

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 71-10910

Exam Date: 8/23/2011

1. Current Owner: STATE OF IDAHO
DEPT OF FISH & GAME
600 S WALNUT
BOISE ID 83707
(208)334-3700
2. Accompanied by: Corey Skinner (IDWR)
Phone No:
Address:
Relationship to Permit Holder:

3. **SOURCE**

FOURTH OF JULY CREEK

TRIBUTARY

SALMON 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: 71-33A, 71-33B, 71-33C, 71-33E, 71-34A, 71-34B, 71-34C, 71-34D, 71-34E, 71-34F, 71-34G, 71-35A, 71-36C, 71-37B, 71-37C, 71-10763.

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

FOURTH OF JULY CREEK

SW1/4NE1/4NE1/4

Sec. 12, Twp 08N, Rge 14E, B.M.

CUSTER County

Method of Determination: Field observation and IDWR spatial data point

2.

PLACE OF USE: FISH PROPAGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
08N	14E	12	<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>	
			X																

Method of Determination: Field observation, GPS, and IDWR GIS

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

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

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
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None taken

2. Measurements: Diameter of orifice was measured at 4 inches and the amount of head above the center of the orifice was measured at 32 inches. However a high water mark on the fish screen structure was measured from the center of the orifice at 38 inches

E. FLOW CALCULATIONS

_____Additional Computation Sheets Attached

Measured Method:

Discharge from a tank through an orifice (see attached 8/24/11 memo for formula and orifice coefficient)

$$Q = C_d A_o (2gh)^{1/2} \quad \text{where } C_d = 0.67 \text{ coefficient of discharge}$$

$$A_o = \text{Area of orifice opening}$$

$$g = 32.2 \text{ ft per second}^2$$

$$h = \text{measured head above center of orifice opening (in feet)}$$

Orifice is a 4 inch diameter hole so $A_o = \pi r^2 = \pi (2 \text{ inch})^2 = 12.566 \text{ inch}^2 = .087 \text{ ft}^2$

h was measured at 38 inches (to high water mark) = 3.167 feet

$$Q = (0.67)(0.087)[2(32.2)(3.167)]^{1/2}$$

$$Q = 0.83 \text{ cfs}$$

Permitted at 0.80 cfs, recommend a flow of 0.80 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

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

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

2. Volume Calculations for Other Uses:

$$V = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.80 \text{ cfs})(184 \text{ days})(1.9835) = 291.97 \text{ afa (292.0 afa)}$$

G. NARRATIVE/REMARKS/COMMENTS

Permit 71-10910 was permitted for the diversion of up to 0.80 cfs from the Fourth of July Creek for use in a fish screen to flush fish back to the creek that would otherwise be trapped between the point of diversion and the fish screen. During the exam it was observed that water was being diverted through the fish screen and water was flowing back to the Fourth of July Creek through a 4 inch orifice, with 32 inches of head above the center of the orifice. However a prominent high water mark of 38 inches above the center of the orifice on the fish screen was measured indicating that additional water had been utilized by the fish screen bypass in the past. Note that permit 71-10910 was permitted with the wrong irrigation season (04/01 to 11/01), when the standard for the area is actually 05/01 to 10/31. It is recommended that the standard irrigation season be licensed for the period of use (05/01 to 10/31). The standard irrigation season of 184 days was utilized in the annual volume calculations.

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>
FISH PROPAGATION	05/01 to 10/31	0.800 CFS	292.0 AF
<u>Totals:</u>		0.800 CFS	292.0 AF

