

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-22895

Exam Date: 6/18/2013

1. Current Owner: GLENN E HIGBY
24 APPLE WOOD DR
GARDEN VALLEY ID 83622
(208)462-3280

And/Or

DEANNA F HIGBY
24 APPLE WOOD DR
GARDEN VALLEY ID 83622
(208)462-3280

2. Accompanied by: Glenn Higby
Phone No: Same
Address: Same
Relationship to Permit Holder:

3. SOURCE

MIDDLE FORK PAYETTE RIVER

TRIBUTARY

PAYETTE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 65-22665
2. Other water rights with the same point of diversion: None

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

MIDDLE FORK PAYETTE RIVER

SW1/4NE1/4

Sec. 23, Twp 10N, Rge 04E, B.M.

BOISE County

Method of Determination: Arc Map (Aerial Photo)

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
10N	04E	23	<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>	
					5.5														5.5

Total Acres: 5.5

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	A.O. Smith	1.5	1F04U	Berkeley	2"

*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>
Pitot Tube						

2. Measurements: Pitot Tube sprinkler pressure measurement. Measured operating pressure of 53 psi for Rainbird 30H Brass Impact Sprinklers with 9/64" nozzles. Designed to operate @50psi with 8 sprinklers discharging at 4.20 gpm per sprinkler (Field). $Q = 8 \text{ sprinkler} \times 4.20 \text{ gpm} = 33.6 \text{ gpm} \sim 0.07 \text{ cfs}$.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: (Theoretical Horsepower Equation)

$$Q = 8.8 \times 0.7 \times 1.5/20 + (2.31 \times 53) = 9.24/142.43 = 0.07 \text{ cfs}$$

$$Q(\text{theoretical}) = 0.07 \text{ cfs} < 0.14 \text{ cfs } Q(\text{permit})$$

$$HP = 1.5$$

$$P = 53 \text{ psi (measured)}$$

$$Z = 20' \text{ (Estimated)}$$

Appears that the current pumping system cannot attain the diversion rate of 0.14 cfs.

Recommend the theoretical pumping capacity of 0.07 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5.5 \times 3.5 = 19.3 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.07 \times 231 \times 1.9835 = 32.1 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 19.3 \text{ AFA}$$

2. Volume Calculations for Other Uses: N/A

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

A 1 ½-hp centrifugal pump diverts water from the Middle Fork of the Payette River to provide supplemental water for irrigation of approximately 5.5 acres of field, lawn, and landscaping.

IRRIGATION SYSTEM:

The primary source of irrigation water is from Lightning Creek. Water is diverted from Lightning Creek through a 4" PVC supply line. The supply line terminates at the right holder's property. A 4" PVC supply line extends across the right holder's property. This line is used to drain the 4" PVC supply line at the end of each irrigation season.

The surface water from Lightning Creek operates 2" hand lines to irrigate a field and trees, and a pressurized irrigation system adjacent to the home. The water from Lightning Creek is generally used from June 1 to October 31.

The supplemental irrigation system diverts water from the Middle Fork of the Payette River. This irrigation system is only used when surface water from Lightning Creek is not available. Approximately 3.5 acres of field and trees are irrigated with 2" hand lines. The hand lines are comprised of Rain Bird Impact Sprinklers with 9/64" nozzles. According to the right holder, the hand line irrigation system operates once a week for 12 hours. Approximately 2.0 acres of lawn and landscaping adjacent to the home are irrigated with a mixture of Rain Bird rotary and spray pop-up sprinklers. The pressurized irrigation system is comprised of 10 stations. The stations have between 7 and 12 sprinklers, and a designed application rate between 28 gpm and 51 gpm.

OVERLAP ANALYSIS:

Point of Diversion: There are no point of diversion overlaps for Water Right Permit No. 65-22895.

Place of Use: Water Right Permit No. 65-22895 and Water Right 65-22665 have overlapping places of use.

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

CONDITION NO.5 (01H) – Prior to diversion of water under this right, the right holder shall install a lockable device. The right holder has two (2) mechanisms which supply power to the pump. An outlet/circuit breaker box near the pump has a cover which can be locked with a padlock. Likewise, a sub-panel attached to the wall of the garage, has a cover which can be locked with a padlock. The right holder has complied with Condition No.5.

RATE &/OR STORAGE RECOMMENDED FOR LICENSING

Description	Rate of Flow (cfs)		Storage (af)
Permit Amount	0.14	&/or	N/A
Beneficial Use Limit	0.14	&/or	N/A
System Measurement	0.07(theoretical)	&/or	N/A
Proof Fee Amount	0.20	&/or	N/A
Recommended Amount	0.07	&/or	N/A

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	0.07 CFS	19.3 AFA
<u>Totals:</u>		0.07 CFS	19.3 AFA

