

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33587

Exam Date: 3/23/2017

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? ☒ Yes ☐ No
- a. ☒ Irrigation of 5 acres or less
- b. ☐ Storage of up to 14.6 AF for stockwater purposes only
- c. ☐ Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
- d. ☐ Other < >

2. Current Owner: Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-day Saints

Owner of Record Correct? ☒ Yes ☐ No

Address of Record Correct? ☒ Yes ☐ No

If No:

3. Beneficial Use Fees have been paid: ☒ Yes ☐ No Receipt No: W039676, C102945

4. SOURCE**TRIBUTARY**

Ground Water

Method of Determination: Permit information & ArcMap data

Change in Source: ☐ Yes ☒ No

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Overlap ☒ Yes ☐ No ☒ Additional Sheet Attached

Water Right No.	Source	Purpose of Use	Basis
63-33478	Ground Water	Irrigation	Decree
63-10142	Ground Water	Irrigation	Decree

Comments: Water Right 63-33478 is for the irrigation of 1.3 acres on this lot. Water Right 63-10142 is for the irrigation of 4.5 acres on this lot. Water Permit 63-33587 will be used to supplement surface water irrigation for the surrounding landscaping and lawn. Various municipal rights covering the City of Boise under United Water Idaho and irrigation rights under various irrigation districts do not affect this lot.

2. Other water rights with the same point of diversion: Overlap ☒ Yes ☐ No ☐ Additional Sheet Attached

Water Right No.	Source	Purpose of Use	Basis
63-33478	Ground Water	Irrigation	Decree
63-10142	Ground Water	Irrigation	Decree

Comments: Both Water Right 63-33478 and Water Right 63-10142 had separate PODs. Per the permit application, those wells were to be abandoned following the completion of a new well, authorized under Transfer 76383. The POD for all 3 water rights would then be under the new well.

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

Source	Govt Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Ground Water			SE	SE	13	03N	01E	B.M.	ADA

Method of Determination: Permit information & ArcMap data

Change in POD? ☐ Yes ☒ No Amendment Required? ☐ Yes ☒ No

2. PLACE OF USE: 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	01E	13													1.5			3.2	
		Lot #																	

Method of Determination: Permit information & ArcMap data

Change in POU? ☐ Yes ☒ No Amendment Required? ☐ Yes ☒ No

☐ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☐ Photo of Diversion and System Attached

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Unknown		15			

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

D. FLOW MEASUREMENTS

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
None						

Measurements: in-house field exam – no measurements required

E. FLOW CALCULATIONSMeasurement Method: ☐ Per Calculations ☒ Per Memo ☒ Additional Computation Sheet(s) Attached0.02 cfs = 1 inch per acre (IDWR standard) $\leftrightarrow$ acres(0.02 cfs) = $\leftrightarrow$ cfs at 1 inch per acrePer App. Processing Memo #17, up to 0.03 cfs/acre for irrigation up to 5 acres acceptable. $\leftrightarrow$ acres(0.03 cfs) = $\leftrightarrow$ cfsPer $\leftrightarrow$ - pump to $\leftrightarrow$ pipe. $Q = 5(3.1416)((\leftrightarrow/12)/2)^2 = \leftrightarrow$ cfs

HP pump. Per IDWR standard: Assume pump efficiency = 0.7 (70%) and PSI = 30psi for small irrigation. Lift estimated from Contour Elevations (GIS visual, 40 ft. min. unit) between pump and field = 40.

 $Q = (8.8 \times \text{HPXEFF}) / (\text{Lift} + (\text{PSI} \times 2.31)) = (8.8 \times 15 \times 0.7) / (79.5 + (40 \times 2.31)) = 0.54 \text{ cfs}$

Measurement = 0.12 cfs Per administration procedure memo #17 – the department will accept rates of diversion as high as 0.03 cfs per acre for irrigation of up to 5 acres without justification that a rate greater than 0.02 is necessary. However, we requested a total flow rate of 0.12 cfs to allow a combined diversion rate of 0.04 cfs/acre based on 0.06 cfs for 1.5 new acres and 0.06 cfs additional water for 3.2 acres overlapped by Water Right 63-33478.

