

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-13834

Exam Date: 6/4/2013

1. Current Owner: GARDEN VALLEY SCHOOL DISTRICT #71
PO BOX 710
GARDEN VALLEY ID 83622
(208)462-3756
2. Accompanied by: Bob Grimm
Phone No: Same
Address: Same
Relationship to Permit Holder: Maintenance Director

3. **SOURCE****TRIBUTARY**

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point of diversion: 65-23114

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**GROUND WATER
BOISE County

NE1/4NE1/4

Sec. 27, Twp 09N, Rge 04E, B.M.

Method of Determination: Arc Map (Aerial Photo); GPS – Latitude N.44°05.538', Longitude W.115°57.494'; Datum – NAD83.

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
09N	04E	26						2.5											2.5
09N	04E	27	5.0																5.0

Total Acres: 7.5

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>
D0009656	_Hitachi_	_15_	_Unknown_	_Unknown_	_____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>
_____N/A_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

2. Measurements: No field measurement. Right holder was not irrigating during the field exam.

E. FLOW CALCULATIONS

_____Additional Computation Sheets Attached

Measured Method: (Theoretical Horsepower Equation)

$$Q = 8.8 \times 0.7 \times 15/160 + (2.31 \times 76) = 92.4/335.6 = 0.28 \text{ cfs}$$

$$Q(\text{theoretical}) = 0.28 \text{ cfs} < 0.80 \text{ cfs } Q(\text{permit})$$

$$HP = 15$$

$$Z = 160'$$

$$P = 76 \text{ psi}$$

It appears that the current pumping system cannot attain the permit diversion rate of 0.80 cfs. However, the permit was issued for the irrigation of 20 acres, when only 7.5 acres is actually being irrigated. At an application rate of 0.04 cfs, the diversion rate required to irrigate 7.5 acres would be 0.30 cfs. Based on the actual acres irrigated, it appears that the current pumping system is capable of irrigating 7.5 acres. Recommend the theoretical pumping capacity of 0.28 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 7.5 \times 3.5 = 26.3 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.28 \times 246 \times 1.9835 = 136.6 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 26.3 \text{ AFA}$$

2. Volume Calculations for Other Uses: N/A

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

A ground water well with a 15-hp submersible pump, diverts water to a pressurized irrigation system to irrigate approximately 7.5 acres of the school's common areas and open spaces, which include a football field and a recreation/sports practice field.

The main source of irrigation water is the treated waste water from the school. The waste water is treated by a Sequencing Batch Reactor (SBR) prior to being discharged to three (3) holding ponds. Beginning in May, and continuing into October, the treated waste water is pumped from the holding ponds to irrigate the football field as is allowed per a permit with the Department of Environmental Quality. According to the maintenance director, diverting the treated waste water from the holding ponds will continue until the holding ponds are nearly dry. If additional irrigation is required for the football field, the ground water well will be used to supplement the irrigation of the football field.

OVERLAP ANALYSIS:

Point of Diversion: Water Right Permit No. 65-13834 and Water Right Permit No. 65-23114 have an overlapping point of diversion. The same ground water well is used to irrigate the school property (Water Right Permit No. 65-13834), and provide water for the school for domestic use (Water Right Permit No. 65-23114).

Place of Use: There are no overlapping places of use for Water Right Permit No. 65-13834.

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

RATE &/OR STORAGE RECOMMENDED FOR LICENSING

Description	Rate of Flow (cfs)		Storage (af)
Permit Amount	0.80	&/or	N/A
Beneficial Use Limit	0.80	&/or	N/A
System Measurement	0.28 (theoretical)	&/or	N/A
Proof Fee Amount	1.00	&/or	N/A
Recommended Amount	0.28	&/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	3/15 to 11/15	0.280 CFS	26.3 AFA
<u>Totals:</u>		0.280 CFS	26.3 AFA

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 Rick Collingwood Date 10/23/13

