

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 2-10350

Exam Date: 8/5/2014

1. Current Owner: JON ROADENBAUGH
4004 BROWNS LN
MARSING ID 83639
(208)592-2474
2. Accompanied by: Jon Roadenbaugh
Phone No: Same as Above
Address: Same as Above
Relationship to Permit Holder: Permit Holder

- | | |
|------------------|------------------|
| 3. <u>SOURCE</u> | <u>TRIBUTARY</u> |
| SNAKE RIVER | COLUMBIA RIVER |

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 2-2276; 2-64; 2-65; 2-10416
2. Other water rights with the same point of diversion: No

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

SNAKE RIVER L6 NW1/4SW1/4 Sec. 17, Twp 03N, Rge 04W, B.M. OWYHEE County

Method of Determination: Visual inspection and GPS**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	
03N 04W 17										4.0	36.0						40.0
										L 6	L 6						

Total Acres: 40

Method of Determination: Visual inspection and GIS

3. Yes Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
Yes Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
Yes Aerial Photo Attached (required for irrigation of 10+ acres).
Yes 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
POD ID 748222 (Snake River Pumping Stn.)	Berkeley	10	B4ZQBH	Berkeley	B4ZPBH

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calibration Date
Tyme Flyte #1	Polysonic	x	x	x	x	3/28/2012

2. Measurements: Measurement was completed on an 8" pressurized irrigation line. The Tyme Flyte #1 was used to execute the measurement.

Time	Measurement (GPM)	Measurement (CFS)
11:45 AM	166.96	0.37
11:46 AM	169.33	0.38
11:47 AM	173.30	0.39
11:48 AM	174.35	0.39
11:49 AM	180.17	0.40
11:50 AM	173.30	0.39
11:51 AM	187.56	0.42
11:52 AM	151.37	0.34
11:53 AM	165.11	0.37
11:54 AM	175.41	0.39
Average	171.68	0.38

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

Maximum Allowable: (40 acres irrigated) x (0.02 allowable cfs per acre) = 0.80 allowable cfsPump Curve: By approximating the TDH to be 65 feet, we can extrapolate an outflow volume of 170 gpm, or 0.38 cfs.Measurement by Tyme Flyte flow measurement device: (171.68 GPM) * (0.133681 gal/cf) / (60 sec/min) = 0.38 cfs**Permit Allowed = 43 ac x 0.005 cfs/ac = 0.22 cfs****Pump Curve = 0.38 cfs****Measurement = 0.38 cfs**

License recommended for 0.20 cfs. The Tyme Flyte flow measurement device shows that the owner's system is capable of producing 0.38 cfs. The manufacturer's pump curve was used to confirm this value. Because the irrigated land is 40 acres, instead of 43 acres, the flow rate is reduced to 0.20 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{N/A}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{N/A}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{N/A \text{ for irrigation from stream}}$$

2. Volume Calculations for Other Uses: None**G. NARRATIVE/REMARKS/COMMENTS****Background**

On Tuesday, August 5, 2014, Ashley Newbry and Dan Nelson met Jon Roadenbaugh at 4004 Browns Lane in Marsing, Idaho, his place of residence. Jon's adult son accompanied him. He farms approximately 63 acres in the vicinity.

System Overview

The examination began at a concrete diversion box near the southwest corner of T3N R4W Section 17 SWSW. This diversion box is Jon's access to his Gem Irrigation District water supply. This supply is transported northward to Jon's property across other upstream users' property to the south. Because Jon is at the end of the irrigation line, he claims that he often does not receive the volume promised to him by Gem Irrigation District.

From the Snake River, Jon pumps his supplementary irrigation water southward from the Snake River, into the same diversion box mentioned at the outset, where the water is combined. It is transported via an 8" pressurized PVC pipe, and open discharges at the top of the diversion box. From the main diversion box, the water is diverted eastward to subsequent diversion boxes. These secondary boxes split the water into some smaller ditches and gated pipe to deliver water directly to the crops.

Measurements and Methodology

First, Ashley used the Fuji thickness measurement tool to determine the thickness of the PVC transporter pipe. After that, she used the Tyme Flyte (State Office Unit #1) flow measurement device to measure the volumetric flow rate of the water being diverted from the Snake River into the diversion box.

To verify the volumetric flow results from the Tyme Flyte, the manufacturer's pump curve was also examined. With friction assumed to be negligible, and a lift distance estimated using USGS topographic maps, the pump curve calculation matches the measurement results.

