

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 75-7594

Exam Date: 8/21/2012

1. Current Owner: EDWARD REX TOLMAN
41 CORBETT LN
SALMON ID 83467
(208)756-3015
2. Accompanied by: Ed Tolman
Phone No: (208) 756-3015
Address: 41 Corbett Lane
Relationship to Permit Holder: Permit holder

3. **SOURCE** **TRIBUTARY**
SALMON RIVER SNAKE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 75-14570
2. Other water rights with the same point of diversion: 75-10983

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

SALMON RIVER NW1/4NE1/4 Sec. 6, Twp 20N, Rge 22E, B.M. LEMHI County

Method of Determination:

2.

<u>PLACE OF USE:</u>			IRRIGATION																<u>Totals</u>
<u>Twp</u>	<u>Rge</u>	<u>Sec</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>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
20N	21E	1				.3													.3
20N	22E	6					16.0	9.6	31.0	.6		8.3							65.5
							L 4	L 5	L 6			L 7							
Total Acres:		65.8																	

Method of Determination:

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

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Emerson Motor		75			
<i>Re-lift pump</i>	<i>Marathon Electric</i>	<i>25</i>	<i>4C284TT DP707288L</i>	<i>Burkeley Pumps</i>	<i>M4543</i>

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Thyme Flyte	Polysonic					3/28/2012

2. Measurements:

E. FLOW CALCULATIONSX Additional Computation Sheets AttachedMeasured Method: Thyme Flyte – see attached printout sheetMeasured amount = 1.93 cfsTheoretical amount = 2 cfs (see attachment)

The permit allows 1.4 cfs

66.1 acres X .02 = 1.32 cfs

Total recommend amount: 1.32 cfs**F. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated determined through GIS}) \times (\text{Irrigation Requirement}) = 66.1 \times 3.5 = 231.3$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 1.4 \times 214 \times 1.9835 = 594.25$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 231.3$$

2. Volume Calculations for Other Uses: none

G. NARRATIVE/REMARKS/COMMENTS

A point of diversion in T20N R22E Section 7 NWNE provides water through a slough or drain that flows 1.24 miles north. A second diversion takes water approximately 0.1 miles (580 feet) to the west, northwest to a pump in T20N R22E Section 6 NWNE Gov. Lot 3. The pump pipes water approximately 100 feet up and 1,600 feet (0.31 miles) to the west. From there sprinkler pipe irrigates 66 acres to the southwest of the pump. The mainline runs to the north and west of the field. Hand lines emanate from the mainline. There are approximately 90 sprinklers with nozzle size 9/64.

The source of water for this right appears to be the S16 ditch. This ditch receives water from the Salmon River at the point of diversion but also gains water as it flows down the valley. Waste water

Salmon River at the point of diversion but also gains water as it flows down the valley. Waste water from several fields parallel to the ditch contribute to its flow. The field examiner identified several sloughs both tributary to the Salmon River and diverting from it that could supply water to the S16. The contribution of water from these sources does not change the source from the Salmon River but identifying them may help reconcile the difficulty of identifying the source as being solely from the Salmon River.

The main irrigation water for the fields comes from Perreau Creek, water right 75-10983, approximately 2 miles from the west side of the field. Mr. Tolman identified Perreau Creek as the main source of water above (uphill to the west) Corbet Lane, and the main source of water for the place of use identified by this permit. Below (downhill to the east) Corbet Lane the irrigation water is diverted from the Salmon River and conveyed through the S16 ditch. Perreau Creek water is unavailable late in the season and the Salmon River water replaces it for irrigation. The place of use receives water from Perreau Creek or the Salmon River, not both at the same time.

Have conditions of permit approval been met? Yes X No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 to 10/31	1.300 CFS	230.00 AF
	Totals:	1.300 CFS	230.00 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

