

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-7444

Exam Date: July 28, 2008

1. Current Owner: ROBERT C BURLINGAME
FLYING B RANCH
3546 N RIVERSIDE
RIALTO CA 92377
(714) 822-6000

Change Address To: ROBERT C BURLINGAME
FLYING B RANCH
2900 LAWYER CREEK RD
KAMIAH ID 83536
(208) 935-0755

2. Accompanied by: JOSEPH PETERSON, Operations Manager, and
DAVE PIRNIE, employee
Phone No: (208) 935-0755
Address: 2900 LAWYER CREEK RD, KAMIAH ID 83536
Relationship to Permit Holder: Employees

3. SOURCE TRIBUTARY
LAWYER CREEK CLEARWATER RIVER

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:**

LAWYER CREEK SE¼SE¼ Sec. 14, Twp 33N, Rge 02E, B.M. LEWIS County

Method of Determination: GPS, Map, Aerial Imagery

Note: POD developed in different location than permitted

2. PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
33N	02E	12													4.8		8.4	9.6	22.8
33N	03E	7								18	15	0.1				16			49.1
33N	03E	8								4.9	3.3	15	19			1.1	22	18	83.3

Total Acres: 155.2

Method of Determination: Visual Inspection, Map, Aerial Imagery (1992)

3. X 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).
X Photo of Diversion and System Attached

D. FLOW MEASUREMENTS

1.

<u>Measurement</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
<u>Equipment</u>						
FlowTracker	ADV	SonTek				July 2008

2. Measurements:

July 28, 2008: 0.33 cfs, flow in ditch, 2 ft upstream from sluice gate, limited by mid-summer low flow conditions

E. FLOW CALCULATIONS

Estimated Method: Manning's Equation, flow capacity of pipeline assuming full pipe conditions which would likely occur during spring and early summer runoff on Lawyer Creek.

12 inch-diameter aluminum pipe, $A = 0.785 \text{ ft}^2$, $WP = 3.14 \text{ ft}$, $n = 0.013$

Conservative/minimum slope derived from topographic map, $S = 40'/3000' = 0.0133$

(Actual slope of closed conduit system may be even greater)

$$V = \frac{1.49(R^{2/3})(S^{1/2})}{n} = \frac{1.49(0.3967)(0.115)}{0.013} = 5.23 \text{ ft/s}$$

$$Q = vA = (5.23 \text{ ft/s})(0.785 \text{ ft}^2) = 4.11 \text{ cfs}^*$$

*Flow rate limited by Permit, 3.10 cfs $\rightarrow 155.2 \text{ acres} \times 0.02 \text{ cfs per acre} = 3.10 \text{ cfs}$

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 155.2 \text{ ac} \times 3.0 \text{ af/ac} = 465.6 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 3.10 \text{ cfs} \times 245 \text{ days} \times 1.9835 = 1,506 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 465.6 \text{ af, rounded to 3 significant figures} = 466 \text{ af}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS

Permit No. 85-7444 was issued on September 28, 1987, authorizing the development of a water right from Lawyer Creek for irrigation of 175 acres of land at Flying B Ranch. On December 10, 1990, the permit holder submitted a proof of beneficial use statement. According to employees of Flying B Ranch, it was a working cattle ranch at the time the permit was developed. Water from Lawyer Creek was used for irrigation to produce hay. In approximately 1994, the ranch was converted to a game and hunting preserve. Flying B Ranch operates in a similar capacity today under the same name.

Employees of Flying B Ranch explained that water right 85-7444 was developed and used until the storm and ensuing flood of New Years Day 1997. The flood damaged most of the irrigation pipeline that had lain along and crossed Lawyer Creek at multiple locations.

The extent of beneficial use established under this right is evident in the black and white aerial imagery taken in 1992 (Attachment 1). Although the imagery shows the land after the authorized development period, it remains the best available information to determine the extent of beneficial use developed under the permit. The GIS shapes for this right were drawn using the 1992 imagery to delineate the irrigated lands for a total of 155.2 acres. A map using 2009 imagery as the background is included with this report to provide a true color illustration (Attachment 2).