Overlapping Water Rights

The following water rights currently overlap the permittee's place of use: 2-2276; 2-64; 2-65; 2-10416. They are all held by Gem Irrigation District.

Conditions

- Condition 26A was removed per standard licensing practice.
- Condition 01J was modified to R02.
- Condition WB9 was modified to remove the reference to the Johnson Bar and Lime Point MSFs for Snake River appropriations.
- Condition 069 was removed per standard licensing practice.
- Condition 007 was removed per standard licensing practice.
- Condition 01M was added.
 - On August 5, 2014, Department staff performed a licensing examination for this permit. During the examination it was discovered that a lockable device was installed, but a measurement device was not installed. On August 6, 2014 the Department received an email from the permit holder to petition for the waiver of the measuring device requirement. Department staff determined that the measurement condition was placed on the permit in anticipation of this water right in Water District 02. However, this diversion is outside the boundaries of Water District 02. (Order issued to solidify this change of condition.)

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>
IRRIGATION	03/01 to 11/15	0.200 CFS
<u>Totals:</u>		0.200 CFS

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

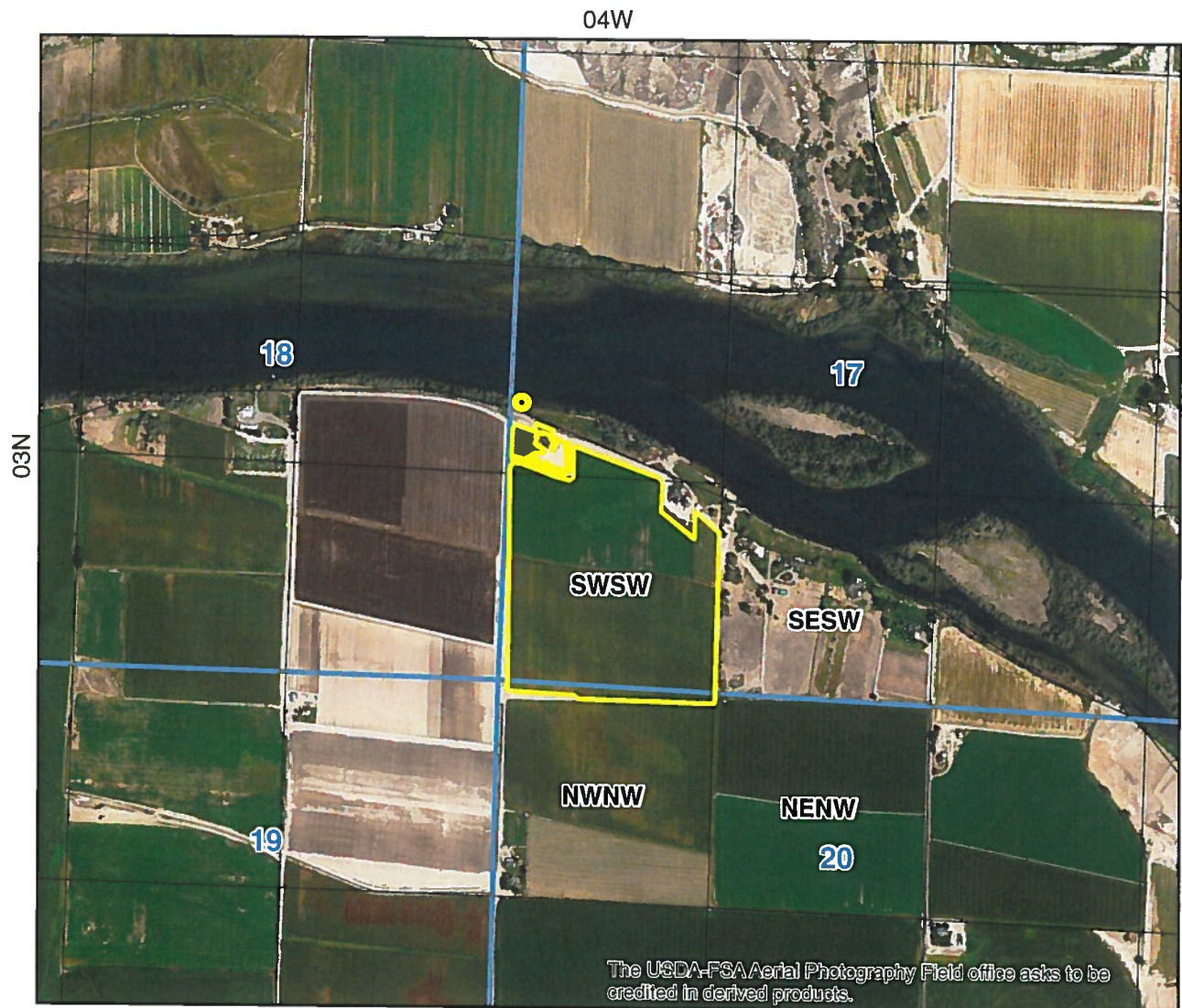
I. AUTHENTICATION

Ashley Newbry, Engineer Associate

Field Examiner's Name Ashley Newbry Date 8/25/2014

Reviewer _____ Date _____

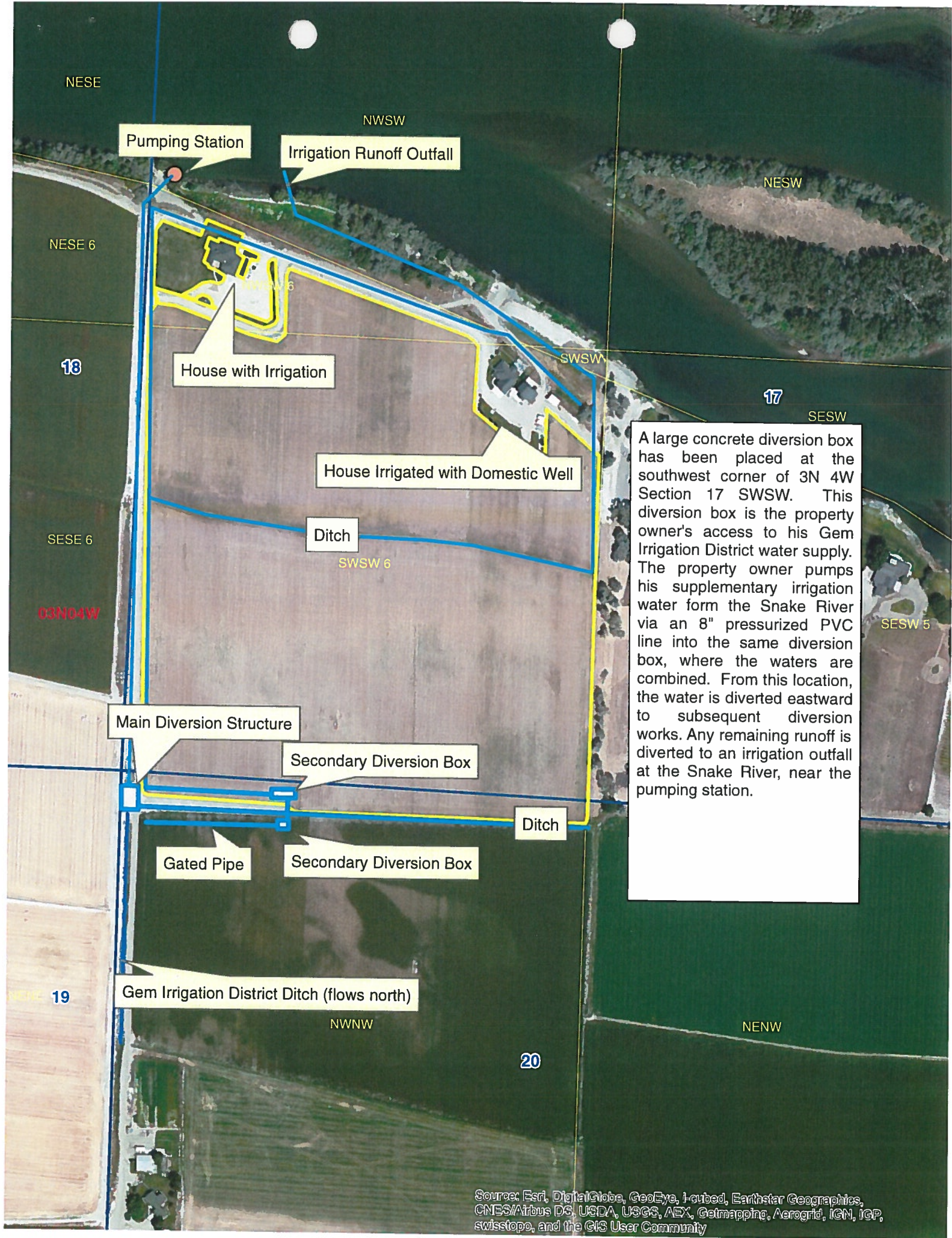
State of Idaho
Department of Water Resources
Field Exam Map for Irrigation
2-10350



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

0 0.125 0.25 0.5 Miles





A large concrete diversion box has been placed at the southwest corner of 3N 4W Section 17 SWSW. This diversion box is the property owner's access to his Gem Irrigation District water supply. The property owner pumps his supplementary irrigation water from the Snake River via an 8" pressurized PVC line into the same diversion box, where the waters are combined. From this location, the water is diverted eastward to subsequent diversion works. Any remaining runoff is diverted to an irrigation outfall at the Snake River, near the pumping station.

