

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-13959

Exam Date: 5/7/2014

1. Current Owner: LEON E BERGGREN
PO BOX 126
SWEET ID 83670-0126
(208)584-3662

MARGARET L BERGGREN
PO BOX 126
SWEET ID 83670-0126
(208)584-3662
2. Accompanied by: Leon Berggren
Phone No: Same
Address: Same
Relationship to Permit Holder: Owner

- | 3. <u>SOURCE</u> | <u>TRIBUTARY</u> |
|------------------|------------------|
| TIMBER CREEK | SQUAW CREEK |

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:

TIMBER CREEK NE1/4NE1/4 Sec. 14, Twp 08N, Rge 01E, B.M.
GEM County

Method of Determination: Arc Map (Aerial Photo)

- 2.

PLACE OF USE: IRRIGATION

[illegible]

Total Acres: 1.2

PLACE OF USE: IRRIGATION FROM STORAGE

[illegible]

IRRIGATION STORAGE same as IRRIGATION FROM STORAGE
DIVERSION TO STORAGE same as IRRIGATION FROM STORAGE

Method of Determination: Arc Map (Aerial Photo); Tax Lots.

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>
N/A	N/A	N/A	N/A	N/A	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>
Cipolletti						
Weir						

2. Measurements: $Q = 3.367Lh^{3/2} = 3.367(0.70)(0.02)^{3/2} = 0.007 \text{ cfs} \sim 0.01 \text{ cfs}$

L = 0.70'
H = 0.02'

Note: Weir structure constructed in soil channel, not in concrete channel. Therefore, assume low flow measurement due to seepage losses in soil walls and leakage around the weir. With a 12" inlet pipe, right holder is able to divert the permit diversion rate of 0.06 cfs.

E. FLOW CALCULATIONS

____ Additional Computation Sheets Attached

Measured Method: (Theoretical Horsepower Equation – Irrigation Pump in Storage Pond)

$$Q = 8.8 \times 0.7 \times 1/10 + (2.31 \times 30) = 6.16/79.3 = 0.08 \text{ cfs}$$

$$Q(\text{theoretical}) = 0.08 \text{ cfs} > 0.06 \text{ cfs } Q(\text{permit})$$

HP = 1
Z = 10' (Estimated)
P = 30 psi (Assumed)

Appears that the 12" concrete inlet pipe and the current pumping system can attain the permit diversion rate of 0.06 cfs. However, the right holder only irrigates approximately 1.2 acres of pasture area, not 2.0 acres as stated on the permit. Recommend a maximum allowable diversion rate of 0.04 cfs to irrigate 1.2 acres of pasture area.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.2 \times 4.5 = 5.4 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.04 \times 231 \times 1.9835 = 18.3 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 5.4 \text{ AFA}$$

2. Volume Calculations for Other Uses: (Irrigation Storage Pond)

Pond Surface Area – 0.23 ac.

Maximum Pond Depth = 12'

$$V(r) = 0.23 \text{ ac.} \times 12 \text{ feet} = 2.8 \text{ AFA}$$

$$V(d) = 0.90 \text{ AFA} < 2.8 \text{ AFA } V(r)$$

Recommend the permit volume – 0.90 AFA

G. NARRATIVE/REMARKS/COMMENTS**WATER SUPPLY SYSTEM:**

Surface water from Timber Creek is diverted through a short section of 12" concrete pipe constructed in a concrete headwall. A lockable 12" slide gate controls the diversion rate from Timber Creek. A Cipolletti Weir has been installed downstream of the discharge end of the 12" concrete pipe. Water is discharged over the weir to a deep pool. Water is conveyed through a submerged 8" PVC pipe for discharge to an irrigation storage pond. The 0.23 acre irrigation storage pond stores water for the right holder to irrigate approximately 1.2 acres of pasture area for livestock. The storage pond has an 8" CMP overflow pipe which diverts excess water back to Timber Creek.

IRRIGATION SYSTEM:

A 1-hp centrifugal pump diverts water from the storage pond through a 1 1/2" PVC suction line. Water is discharged through 2" flexible hose for flood irrigation of the pasture areas.