Reviewer _____ Date _____

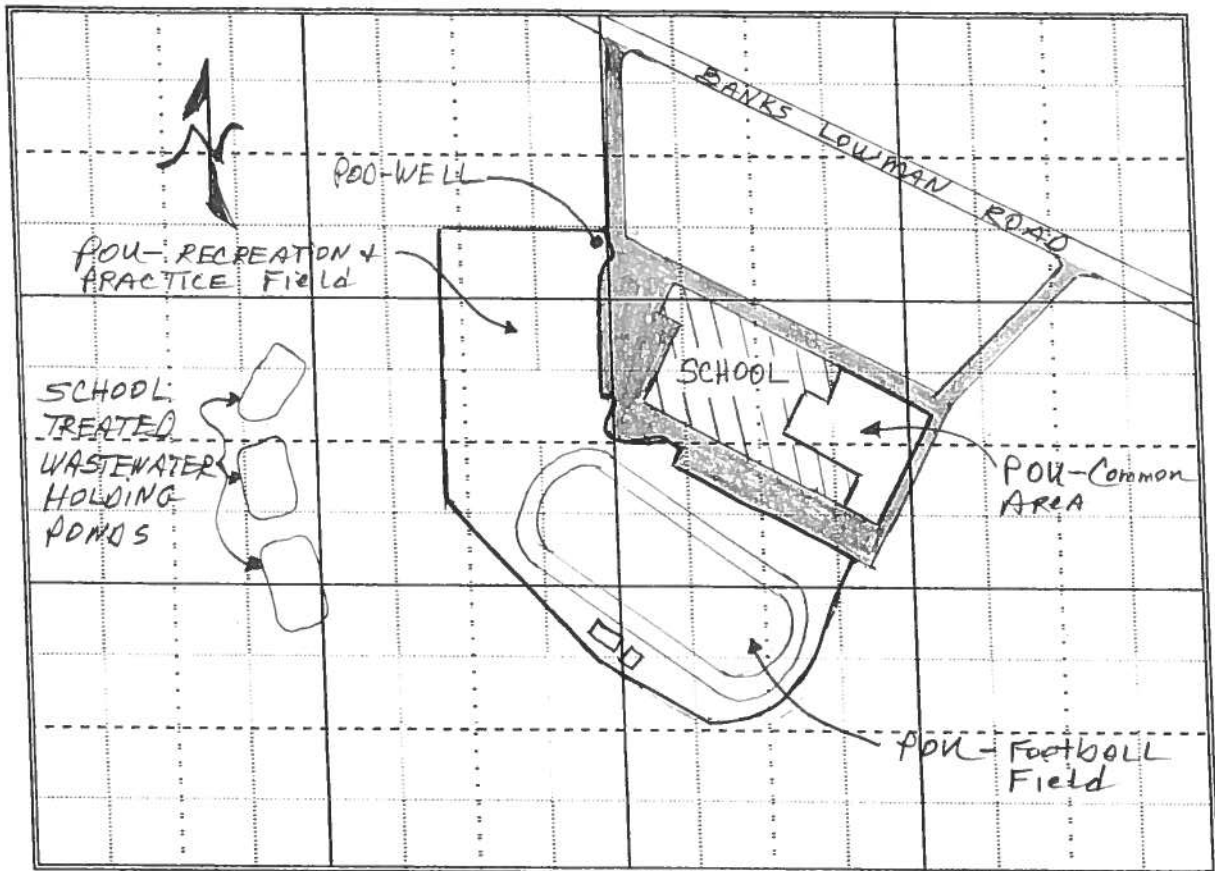
65-13834

ESRI AERIAL PHOTO - 2012



0 110 220 440 660 880
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: 65-13834