The diversion works for this right are still mostly intact (Figures 1 and 2). An earth and tarp dam across Lawyer Creek diverts water into a 50 foot long ditch, through a mechanical sluice gate to remove debris, then into a 12 inch diameter pipeline that carries water to the place of use. At the

time of the field exam, the point of diversion was disconnected from most of the pipeline. According to Flying B Ranch employees, the pipeline, when in use, gradually reduced in size from 12 inches, to 10 inches, to 8 inches, and finally to 6 inches. The pipeline crossed Lawyer Creek multiple times in the process with cable suspension systems (Figure 3). The pipeline was a closed system used to convey water to wheel lines with impact sprinklers. Approximately three wheel lines were used at a time to irrigate the "upper flat" and the "lower flat" in sections (Figures 4 and 5). Reportedly, a Flying B Ranch employee once measured the sprinkler head pressure at 125 psi when in use. Some sprinklers (Figure 6) on the lower flat would have been under more than 200 feet of head when the system was operational. Most of the pipeline damaged during the flood remains in a storage yard at the ranch. Some of the wheel lines and sprinklers remain in place although not in use since the 1996 irrigation season. A simplified diagram of the irrigation system is included with this report (Attachment 4).

Currently, the ranch uses ground water for domestic purposes at the office and shop, for irrigation of trees and turf grass near the office, and to maintain a private fishing pond (Figures 8 and 9). Application for permit no. 85-15683 was filed by Camas Prairie Properties for the use of ground water at the ranch.

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

The application for permit indicated that water would be diverted from Lawyer Creek by pumps adjacent to the place of use, not by gravity at an upstream location. The permit was issued accordingly with a condition requiring a flow measurement port or other device that would allow the Department to measure the diversion rate. Since the diversion is gravity driven and a straight ditch upstream from the sluice gate allows for measurement of the diversion rate, this condition of permit approval has been met.

A licensing amendment is necessary to correctly describe the point of diversion and place of use developed under this right. The license, when issued, should reflect the current Department standard season of use for the area, March 15 through November 15.

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/15 to 11/15	3.10 CFS	466 AF
<u>Totals:</u>		3.10 CFS	466 AF

2. Recommended Amendments

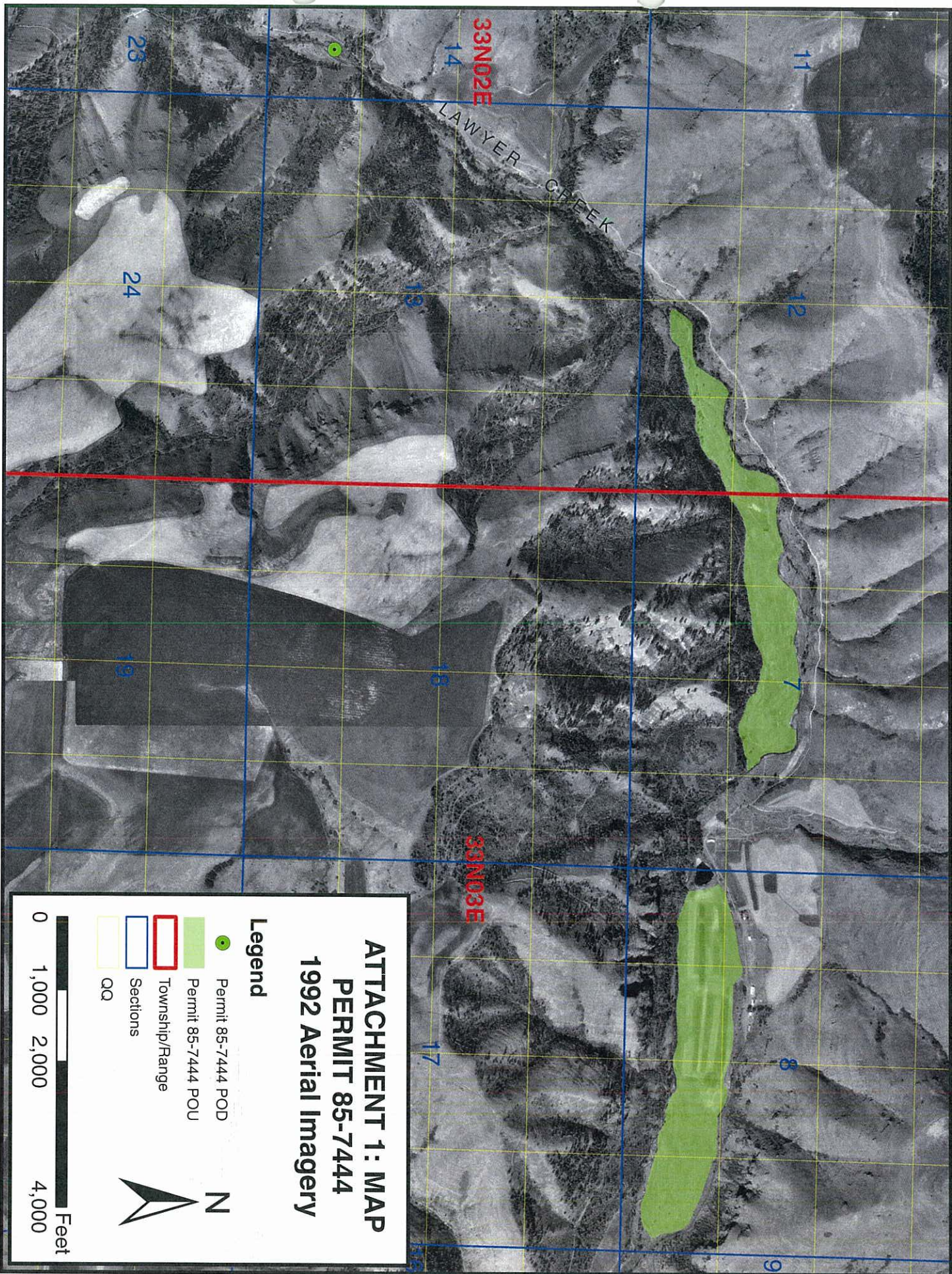
☒ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

