

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

DEC 01 2017

DEPARTMENT OF
WATER RESOURCES

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-324671. Owner Tree Top Ranches LPPhone No. 208-377-0998Current address PO Box 8126, Boise, 837022. Examiner's name Scott King, P.E. (Examiner No. 133)EXAM DATE November 29, 20173. Accompanied by William MulderEmail wjmulder@treetopranches.comAddress same as aboveRelationship to permit holder Manager

Phone No. _____

4. Source Boise Rivertributary to Snake River**B. OVERLAP REVIEW**

63-127C, 63-128C, 63-129C, 63-130C, 63-131C, 63-178B, 63-21530, 63-33590 (irrigation)

1. Other water rights with the same place of use 63-32911, 63-32912 (permits for wildlife uses)2. Other water rights with the same source and point of diversion Many (Andrews Ditch, A0000999)**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
A00999	2		SW	SE	25	5N	5W	Canyon	GPS, Exam

2. Place(s) of Use:

Method of determination Exam, 2015 Arial Photo

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	5W	22			X					X	X			X		X	X		
														Lt 2			Lt 1		

"X" = Wildlife and Wildlife Storage

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" = _____

- ☒ 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

4.

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

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Portable Current Meter	ADV	SonTek	FlowTracker	P4553		

2. Measurements: _____

Discharge was measured by IDWR staff Aaron Skinner on November 28, 2017 for permit 63-32066.

E. NARRATIVE/REMARKS/COMMENTS

Water is diverted from the Boise River to Andrews ditch where it is conveyed to the place of use for wildlife uses. Boise River supply under permit 63-32911 uses the same ditch system and place of use. Wildlife uses during the non-irrigation season diverted from the Boise River to Andrews Ditch includes this permit for 20 cfs and 63-32066 for 20.5 cfs. Aaron Skinner with IDWR measured discharge in Andrews ditch on November 28, 2017. This measurement of 48 cfs is used for this report.

See Attachment C for flow measurements and storage volume calculations.

Exam Attachments

Attachment A: Field Exam Maps

Attachment B: Flow Rate and Volume Calculations

Attachment C: Exam Photos

Attachment D: Proof of Beneficial Use

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

Conditions provide for up to 6 ponds, natural swales, and/or agricultural fields that will be flooded that together shall not exceed 63 surface acres and a storage volume of 181.5 afa. These limits have been met (see Beneficial Use Field Report for 63-32912 and attached volume calculations).

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

Flow Tracker measurement in Andrews Ditch = 48 cfs.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

 $V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____ $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____ $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____

2. Volume Calculations for Other Uses:

Per the operator, peak use during the development period for water delivered from the Andrew Ditch is operating for 24 hours per day, 77 days per season at an average flow of 20 cfs.

$20 \text{ cfs} \times 1.9835 \times 77 \text{ days} = 3054.6 \text{ af.}$

Storage volume = 112.6 af (see attached)

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Wildlife	11/15	3/1	20	3054.6
Wildlife Storage	11/15	3/1		112.6
Diversion to Storage	11/15	3/1	20	3054.6
Totals:			20	3167.2