2. Recommended Amendments

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

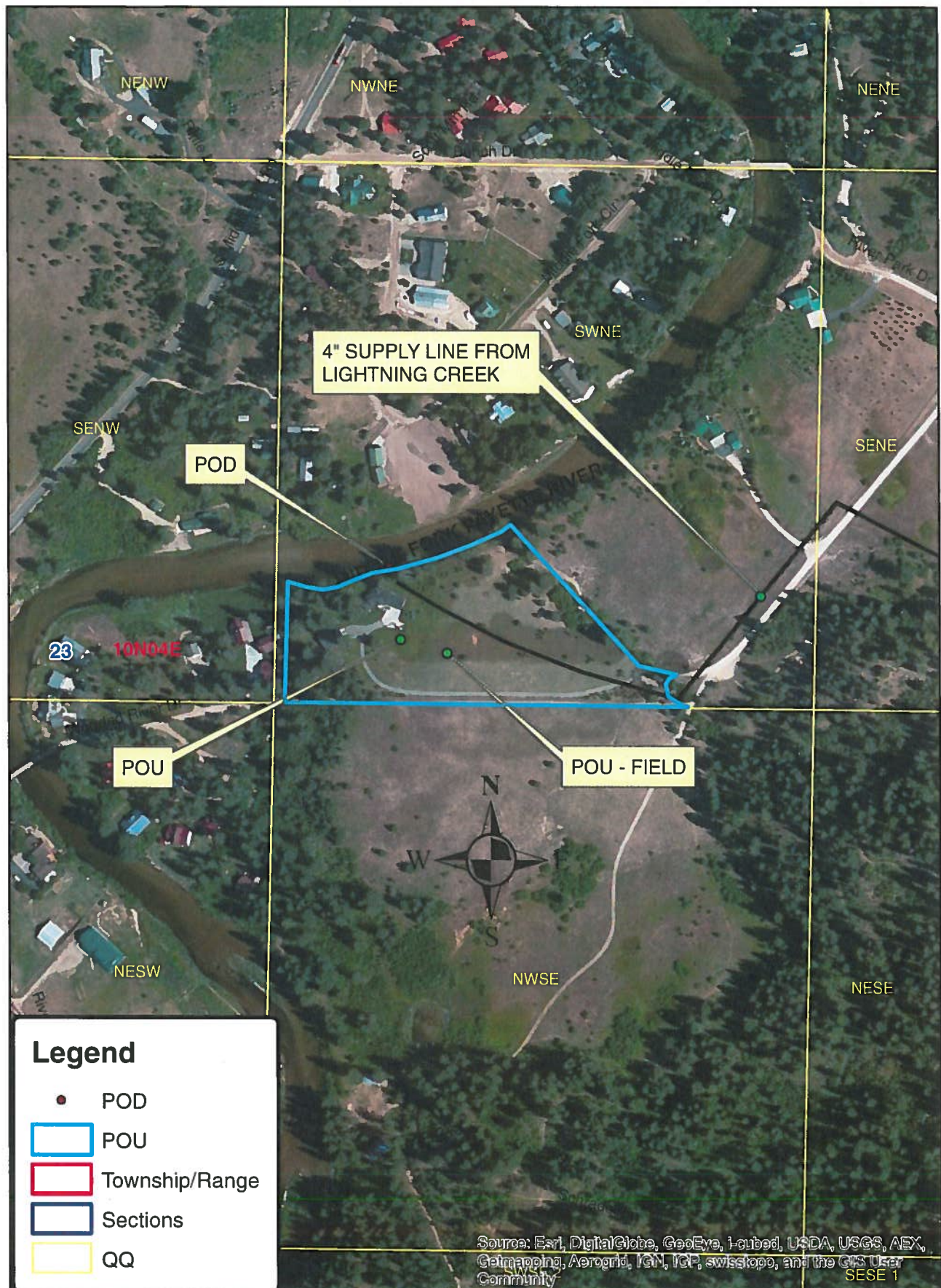
___ Change P.U. as reflected above ___ Add P.U. as reflected above ___ Other