MEMORANDUM

TO: Shelley Keen
FROM: Ashley Newbry
DATE: August 5, 2014
RE: Thyme Flyte Measurement

On August 5, 2014, an irrigation flow measurement was taken during the beneficial use field exam at the Roadenbaugh property (4004 Browns Lane; Marsing, ID), pursuant to WR 2-10350. The Tyme Flyte flow measurement tool was used. The data tape containing the test results is attached.

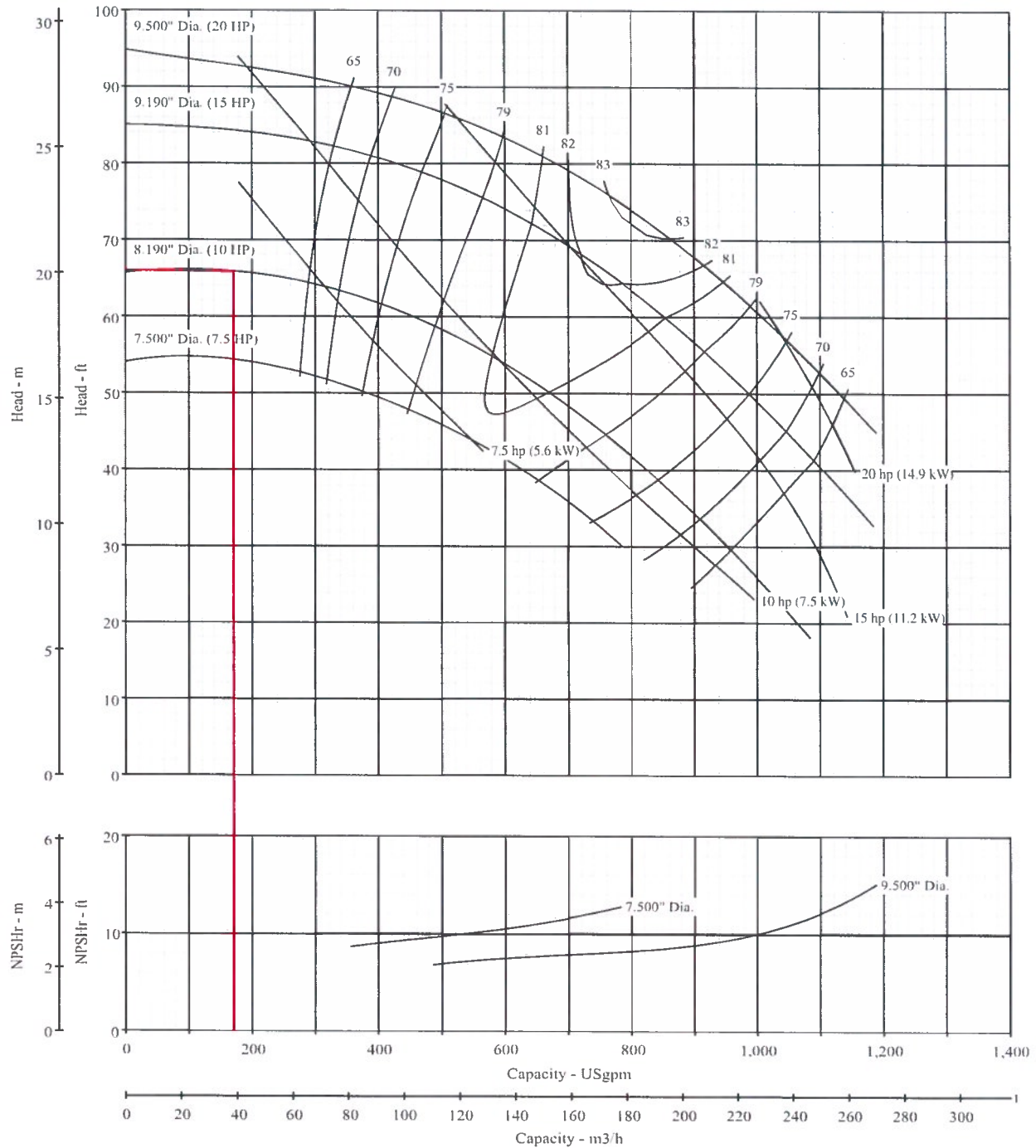
0000 000 0 0 0
 0000 000 0 0 0
 OUTER DIAMETER
 8.1200 IN
 PIPE MATERIAL
 ? PUC
 WALL THICKNESS
 0.1600 IN
 INNER LINING
 ? NO LING.
 KIND OF FLUID
 ? WATER
 SENSOR MOUNTING
 ? U
 TYPE OF SENSOR
 ? SMALL
 DATA CHANGE
 ? NO
 SPACING
 5.772 IN U
 ZERO MODE
 CLEAR
 ZERO MODE
 AUT ZERO
 ZERO MODE
 ZERO OPR
 00-05 11:3200 *R
 +0003.00 % AI2
 MODE SELECT
 T0 CHECK