2. Recommended Amendments

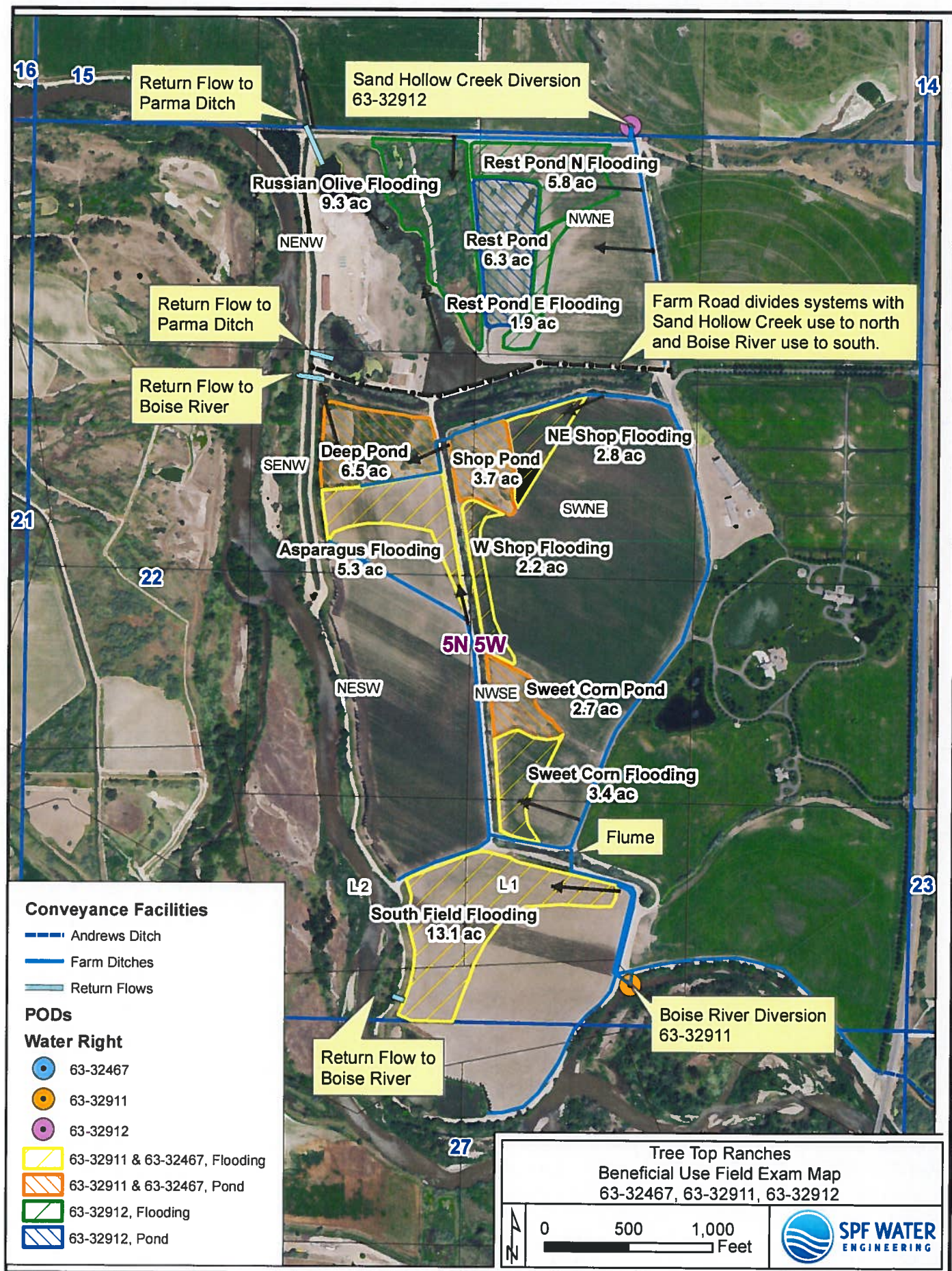
☐ Change P.D. as reflected on page 1☐ Add P.D. as reflected on page 1☐ None☒ Change P.U. as reflected on page 1☐ Add P.U. as reflected on page 1☐ Other**I. AUTHENTICATION**Field Examiner's Signature Scott N. KingDate 12/1/2017