2. Recommended Amendments

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

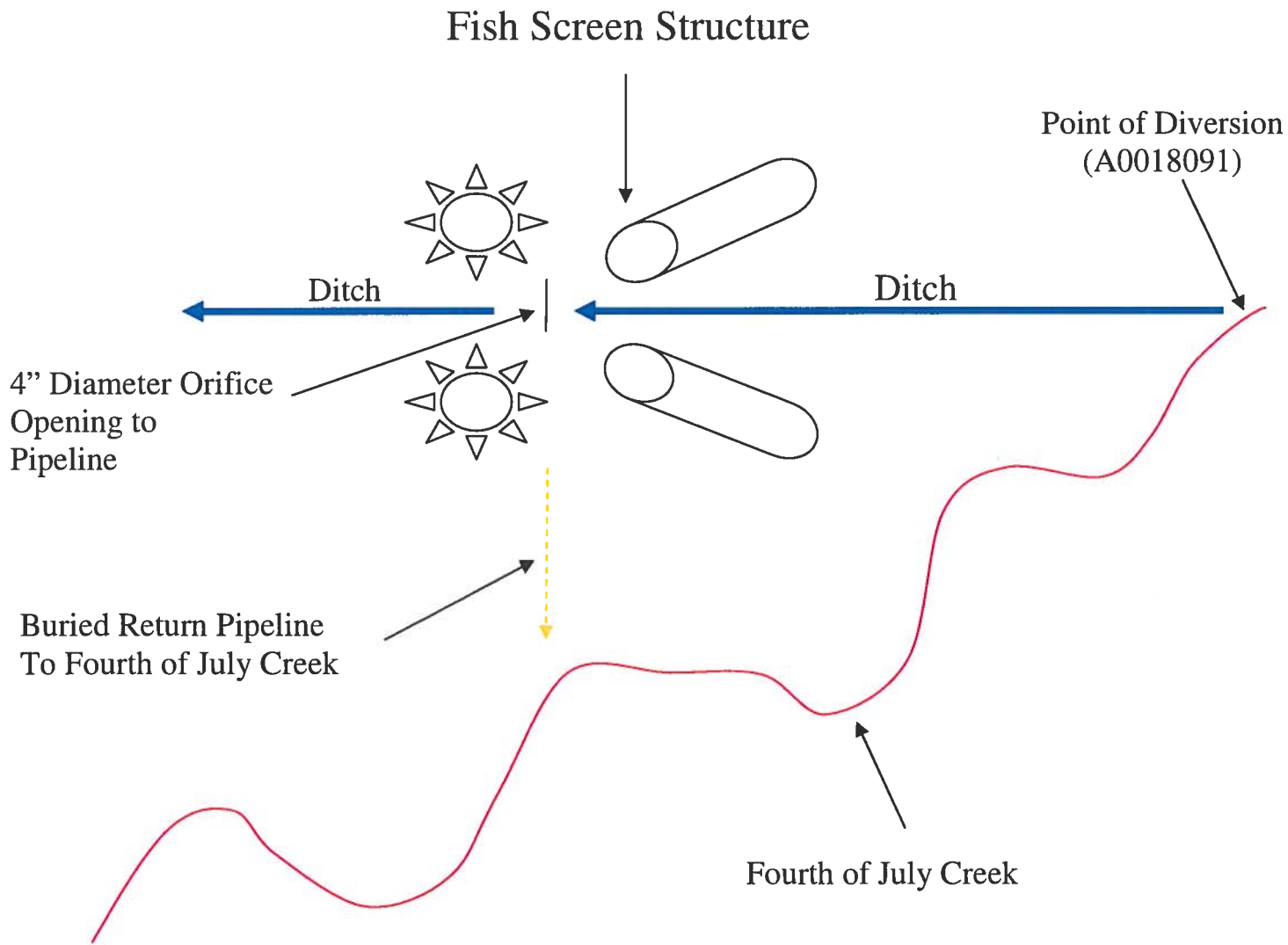
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Benny Walker Date 9/30/11