OVERLAP ANALYSIS:

Point of Diversion: There are no point of diversion overlaps for Water Right Permit No. 65-13959.

Place of Use: There are no place of use overlaps for Water Right Permit No. 65-13959.

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

CONDITION NO. 2 (01J) – Prior to diversion of water under this right, the right holder shall install and maintain a measuring device and lockable controlling works. The metal frame of the slide gate and the slide gate contain holes in which to lock the slide gate with a pad lock or combination lock. A Cipolletti Weir has been installed by the right holder for flow measurement. The right holder is in compliance with Condition No. 2.

RATE &/OR STORAGE RECOMMENDED FOR LICENSING

Description	Rate of Flow (cfs)		Storage (af)
Permit Amount	0.06	&/or	0.90
Beneficial Use Limit	0.04	&/or	N/A
System Measurement	0.08(theoretical)	&/or	2.8
Proof Fee Amount	0.20	&/or	20.0
Recommended Amount	0.04	&/or	0.90

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 10/31	0.040 CFS	5.40 AF
IRRIGATION STORAGE	01/01 to 12/31	N/A	0.90 AF
IRRIGATION FROM STORAGE	03/15 to 10/31	N/A	0.90 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.040 CFS	N/A
<u>Totals:</u>		0.040 CFS	6.30 AFA

2. Recommended Amendments

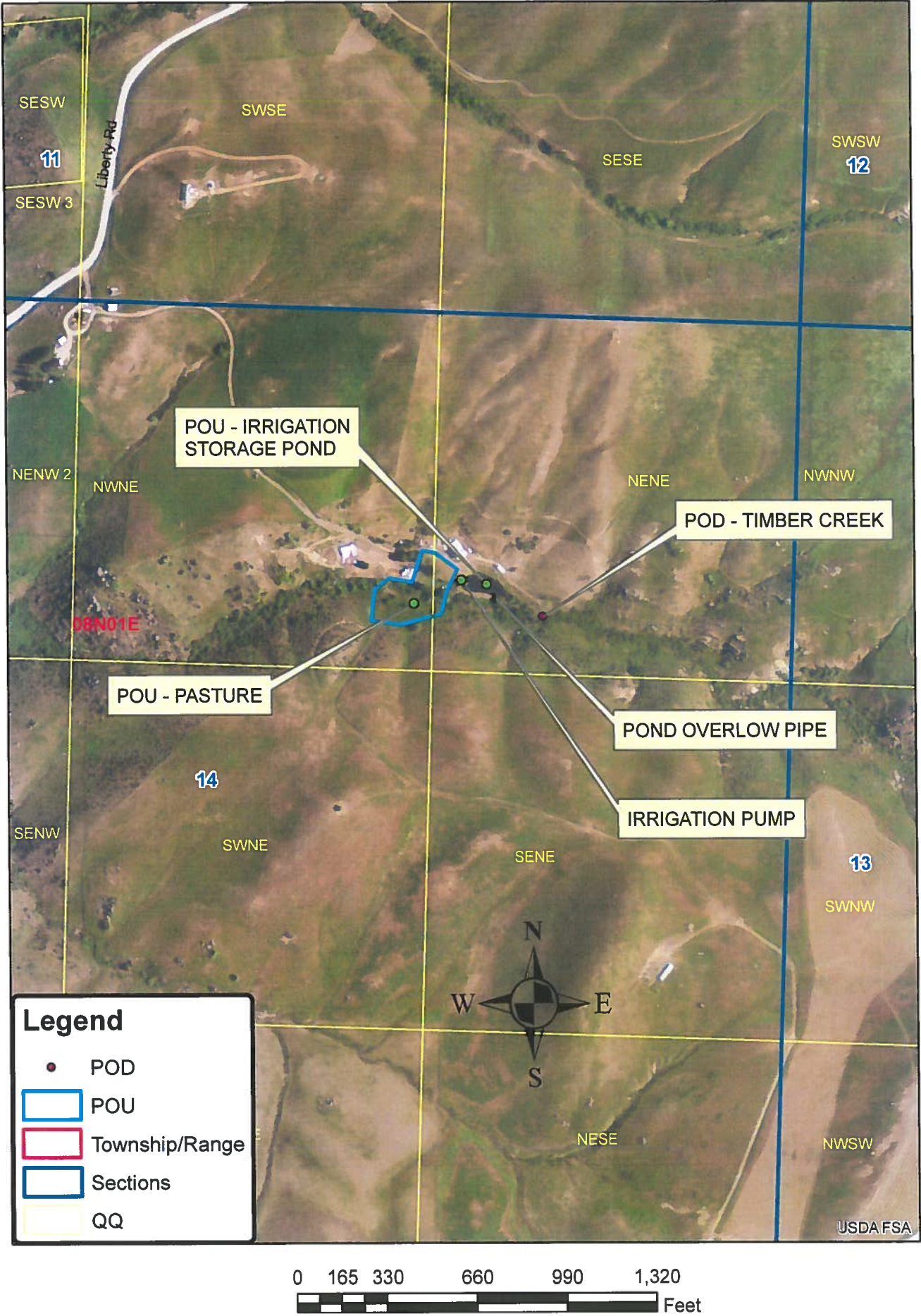
___ Change P.D. as reflected above ___ Add P.D. as reflected above ___ None

