

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 71-10909

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: 71-36A, 71-2004C, 71-2004E, 71-4052, 71-10768

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

FOURTH OF JULY CREEK

SE1/4SW1/4SW1/4

Sec. 9, 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
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08N	14E	9											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</u> <u>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</u> <u>Size</u>
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N/A

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

D. FLOW MEASUREMENTS

1.

<u>Measurement</u> <u>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 25 inches. However a high water mark on the fish screen structure was measured from the center of the orifice at 31 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 31 inches (to high water mark) = 2.58 feet

$$Q = (0.67)(0.087)[2(32.2)(2.58)]^{1/2}$$

$$Q = 0.75 \text{ cfs}$$

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:

$$V = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.75 \text{ cfs})(184 \text{ days})(1.9835) = 273.7 \text{ afa}$$

G. NARRATIVE/REMARKS/COMMENTS

Permit 71-10909 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 25 inches of head above the center of the orifice. However a prominent high water mark of 31 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 71-10909 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	0.750 CFS	273.7 AF
<u>Totals:</u>		0.750 CFS	273.7 AF

2. Recommended Amendments

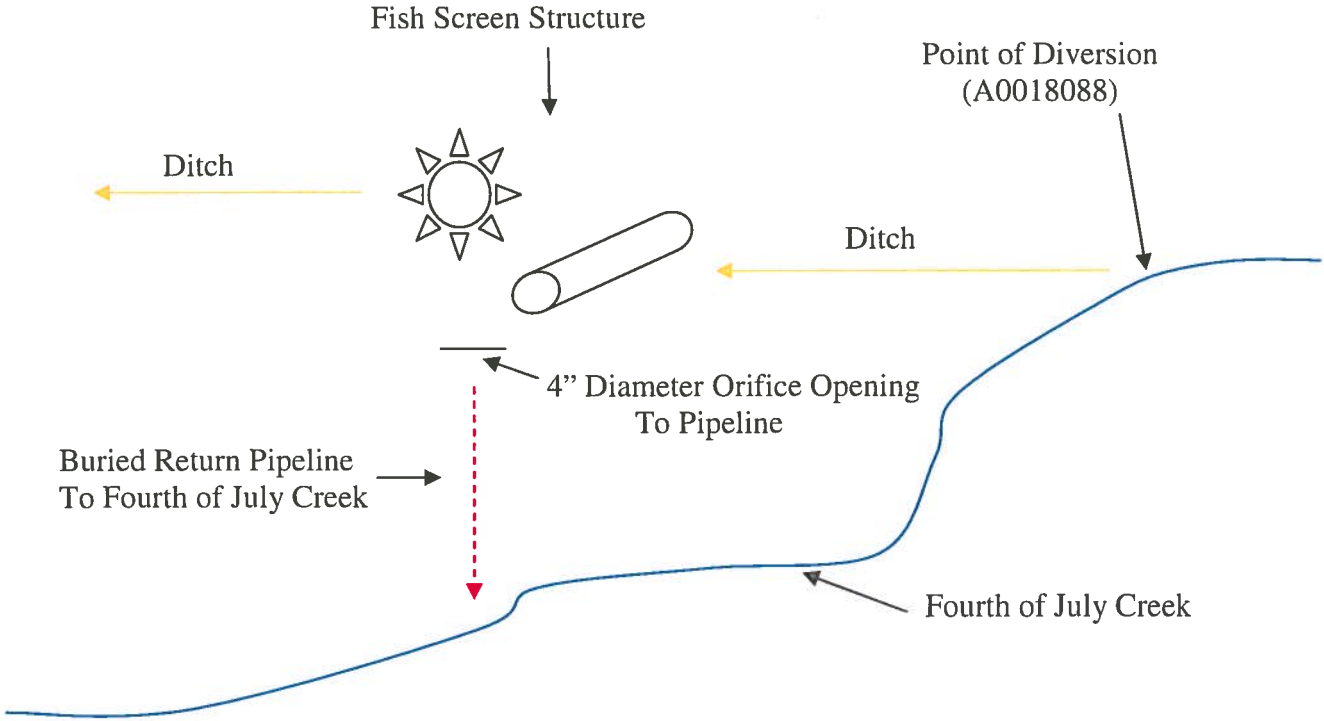
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

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

I. AUTHENTICATION

Field Examiner's Name Bernie Walker Date 10/6/2011
 Reviewer André M. M. M. Date 10/21/11

System Diagram for 71-10909



(Diagram Not to Scale)