Reviewer [Signature] Date 10/21/11

System Diagram for 71-10910

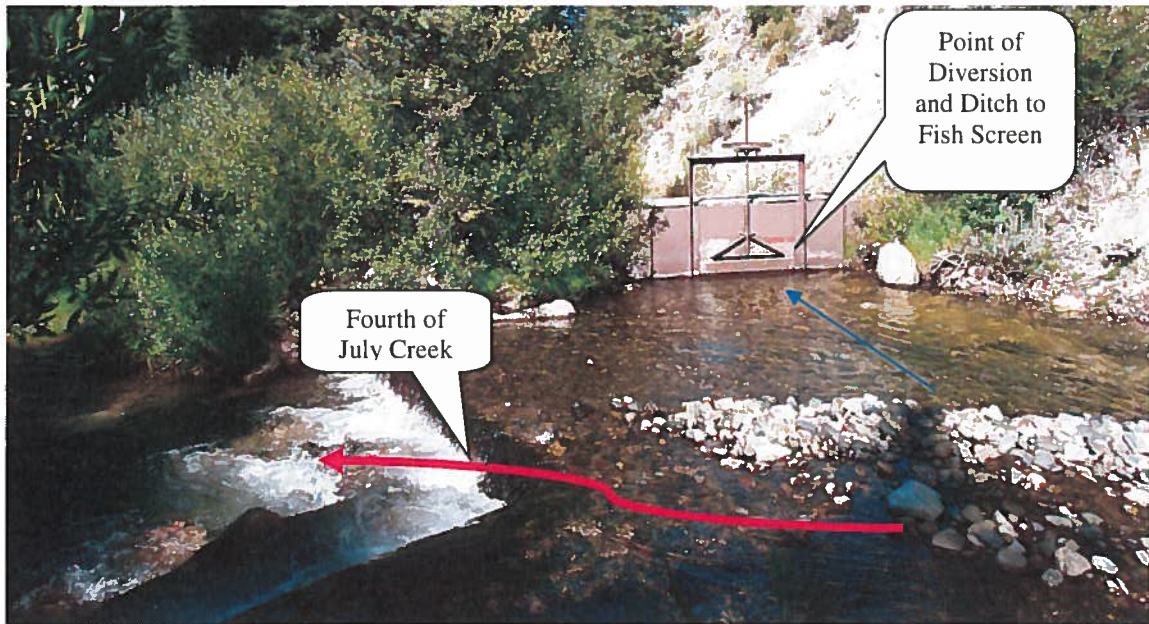


(Diagram Not to Scale)