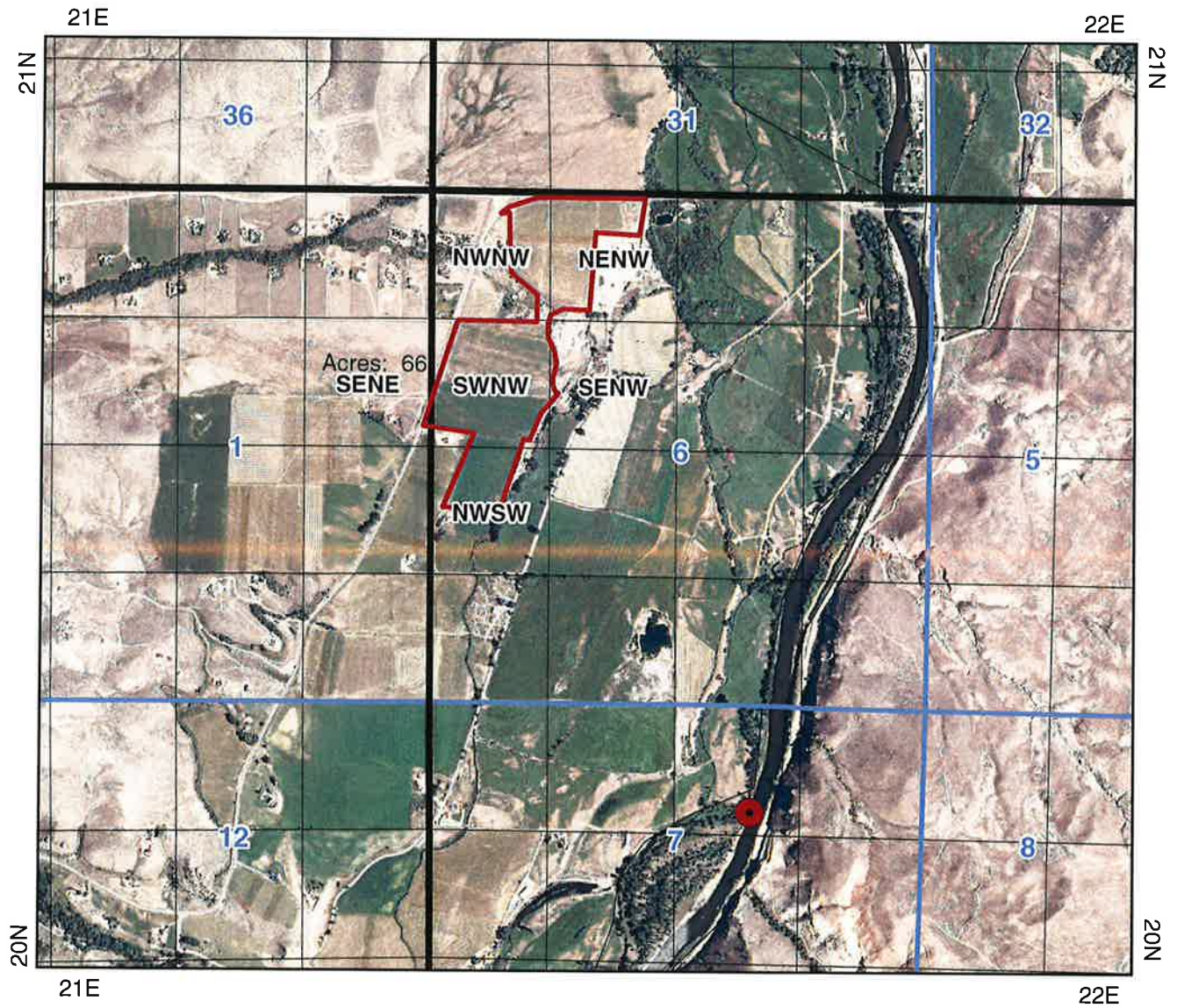
I. AUTHENTICATION

Field Examiner's Name John 6/25 Date 3/21/2013

Reviewer _____ Date _____

State of Idaho
Department of Water Resources
Water Right License
75-7594

This map depicts the IRRIGATION 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.



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



Water Distribution System Water Right 75-7594



A point of diversion in T20N R22E Section 7 NWNE provides water through a slough or drain that flows 1.24 miles north. A second diversion takes water approximately 0.1 miles (580 feet) to the west, northwest to a pump (shown above as a red square) in T20N R22E Section 6 NWNE Gov. Lot 3. The pump pipes water approximately 100 feet up and 1,600 feet (0.31 miles) to the west. From there sprinkler pipe irrigates 66 acres to the southwest of the pump. The mainline is shown above as a black and blue line. Hand lines emanating from the mainline are shown as black lines. There are approximately 90 sprinklers with nozzle size 9/64.