Permit Allowance = 0.12 cfs**License Recommend = 0.12 cfs****F. VOLUME CALCULATIONS**Measurement Method: ☐ Per Calculations ☒ Per Memo ☐ Additional Computation Sheet(s) Attached**1. Volume Calculations for Irrigation:**
 $V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 4.7 \times 4.5 = 21.2$
 $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.12 \times 260 \times 1.9835 = 61.89$
 $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 21.2$

2. Volume Calculations for Other Uses: Per condition R61 - This right when combined with all other rights shall provide no more than 4.5 afa per acre at the field headgate for irrigation of the place of use.

G. PURPOSE OF USEIrrigation ☒ Yes ☐ No # Stock _____ Domestic # of Homes _____

Other: < >

Change in Purpose of Use? ☐ Yes ☒ NoMethod of Determination: Permit information & ArcMap data

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

- This permit qualifies for in-house exam
- Water to be obtained from well, submersible pump and pressurized irrigation.
- Overlapping Water Right POU 63-33478 is for the irrigation of 1.3 acres on this lot. Overlapping Water Right POU 63-10142 is for the irrigation of 4.5 acres on this lot. Water Permit 63-33587 will be used to supplement surface water irrigation for the surrounding landscaping and lawn. Various municipal rights covering the City of Boise under United Water Idaho and irrigation rights under various irrigation districts do not affect this lot.
- Both Water Right 63-33478 and Water Right 63-10142 had separate PODs. Per the permit application, those wells were to be abandoned following the completion of a new well, authorized under Transfer 76383. The POD for all 3 water rights would then be under the new well.
- The department will accept rates of diversion as high as 0.03 cfs per acre for irrigation of up to 5 acres without justification that a rate greater than 0.02 is necessary per administration procedure memo #17. However, we requested a total flow rate of 0.12 cfs to allow a combined diversion rate of 0.04 cfs/acre based on 0.06 cfs for 1.5 new acres and 0.06 cfs additional water for 3.2 acres overlapped by Water Right 63-10142.
- Conditions #4 (004), #5 (R61), #6 (01M), #7 (X60), #9 (065), #10 (104) and #11 (121) will be carried to licensing. Conditions #3 (26A), #8 (165), #12 (046) and #13 (058) will be removed at licensing.

Have conditions of permit approval been met? ☒ Yes ☐ No**I. RECOMMENDATIONS****1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Irrigation	03/01 to 11/15	0.12 CFS	

Totals: 0.12 CFSAdditional Notes:**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 ☒ None☐ Other:**J. AUTHENTICATION**

Field Examiner: _____

Kyle Rayworth – Water Resource Agent

Date: 3/23/2017

Reviewer: _____

Date: 2-23-17

State of Idaho
Department of Water Resources
Field Exam Map
63-33587



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

0 0.035 0.07 0.14 Miles



Water Permit 63-33587 Overlap Analysis



Area 3	63-33478	Wtr Rt
	3.2 Ac	Area
	0.10 cfs	Div Rate
	0.02 cfs	Per Ac
	63-33587	Wtr Pmt
	3.2 Ac	Area
	0.12 cfs	Div Rate
	0.03 cfs	Per Ac

Area 2	63-10142	Wtr Rt
	1.3 Ac	Area
	0.12 cfs	Div Rate
	0.09 cfs	Per Ac
	63-33478	Wtr Rt
	1.3 Ac	Area
	0.10 cfs	Div Rate
	0.02 cfs	Per Ac

	Acres	Div Rate	Per Acre	Volume		
Water Permit 63-33587	4.7	0.12 cfs	0.03 cfs	21.2 af	Area 1 - 1.5 acres	Area 3 - 3.2 acres
Water Right 63-10142	1.3	0.12 cfs	0.09 cfs	5.9 af	Area 2 - 1.3 acres	
Water Right 63-33478	4.5	0.10 cfs	0.02 cfs	20.3 af	Area 2 - 1.3 acres	Area 3 - 3.2 acres