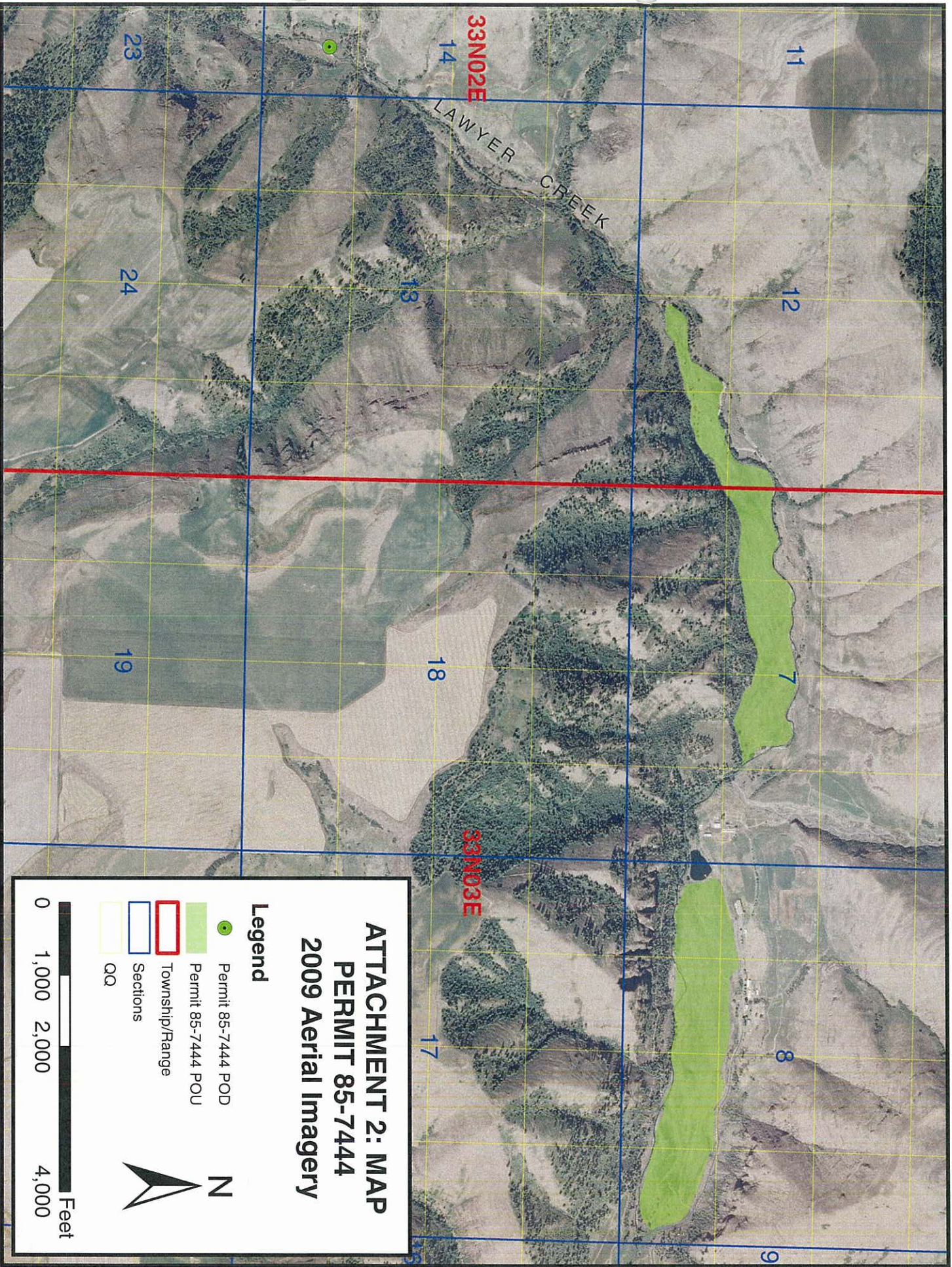
☒ Change P.U. as reflected above ☒ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Aaron Marshall Date December 29, 2009