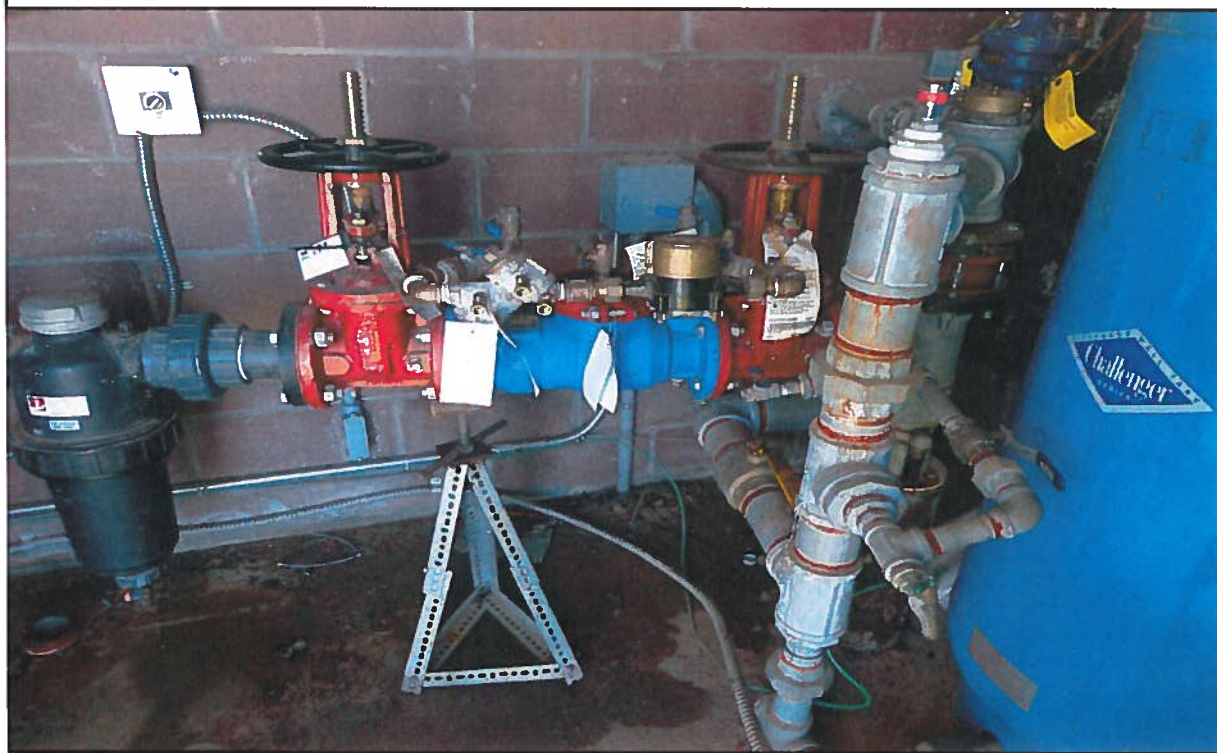
Field Exam Date: 6-4-13

PLS: NE1/4, NE1/4 Section 27, T.09N, R.04E.

Field Examiner: RC



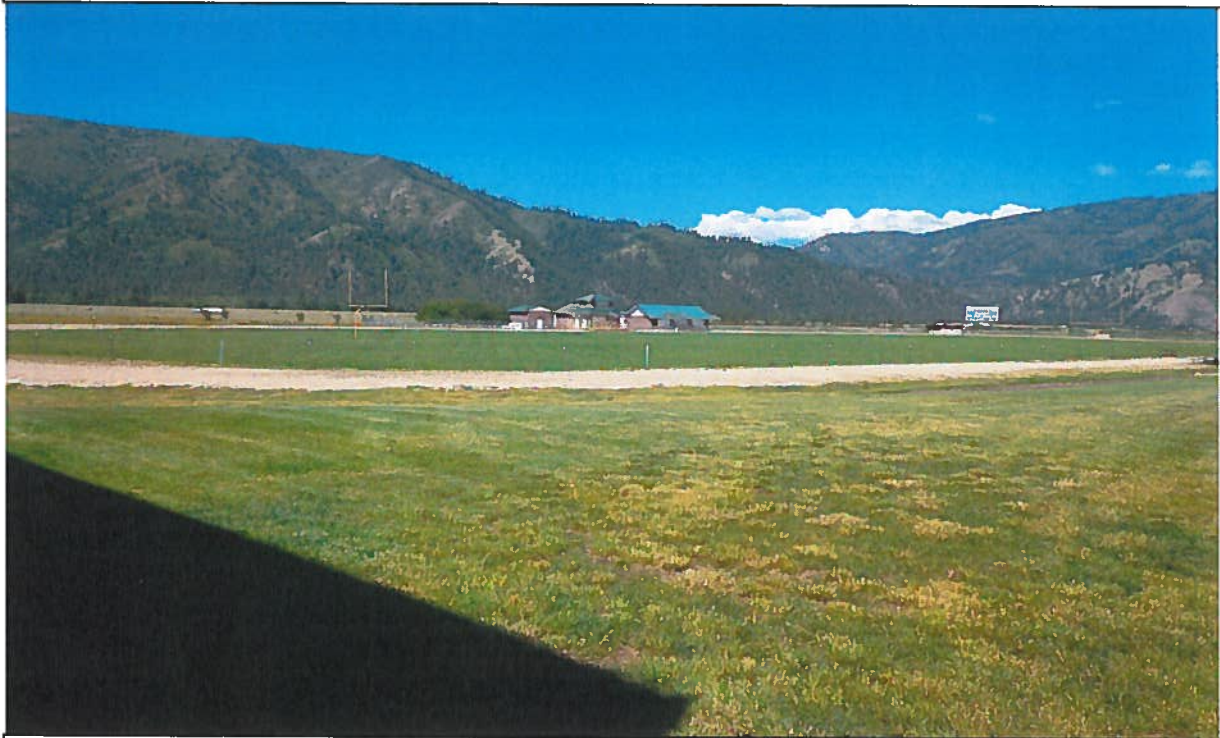
Point of Diversion: View northwesterly of the well/pump house.



Point of Diversion: Ground water well and discharge piping and appurtenances inside the well/pump house.



Place of Use: View southwesterly from the well site of the recreation/practice field located west of the school.



Place of Use: View westerly of the football field, track, and adjacent common area/open spaces located southerly of the school.