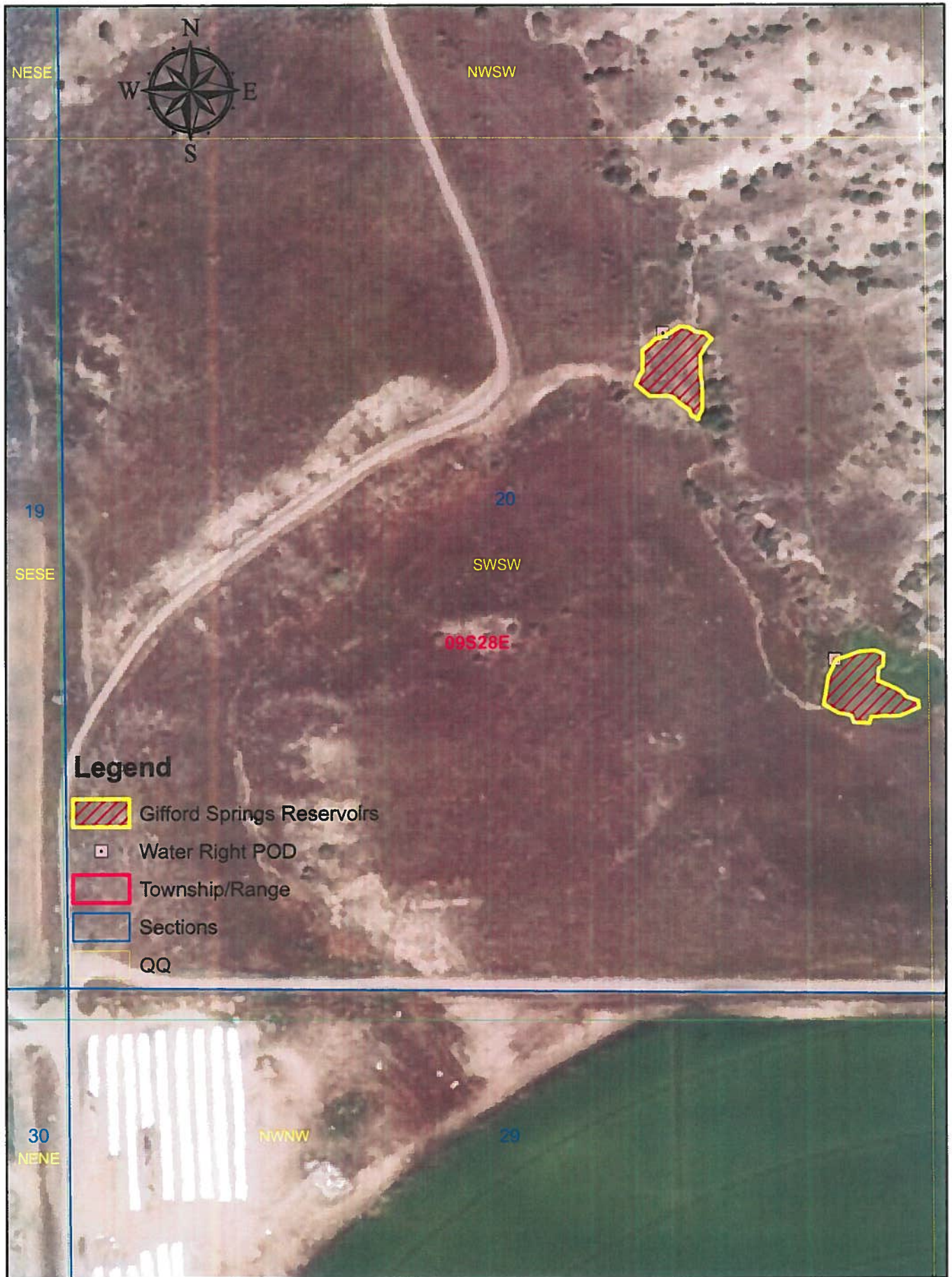


Figure 5: Eroded Spillway on lower reservoir



Figure 6: BLM project marker at lower reservoir

Gifford Springs Reservoirs #43-7296



S1
4/92

IDAHO DEPARTMENT OF WATER RESOURCES

STAFF ANALYSIS SHEET FOR BENEFICIAL USE FIELD EXAMS:

PERMIT NO. 43-07296

A. Items To Be Placed In Exam File (Items A & B to be Completed by Compiler)

- (☒) Blank Field Report & Notice of Completed Exam
- (☒) Copy of App. for Permit, Approved Permit, Amendments, Orders, Assignments, Proof of Beneficial Use, SRBA Claim (Claim Filed? _____ Required? _____)
- () Well Inspection Form, Dairy Water-Use Worksheet (if applicable)
- () Well Log(s) & Groundwater Measurement Analysis Form (if applicable)
- () Copy of Orthophotoquad Map
- () 660-Scale Aerial Photo (Examiner Will Obtain If Applicable)
- () Government Lot Plats (If Applicable)

B.1. P/D Overlap - Yes or No? If Yes, Include Copy of Overlapping Rights & Claims

- If Yes, Type of Overlap: () Add Acres or Uses to Existing System
() Increase Rate of Flow or Volume

B.2. P/U Overlap - Yes or No? If Yes, Include Copies of Overlapping Rights & Claims

- If Yes, Type of Overlap: () Increase Rate of Flow or Volume
() Add Supplemental Water Source
() Increase Acres Within Tracts

C. Field Exam Appointment Made:

Date _____ Time _____ Place _____

Contact Person & Phone _____

D. Post-Exam Review & Processing

Exam Completed _____ Notice of Completion Turned In _____

Field Report Completed _____
Signature of Examiner & Date _____

Field Report Reviewed by Sr. Agent _____ (Initial & Date)

Field Report Reviewed by Region Mgr. AK 7/21/11 (Initial & Date)

Field Report Sent to S.O. _____ Region Card File Updated _____