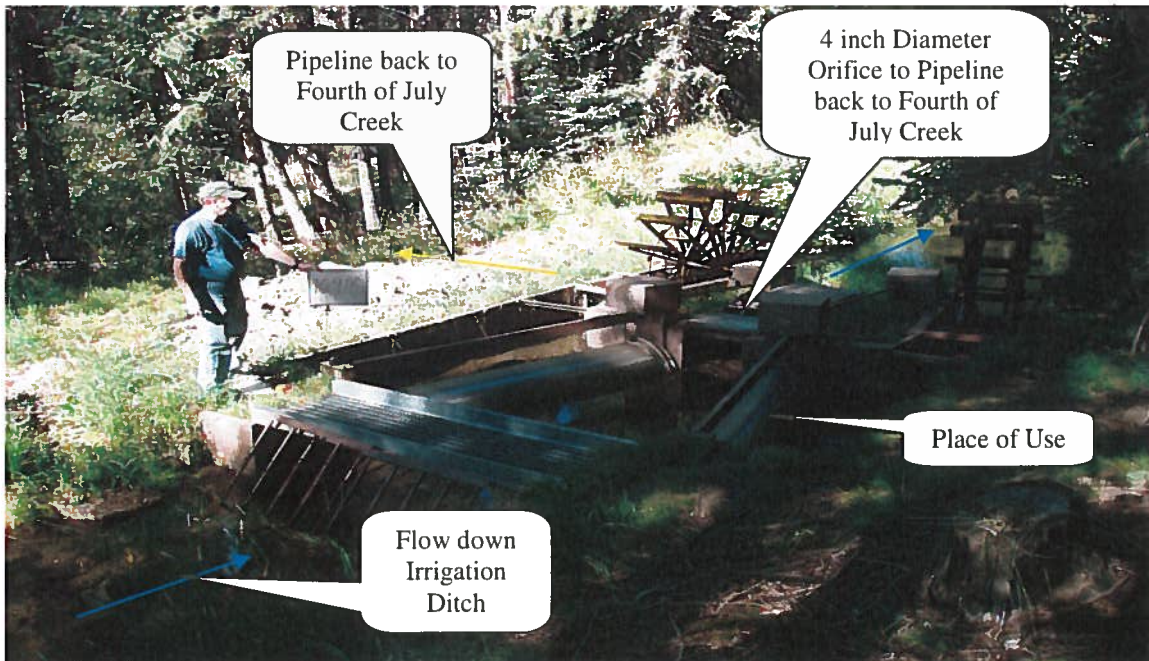
Photos for 71-10910 Field Exam

August 23, 2011

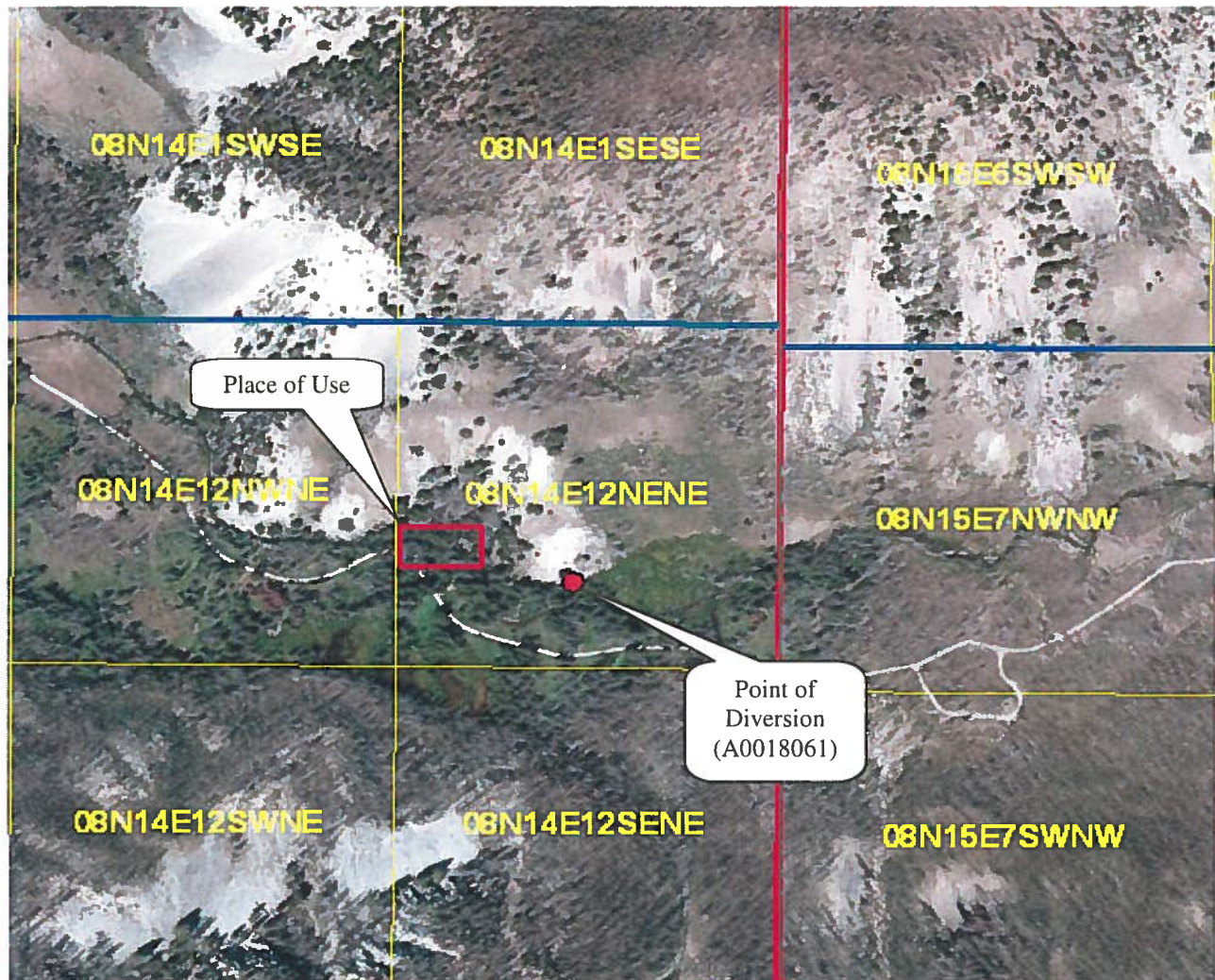


Above: View of Point of Diversion for 71-10910 (site tag # A0018091)

Below: View of Place of Use for 71-10910



71-10910 Field Exam Map



71-10910

5:10:20

POV GPS

4" orifice

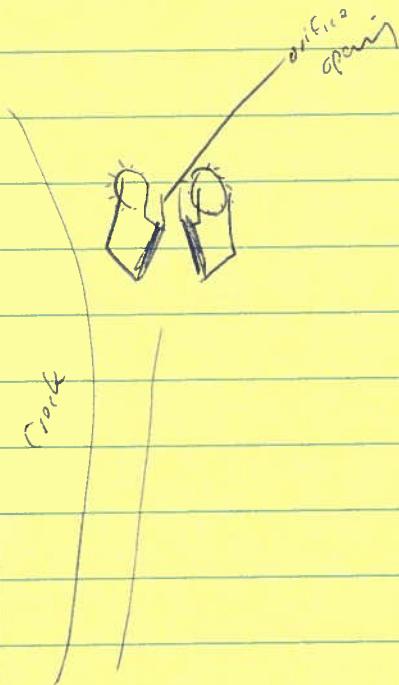
32" head & opening

38" High water mark & open

GPS POV

2439237

1926970



POV

looks closer to road
than 

8) Aug 23, 2011