The source of water for this right appears to be the S16 ditch. This ditch receives water from the Salmon River at the point of diversion but also gains water as it flows down the valley. Waste water from several fields parallel to the ditch contribute to its flow. The field examiner identified several sloughs both tributary to the Salmon River and diverting from it that could supply water to the S16. The contribution of water from these sources does not change the source from the Salmon River but identifying them may help reconcile the difficulty of identifying the source as being solely from the Salmon River.

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OUTER DIAMETER
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INNER LUTING
7.40 LINS.

SENSOR MOUNTING
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SENSOR
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8" dia
0.44" x

165.7

165.7

1.93 cfs

1817

454

1.01 cfs

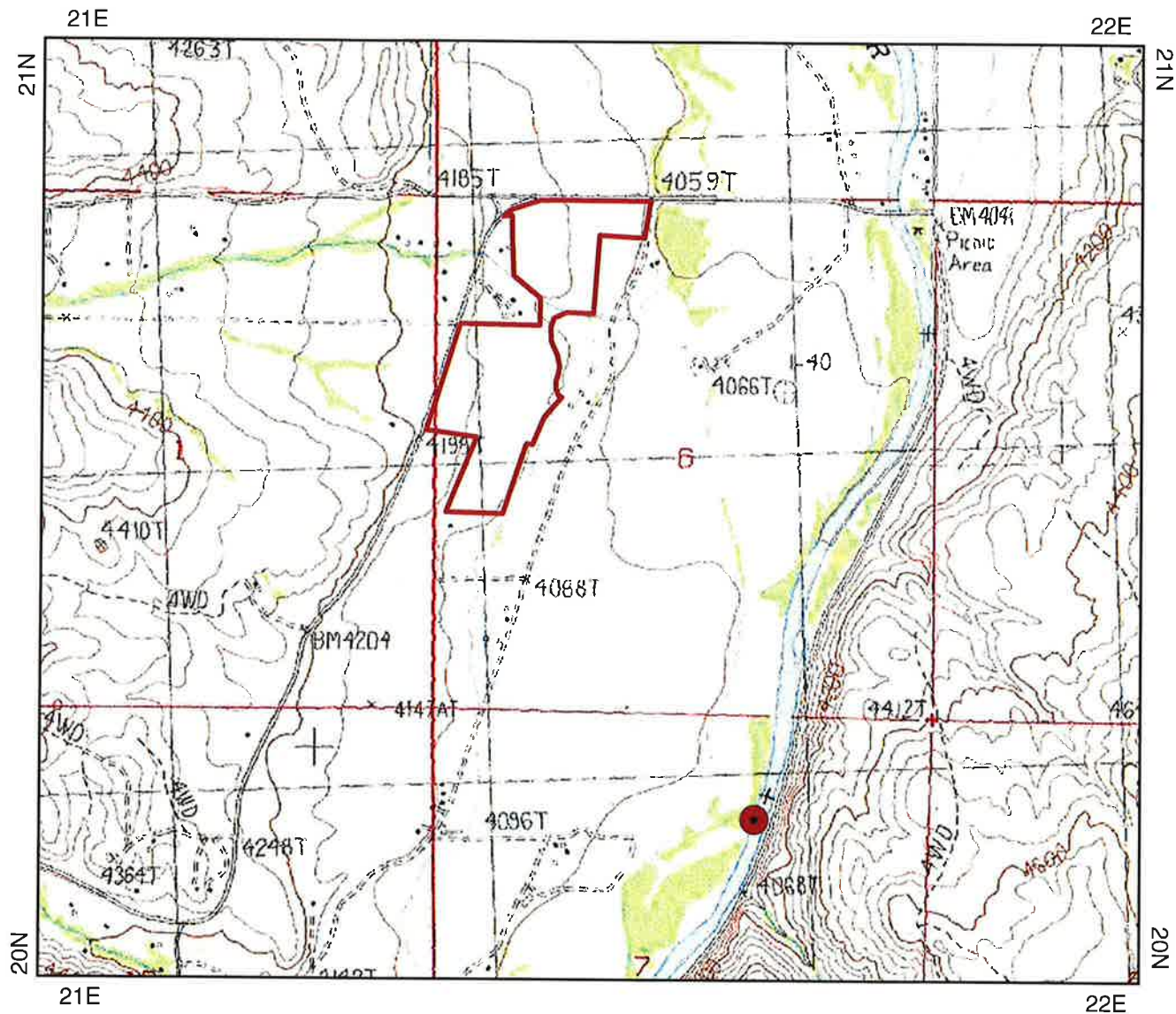
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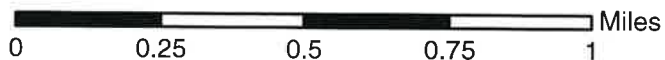
1.01 cfs