___ Change P.U. as reflected above X Add P.U. as reflected above ___ Other

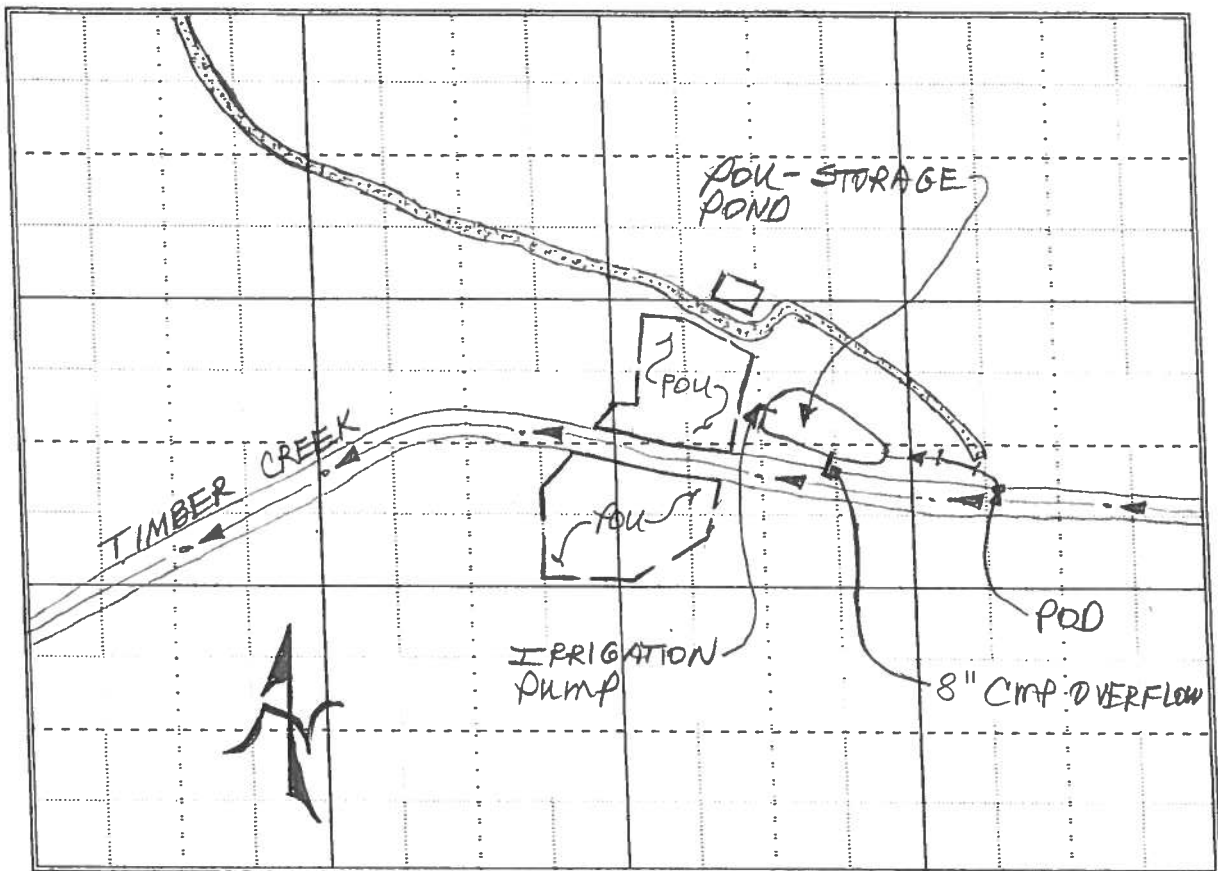
I. AUTHENTICATION

Field Examiner's Name Rick Collingwood Date 5-21-14

Reviewer _____ Date _____



3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.



Scale: 1" = NTS

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
- ☒ Aerial photo attached (required for irrigation of 10+ acres)