Photos for 71-10909 Field Exam

August 23, 2011

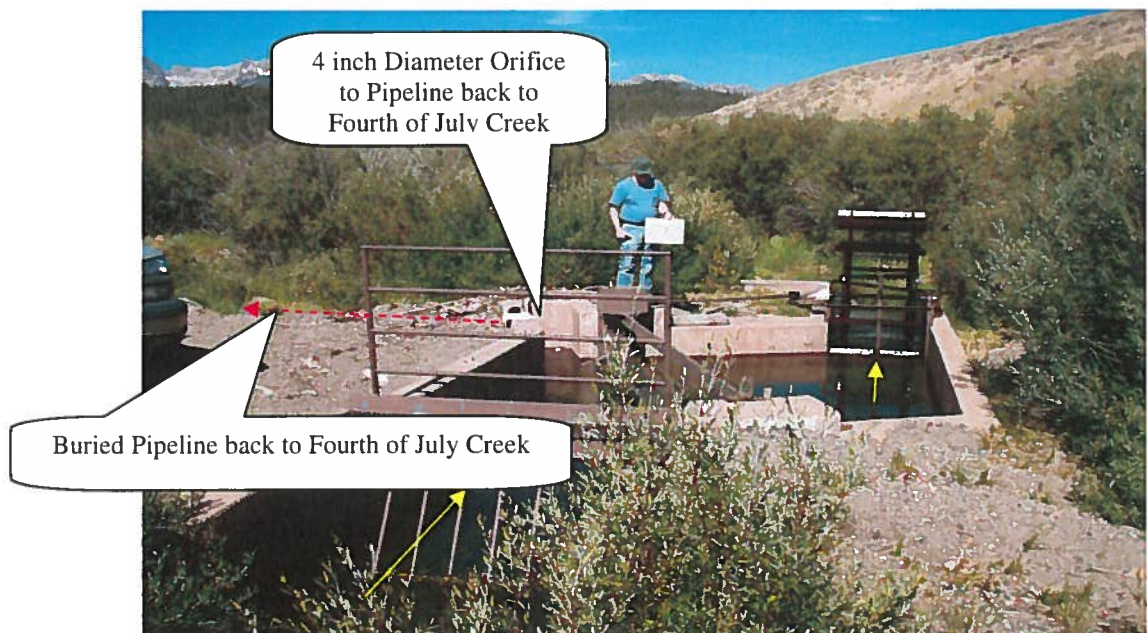


View of Point of Diversion for
71-10909 (site tag #A0018088)

Ditch to Place of Use

Flow down Irrigation Ditch

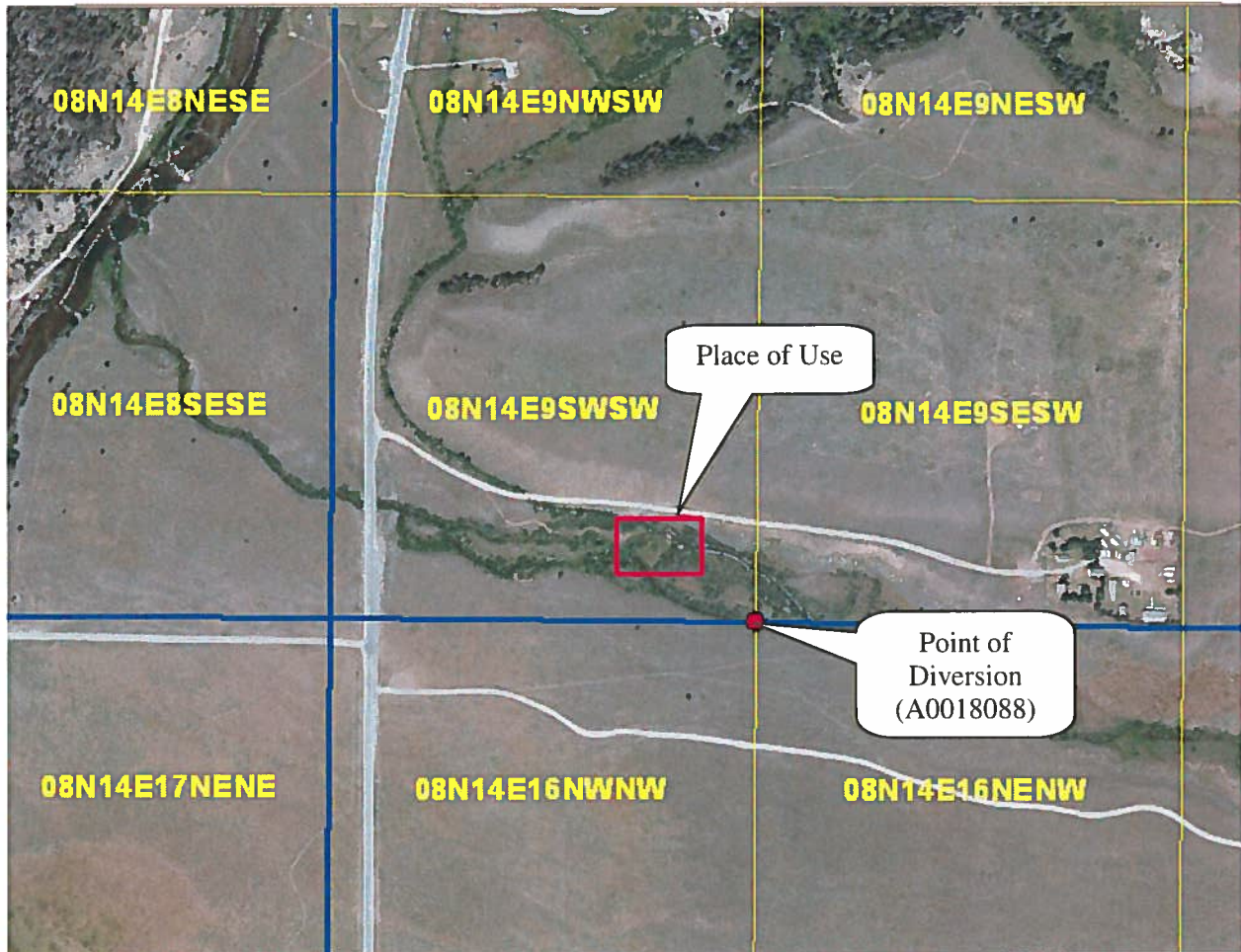
View of Place of Use



4 inch Diameter Orifice
to Pipeline back to
Fourth of July Creek

Buried Pipeline back to Fourth of July Creek

71-10909 Field Exam Map



71-10909

POD tag # A0018088

POU GPS - 2433496
1425766

GPS 2433636
1425675

14 epc

4" orifice

25" of head from E orifice

31" of head to high water mark



acre feet $\times .001$

454971
454974

minutes
3:12 seconds

25.5"
head E of
orifice

~~454977~~

454977
454979

321 - 192 = 129 seconds
5:21 - 3:12 = time
minutes

71-10909

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Area 18088

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