Water Permit 63-33587 will be used to supplement surface water irrigation for the surrounding landscaping and lawn. Various municipal rights through United Water Idaho cover the lot and surrounding area and various irrigation rights through Boise Project Board of Control and Boise Kuna Irrigation District also cover the lot and surrounding area. These rights, however, do not affect this lot.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-33587
 Reviewer: Kyle Rayworth
 Date of Review: 3/23/2017

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Well #1	Well #2	Well #3	
15	15	15	
0	0	0	
79.5	79.5	79.5	
40	40	40	
0.54	0.54	0.54	0.54
241	241	241	241.24

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.
 No Friction

Examiners Notes:

The pump for this system is a 15 Hp pump. The elevation was marked at 2,755' per the topographical map contours, with the lot siting between 2,750' and 2,760' lines, near I-84. A lift range of 79.5 was used per the Well Driller's Report, allowing for approximately 241 gpm. Based on the information, a measurement of 0.12 cfs, as permitted, is recommended.

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

861803

1. WELL TAG NO. D 0060132

Drilling Permit No. 913175-861803

Water right or injection well # 63-33478 & 63-10142

2. OWNER: Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter Day Saints

Name the Church of Jesus Christ of Latter Day Saints

Address 50 East North Temple St.

City Salt Lake City State UT Zip 84150-6320

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 13 10 acres 1/4 S/E 1/4 S/E/4 160 acres

Gov't Lot County Ada

Lat. 43 35.599 (Deg. and Decimal minutes)

Long. 116 16.647 (Deg. and Decimal minutes)

Address of Well Site 1211 S Cole Rd

City Boise, ID

(Give at least name of road - Distance to Road or Landmark)

Lot. Blk. Sub. Name

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well
☒ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☒ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
bentonite chip	0	52	21 bg	poured
cement bentonite	52	310	510 gal	pumped

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge Schedule	Material	Casing	Liner	Threaded	Welded
8"	+2	310	.322	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N MethodManufactured screen ☒ Y ☐ N Type Johnson V wire

Method of installation

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
338	378	30		8"	stainless steel	

Length of Headpipe Length of Tailpipe

Packer ☐ Y ☒ N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method
#3-12 sand	310	385		poured

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 68' Static water level (ft) 80'

Water temp. (°F) 59 Bottom hole temp. (°F)

Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
11.5'	300	24 hrs

Test method:

Pump ☒ Bailer ☐ Air ☐ Flowing artesian ☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
12"	0	4	topsoil		X
	4	39	coarse sand, gravel, cobbles		X
	39	47	cemented sand		X
	47	76	cemented sand & gravel	X	
	76	106	brown clay		X
	106	123	coarse reddish sand	X	
	123	124	blue & dark brown clay		X
	124	160	fine to medium brown sand	X	
	160	171	gravel & sand coarse	X	
	171	185	sand	X	
	185	203	brown clay w/ sand & gravel		X
	203	230	blue clay		X
	230	247	blue sand w/ wood	X	
	247	257	blue clay		X
	257	267	brown medium sand	X	
	267	300	brown sand w/ clay	X	
	300	338	fine brown sand	X	
	338	409	coarse sand & gravel	X	
	409	450	blue clay		X
	450	495	brown sand, fine to medium	X	
	495	500	brown sandy clay		X

RECEIVED

OCT 06 2011

WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 378'

Date Started: 8/23/11

Date Completed: 9/29/11

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Stevens & Sons Co. No. 153

*Principal Driller Date 10/1/11

*Driller Date

*Operator Kevin Chastain Date

Operator I Date

* Signature of Principal Driller and rig operator are required.

MEMORANDUM

Date: March 23, 2017
To: Water Right File 63-33587
From: Kyle Rayworth
Re: 03/15/17 Correspondence

Spoke with Matthew Jones to verify information regarding in-office review for licensing. Confirmed with him that the horsepower for the well pump is 15. The rate of flow was adjusted accordingly based on this information for the Theoretical Horsepower Equation Worksheet.