I. AUTHENTICATION

Field Examiner's Name Rick Collingwood Date 3/14/14
 Reviewer _____ Date _____

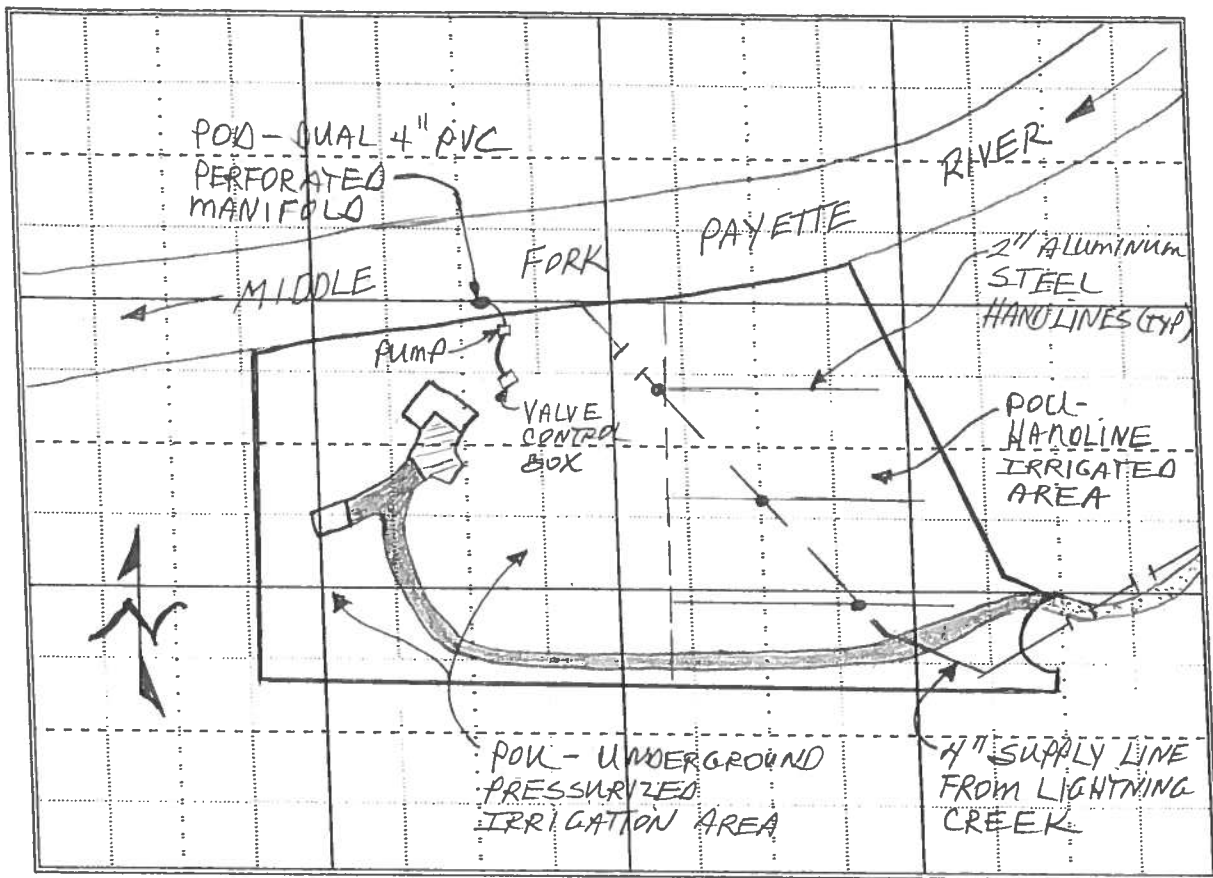
65-22895

ESRI AERIAL PHOTO - 2012



0 112.5 225 450 675 900 Feet

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: 65-22895

Field Exam Date: 6-18-13

PLS: SW1/4, NE1/4 Section 23, T.10N, R.04E.

Field Examiner: RC



Point of Diversion: View northwesterly of the 4" Perforated PVC Dual Manifold intake and the 2" flexible hose suction line. The intake manifold is located near the south bank of the Middle Fork of the Payette River.



View of a 1 1/2-hp centrifugal pump, the 2" flexible hose suction line, and the 2" flexible hose supply line. The pump is located northerly of the home atop the river bank.



View southeasterly of the point of connection of the 2" flexible hose discharge line to the buried 4" PVC irrigation main line.



View of the 2" flexible hose discharge line connected to the 4" PVC buried irrigation main line. The hand operated gate valve controls the flow to the field hand line irrigation system or to the lawn and landscaping pressurized irrigation system.



Place of Use: View easterly of the field area and trees being irrigated by hand lines. The hand line irrigation system operates for approximately 12 hours, one day a week.



Place of Use: View southeasterly of the field area irrigated by hand lines with Rain Bird full circle brass impact sprinklers. The sprinklers contain 9/64" nozzles.



Place of Use: View northwesterly of the lawn and landscaping areas adjacent to the home. The pressurized irrigation system is comprised of a mixture of rotary and spray pop-up Rain Bird sprinklers.



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 6, 2013

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Interim Director

Glenn E. & Deanna F. Higby
24 Apple Wood Drive
Garden Valley, ID 83622

RE: Scheduling Field Exam for Water Right Permit No. 65-22895

We are planning to **conduct water right field examinations** in the vicinity of the above-referenced permit **during the week of June 24, 2013**. An examination is needed to verify your water use in order to issue a water right license.

Please be advised that you will need to operate your system under normal operating conditions during the examination. The permit authorizes the diversion of 0.14 cfs of surface water from the Middle Fork of the Payette River for irrigation of 7.4 acres.

In order to conduct your exam as efficiently as possible, we ask that you call this office to schedule a day and time convenient for you. **Please call me at 208-334-2190 by June 21, 2013, to conduct the exam during the week of June 24, 2013.** If there is a problem with scheduling or conducting the examination at this time, please let me know so we can reschedule or make other arrangements.

I appreciate your attention to this matter and I look forward to hearing from you.

Sincerely,

A handwritten signature in black ink that reads "Rick Collingwood". The signature is written in a cursive, flowing style.

Rick Collingwood, P.E.
Water Resource Agent, Sr.