- ☒ Photo of diversion and system attached

FIELD EXAM PHOTOS

Water Right Permit: 65-13959

Field Exam Date: 5-7-14

PLS: NW1/4, NE1/4 Section 14, T.08N, R.01E

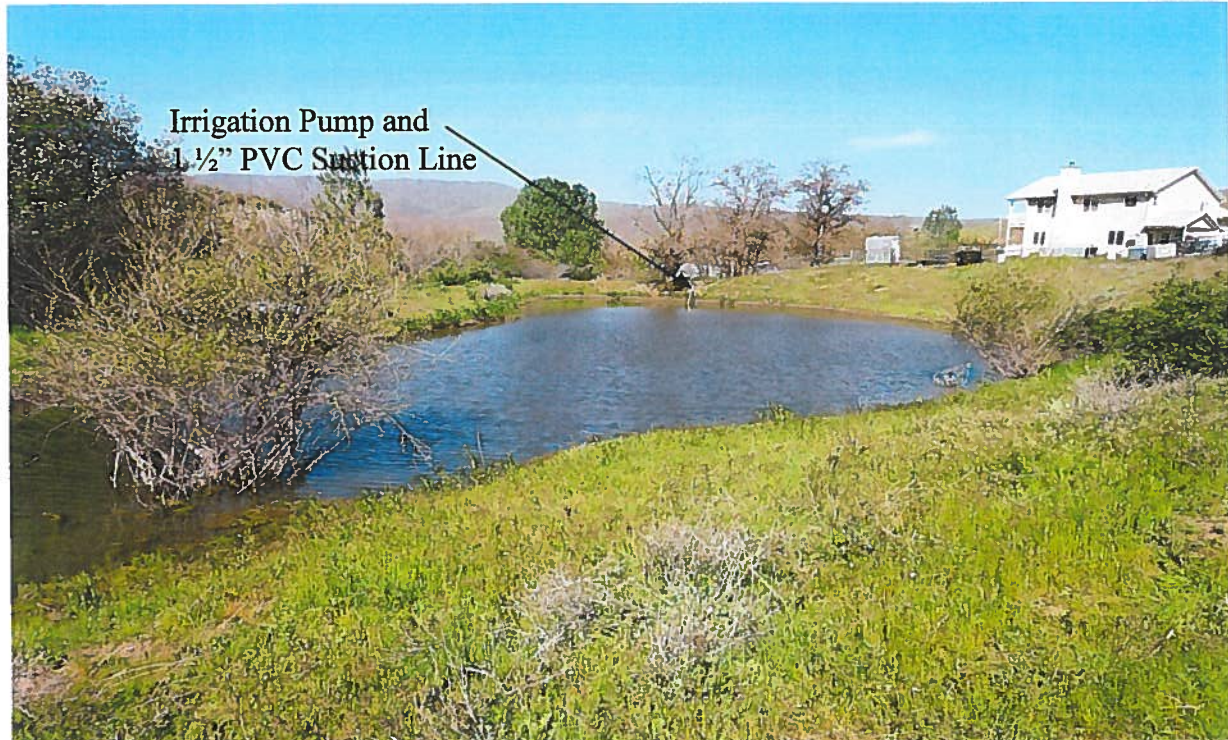
Field Examiner: RC



Point of Diversion: View westerly of the concrete diversion structure and 12" slide gate. Water is conveyed through a 4' section of 12" concrete pipe to a concrete channel containing a Cipolletti weir for flow measurement.