0293.9 MMSEC
 100.83 % T0
 11:44+181.222E 00GPM 00R
 +000000 *10 G 00R
 -000000 *10 G 00R
 11:45+166.956E 00GPM 00R
 +00017 *10 G 00H
 -000000 *10 G 00H
 11:46+169.334E 00GPM 00R
 +00035 *10 G 00H
 -000000 *10 G 00H
 11:47+173.296E 00GPM 00R
 +00052 *10 G 00R
 -000000 *10 G 00R
 11:48+174.353E 00GPM 00R
 +00070 *10 G 00R
 -000000 *10 G 00R
 11:49+180.165E 00GPM 00R
 +00087 *10 G 00R
 -000000 *10 G 00R
 11:50+173.296E 00GPM 00H
 +00105 *10 G 00R
 -000000 *10 G 00R
 11:51+187.562E 00GPM 00H
 +00122 *10 G 00R
 -000000 *10 G 00R
 11:52+151.370E 00GPM 00R
 +00140 *10 G 00R
 -000000 *10 G 00R
 11:53+165.107E 00GPM 00R
 +00157 *10 G 00H
 -000000 *10 G 00H
 11:54+175.410E 00GPM 00H
 +00174 *10 G 00H
 -000000 *10 G 00H

Pump Size: 4 x 5 x 9 BH**Model: B4Z_BH**

Curve No.

Type	CCMD	FM CPLG	FM BELT	SAE	Hydraulic	AC Engine
Model	B4ZPBH	B4ZRBH	B4ZRBH	B4ZQBH		

Nominal RPM: **1750**Based on Fresh Water @ **68°F (20°C)**Maximum Working Pressure: **175 PSI (12 BAR)**

Note: Though many water rights lie in the same quarter-quarter's as the applicant, only Gem Irrigation District water rights overlap the applicant: 2-2276; 2-64; 2-65; 2-10416.

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
Water Right	2-10182	N	EVANS, BRAD; EVANS, SELINA	SNAKE RIVER	POD												X					0
Water Right	2-10182	N	EVANS, BRAD; EVANS, SELINA	SNAKE RIVER	POU												6.5					6.5
Water Permit	2-10350	N	ROADENBAUG H. JON	SNAKE RIVER	POD										X							0
Water Permit	2-10350	N	ROADENBAUG H. JON	SNAKE RIVER	POU										4.0	36.0						40
Water Right	2-10416	N	GEM IRRIGATION DISTRICT	SNAKE RIVER	POU									X	X	X	X			X		0
Water Right	2-2276	N	GEM IRRIGATION DISTRICT	SNAKE RIVER	POU											42.0	24.0			10.0		76
Water Right	2-64	N	GEM IRRIGATION DISTRICT	SNAKE RIVER	POU									X	X	X	X			X		0
Water Right	2-65	N	GEM IRRIGATION DISTRICT	SNAKE RIVER	POU									X	X	X	X			X		0
Water Right	2-7262	N	ROADENBAUG H. WENDY N; WHITE, JEPHTHA L	SNAKE RIVER	POD												X					0
Water Right	2-7262	N	ROADENBAUG H. WENDY N; WHITE, JEPHTHA L	SNAKE RIVER	POU												3.0					3
Water Right	2-7358	N	GARRISON, LEONA; GARRISON, WALTER	SNAKE RIVER	POD												X					0
Water Right	2-7358	N	GARRISON, LEONA; GARRISON, WALTER	SNAKE RIVER	POU												1.0					1
Water Right	2-7403	N	ABADIA, AGUSTIN	SNAKE RIVER	POD															X		0
Water Right	2-7403	N	ABADIA, AGUSTIN	SNAKE RIVER	POU															5.0		5
Water Right	2-7407	N	ABADIA, AGUSTIN	SNAKE RIVER	POD															X		0
Water Right	2-7407	N	ABADIA, AGUSTIN	SNAKE RIVER	POU															1.5		1.5
Water Right	2-7432	N	FINK, RAY E; PENA, TERRI A	SNAKE RIVER	POD												X					0
Water Right	2-7432	N	FINK, RAY E; PENA, TERRI A	SNAKE RIVER	POU												5.0					5
Water Right	57-10170	N	IRWIN, JAMES M	GROUND WATER	POD												X					0
Water Right	57-10170	N	IRWIN, JAMES M	GROUND WATER	POU												X					0
Water Right	57-10171	N	IRWIN, JAMES M	GROUND WATER	POD												X					0
Water Right	57-10171	N	IRWIN, JAMES M	GROUND WATER	POU												X					0