Reviewer  Date 12/29/2009





ATTACHMENT 2: MAP
PERMIT 85-7444
2009 Aerial Imagery

Legend

-  Permit 85-7444 POD
-  Permit 85-7444 POU
-  Township/Range
-  Sections
-  QQ



0 1,000 2,000 4,000 Feet

ATTACHMENT 3: PHOTOGRAPHS



Figure 1: Point of diversion from Lawyer Creek, earth and tarp diversion dam.



Figure 2: Inactive sluice gate and 12"-diameter pipeline.



Figure 3: Location of former pipeline-crossing at Lawyer Creek via suspension cable system.



Figure 4: Place of use commonly referred to as "upper flat", view facing upstream (west).

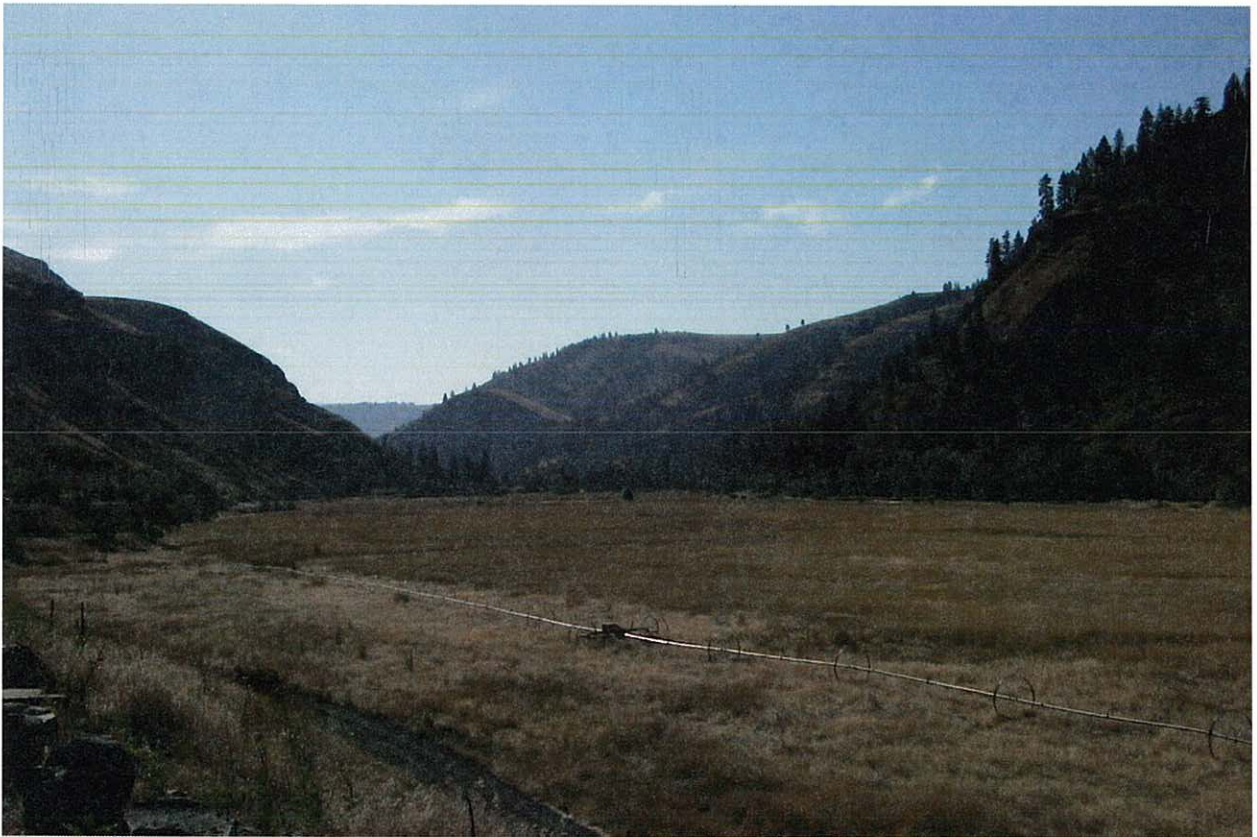


Figure 5: Place of use commonly referred to as "lower flat", view facing downstream (east).