View southerly of the Cipolletti weir and water diverted from Timber Creek discharging through the 4' section of 12" concrete pipe. A section of 8" PVC pipe conveys water from the pool downstream of the weir to an irrigation storage pond.



Place of Use: View westerly of the irrigation storage pond. The pump and 1 1/2" PVC suction line is located at the west end of the storage pond.



View southeasterly of the 8" CMP overflow pipe located on a dike between the storage pond and Timber Creek.



View easterly of the 1-HP centrifugal pump and 1 1/2" PVC suction line. Water is conveyed through a 2" flexible hose for flood irrigation of pasture land.



Place of Use: View northwesterly of pasture land flood irrigated by the right holder.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: www.idwr.idaho.gov

June 27, 2014

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

LEON E BERGGREN
And MARGARET L BERGGREN
PO BOX 126
SWEET ID 83670-0126

RE: Water Right Permit No. 65-13959

Dear Permit Holders:

The Department of Water Resources is reviewing the permit referenced above prior to issuing a water right license. By issuing a license, the Department confirms the extent of development that has been established in compliance with the terms of the permit. The examiner who verified your water use reported that certain elements of the permit have been developed differently than described on your permit. Changes that do not increase the authorized use of water under the permit can be requested and approved in accordance with Section 42-211, Idaho Code. Before a license can be issued, your permit must be amended to depict your water use as it was actually developed.

Based on the examiner's report, the following elements were developed differently than described on your permit:

✓ **Place of Use**

The enclosed Application for Amendment form depicts the elements of the water right as they will appear on the license when it is issued. Please review the amendment form carefully. If you concur with the information presented, please sign the form and return it with the \$100.00 filing fee within 14 days.

If you have any questions, please call me at (208)334-2190.

Sincerely,

KAY WALKER
Sr. Water Resource Agent

Enclosures: Amendment Application & Layout



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way, Boise, Idaho 83705-5082

PHONE: (208) 334-2190 FAX: (208) 334-2348 www.idwr.idaho.gov

C.L. "BUTCH" OTTER, Governor
April 21, 2014

GARY SPACKMAN, Director

Leon E. & Margaret L. Berggren
P.O. Box 126
Sweet, ID 83670-0126

RE: Scheduling Field Exam for Water Right Permit No. 65-13959

Dear Permit Holder:

The Idaho Department of Water Resources (IDWR) is planning to conduct water right field examinations in the vicinity of the above-referenced permit **during the week of May 12**. An examination is needed to verify water use(s) developed under the permit in order to issue a water right license.

Your permit authorizes the diversion of surface water from Timber Creek for irrigation and irrigation storage. If you developed a beneficial use of water and still own the place of use property identified in the permit, please contact me at your earliest convenience to schedule an examination.

If you developed a beneficial use of water under the permit but no longer own the place of use property, please use the enclosed Assignment of Permit form (\$25 fee). This will allow IDWR to work with the new permit owner through the water right licensure process.

A water right license cannot be issued if beneficial use of water was not developed or if use was developed but abandoned. If either of these cases has occurred, please relinquish the permit by using the enclosed Relinquishment of Permit form (no fee required). The permit will be voided if a relinquishment form is not submitted within thirty (30) days. If you no longer own the property and do not assign or relinquish your permit, IDWR will work with the current property owner to issue a license or to void the permit.

Please contact me to schedule a field examination for a day and time that is convenient for you. **Please call me at (208) 334-2190 by May 5 to conduct the field exam during the week of May 12.** If there is a problem with scheduling or conducting the field examination at this time, please let me know so we can reschedule.

Please call me at (208) 334-2190 if you have any questions. I appreciate your attention to this matter and look forward to hearing from you.

Sincerely,

Rick Collingwood, P.E.
Staff Engineer

Enclosure: Relinquishment and Assignment of Permit Forms