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- Point of Diversion
- Place Of Use Boundary



THEORETICAL ANALYSIS

FILE: 75-7594

DATE: March 5, 2013

BY: Sandy Thiel

THEORETICAL RATE OF FLOW: $Q = \frac{(8.8 \times (HP) \times (EFF.))}{TDH}$

Q = CFS

HP = Total Brake Horsepower of pumping plant (including booster)

Eff. = Pumping plant efficiency (assume 70% or 0.70)

TDH = Total dynamic head = [(LIFT) + (PSI X 2.31)]

LIFT = Depth to water in FEET from land surface to pumping water level

PSI = Pumping pressure measured in PSI near pump (if open discharge assume [0])

$$Q = \frac{(8.8) \times (\underline{75}) \times (0.70) = 462}{\underline{\hspace{2cm}}} = \underline{2 \text{ cfs}}$$

$$[(\underline{0}) + (\underline{100} \times 2.31)] = 231$$

LIFT FROM:

Measurement ()

Owner ()

Area estimate ()

Well Logs ()

Observation (X)

PSI FROM:

Measurement ()

Owner (X)

Estimate ()

Owner Gage ()

Booster (N)

NOTES ON PUMP:

See below

REMARKS:

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Emerson Motor		75			
Re-lift pump	Marathon Electric	25	4C284TT DP707288L	Burkeley Pumps	M4543

PHOTOGRAPHER AND DATE OF PHOTOS: Sandy Thiel, August
FILE NUMBER 75-7594



S16 diversion
looking upstream

arrow shows
direction of flow



Channel upstream
from the pump
looking upstream



Pump house
structure looking
west



Pump:
The pipe flows
west up hill



Pipe from pump
looking west



Tag A0017587

The post is located
on the back side of
the pump house
structure

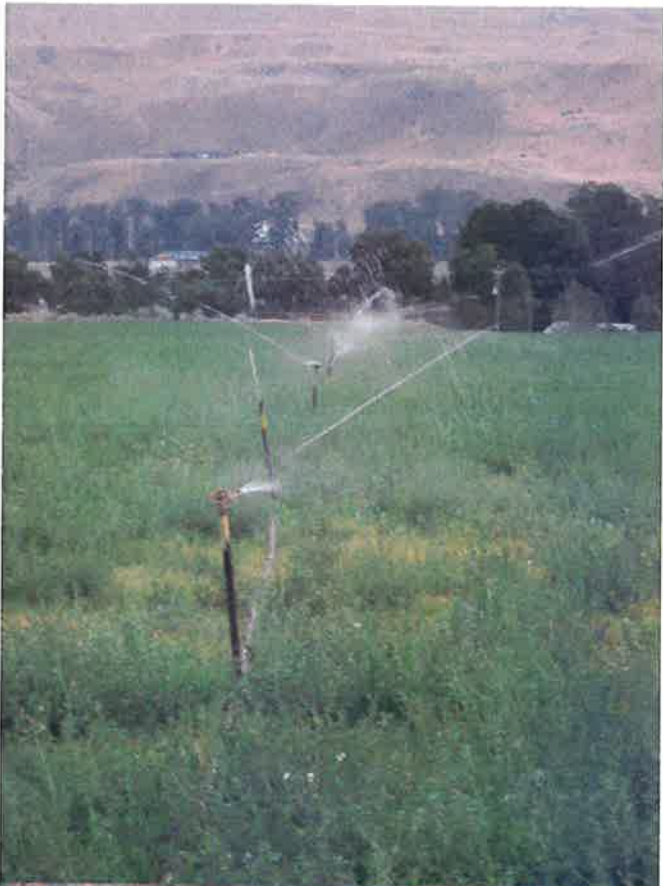
Pump location



These trees can be seen in both photos



These two panoramas show the extent of the irrigated field from the west to the east, northeast.



Hand lines looking east