Figure 6: Typical sprinkler head installed on wheel line, Rainbird 30H.



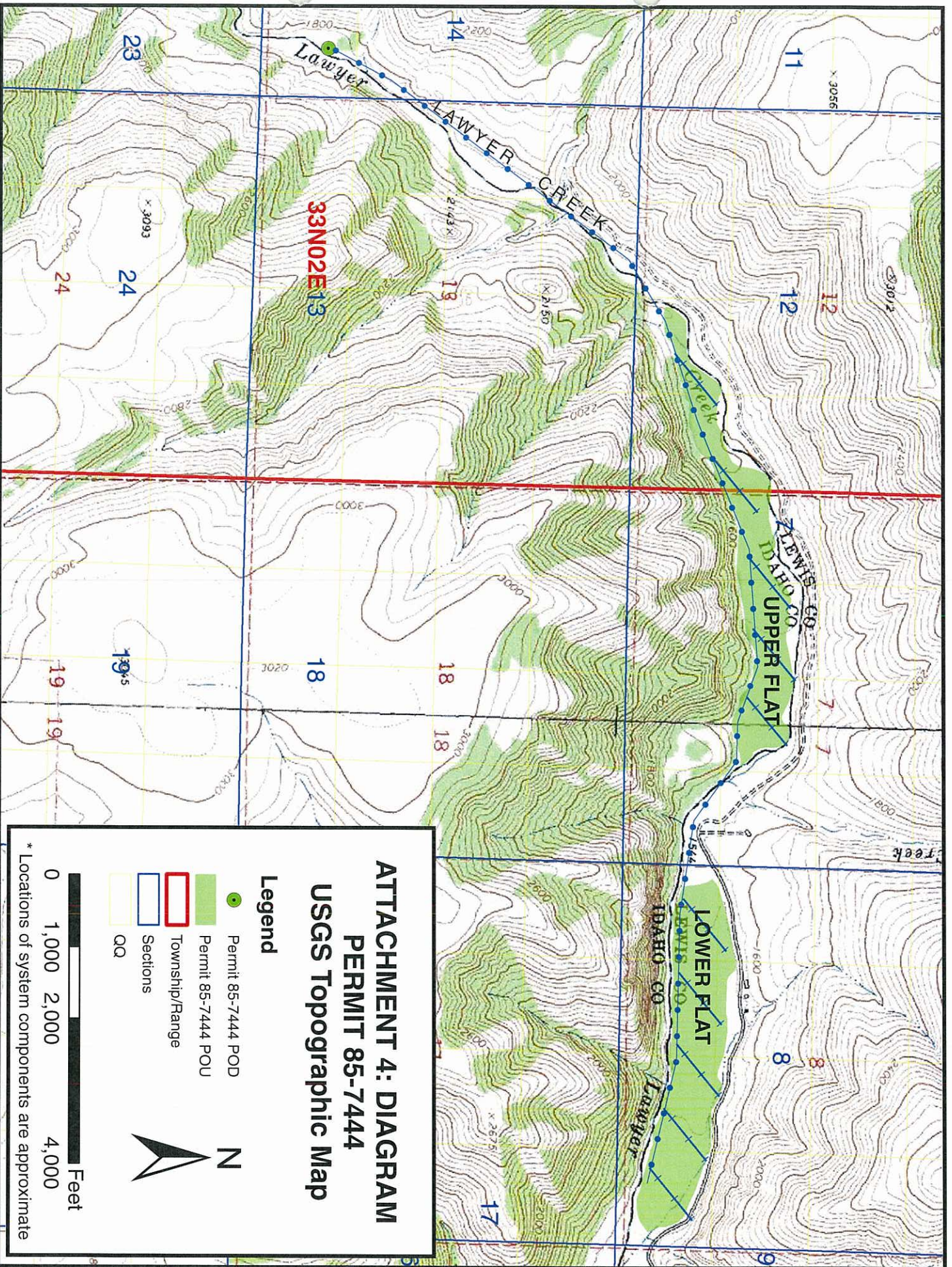
Figure 7: Dormant wheel line sprinkler system at “lower flat”, view facing east.



Figure 8: Flying B Ranch, fishing pond, and irrigated turf grass near office and pond.



Figure 9: Flying B Ranch office and irrigated lawn.



ATTACHMENT 4: DIAGRAM PERMIT 85-7444 USGS Topographic Map

Legend

- Permit 85-7444 POD
- Permit 85-7444 POU
- Township/Range
- Sections
- QQ



* Locations of system components are approximate