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
Water Right	63-136	N	BOISE PROJECT BOARD OF	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-137B	N	BOISE PROJECT BOARD OF	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-200A	N	BOISE PROJECT BOARD OF CONTROL	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-2106	N	UNITED STATES OF AMERICA	FIVEMILE CREEK	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-233K	N	BOISE PROJECT BOARD OF CONTROL	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-23853	N	BOISE PROJECT BOARD OF CONTROL; US DEPT OF	GROUND WATER	POD						X											0
Water Right	63-23853	N	BOISE PROJECT BOARD OF CONTROL; US	GROUND WATER	POU						X											0
Water Right	63-2388A	N	UNITED STATES OF AMERICA ACTING	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-23913	N	TRUESDELL, RENA; TRUESDELL, WARREN	GROUND WATER	POD		X															0
Water Right	63-23913	N	TRUESDELL, RENA; TRUESDELL, WARREN	GROUND WATER	POU		X															0
Water Right	63-2392F	N	BOISE PROJECT	WASTE WATER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-24161	N	SEVERN, DAVID R	GROUND WATER	POD														X			0
Water Right	63-24161	N	SEVERN, DAVID R	GROUND WATER	POU														X			0
Water Right	63-24162	N	SEVERN, DAVID R	GROUND WATER	POD																X	0
Water Right	63-24162	N	SEVERN, DAVID R	GROUND WATER	POU																X	0
Water Right	63-251A	N	UNITED STATES OF AMERICA	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-26086	N	SEVERN, DAVID R; SEVERN,	GROUND WATER	POD																X	0
Water Right	63-26086	N	SEVERN, DAVID R; SEVERN,	GROUND WATER	POU																X	0
Water Right	63-27399	N	SEVERN, DAVID R; SEVERN,	ISHAM DRAIN	POD													X			X	0
Water Right	63-27399	N	SEVERN, DAVID R; SEVERN, JANICE K	ISHAM DRAIN	POU			40.0	39.0									31.0	22.0	0.4	14.0	146.4
Water Right	63-301A	N	UNITED STATES OF AMERICA ACTING	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-302A	N	UNITED STATES OF AMERICA	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Adjudication Recommendation	63-33251		BOISE PROJECT BOARD OF	INDIAN CREEK	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Adjudication Recommendation	63-33253		BOISE PROJECT BOARD OF CONTROL	TENMILE CREEK	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0
Water Right	63-373A	N	UNITED STATES OF AMERICA ACTING THROUGH	BOISE RIVER	POU	X	X	X	X	X	X	X	X	X	X			X	X	X	X	0

PHOTOGRAPHER AND DATE OF PHOTOS ASHLEY NEWBRY • August 5, 2014

FILE NUMBER 2-10350



The photo shows a small pumping station (left) at the Snake River. The station is equipped with a submerged Berkeley 10 hp centrifugal pump (center). The headgate includes a locking device (right).



The diversion box combines Gem Irrigation District water and Snake River water for use on the property (left and center). The final photo shows the open discharge of river water to the box (right).



The photos show a series of diversions in order to irrigate across the property. The photo at left shows the secondary diversion box following the combination structure. The rest of the irrigation system is a series of ditches (center and upper right) and gated pipe (lower right).