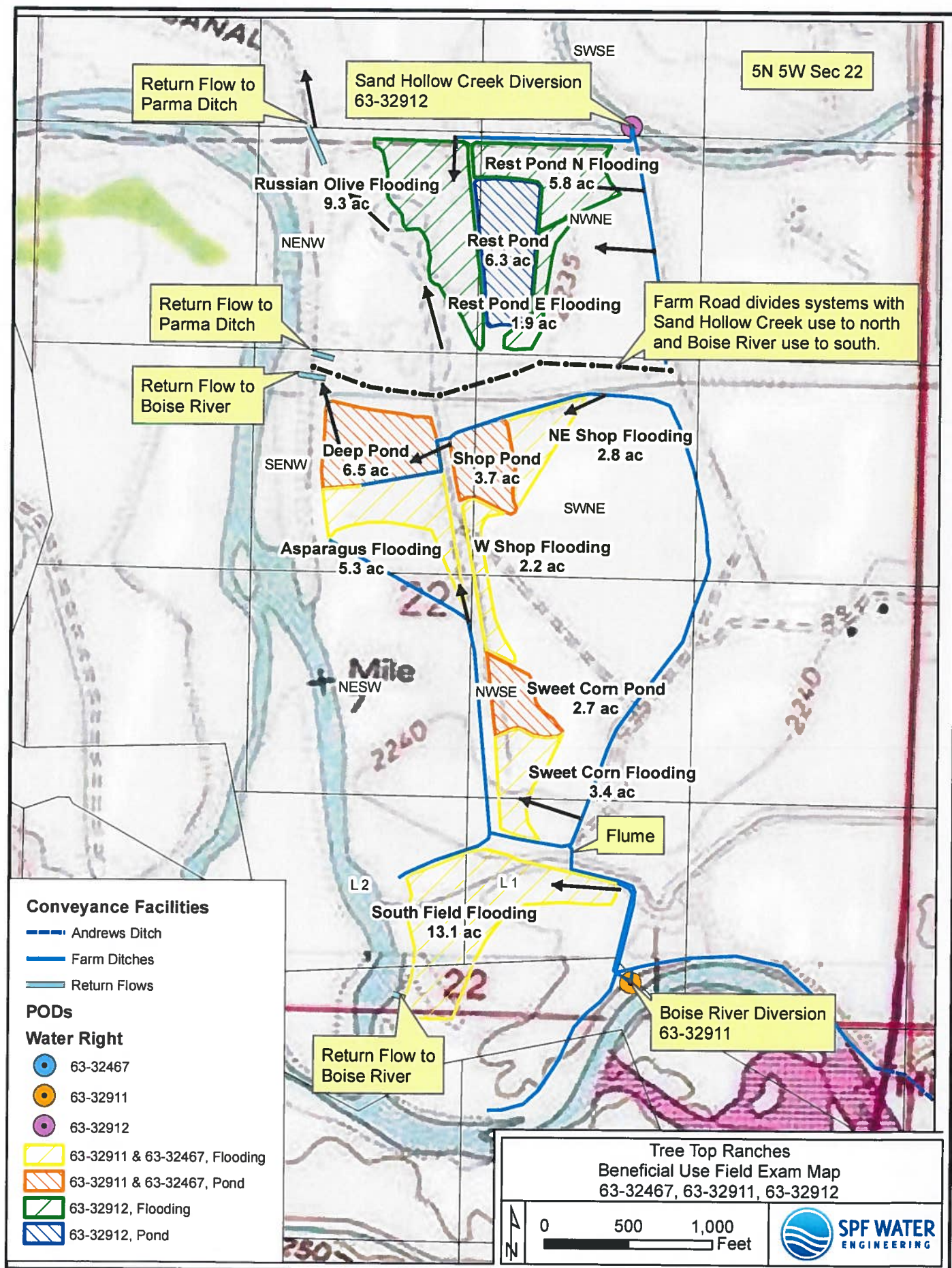
Reviewer _____

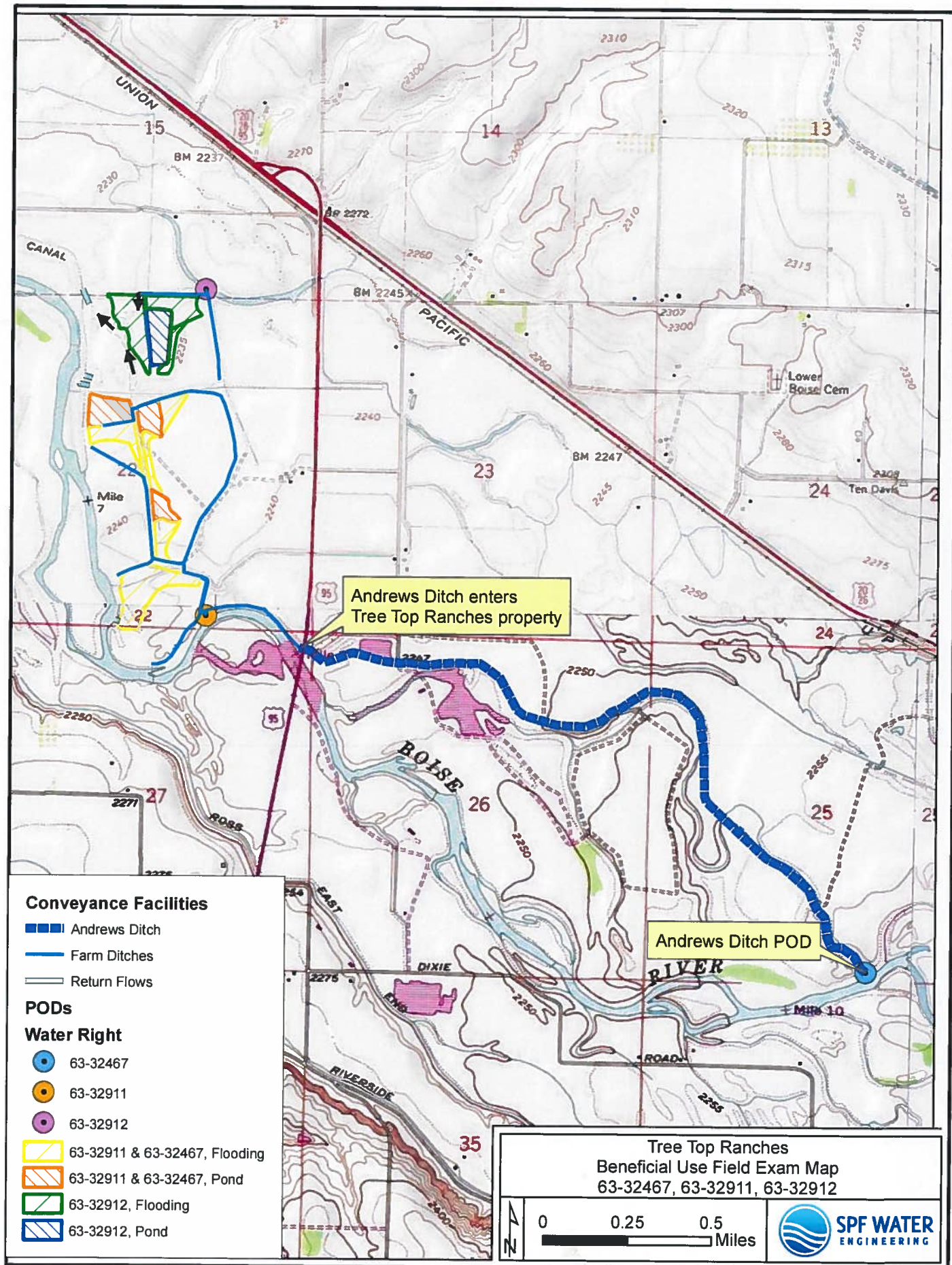
Date _____



Attachment A
Field Exam Map







Attachment B
Flow Rate and Volume Calculations

Discharge Measurement Summary

Date Generated: Fri Dec 1 2017

File Information

File Name AD1.WAD
Start Date and Time 2017/11/28 11:17:54

Site Details

Site Name
Operator(s) AG

System Information

Sensor Type FlowTracker
Serial # P4553
CPU Firmware Version 3.7
Software Ver 2.30
Mounting Correction 0.0%

Units (English Units)

Distance ft
Velocity ft/s
Area ft²
Discharge cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.1%	1.3%
Velocity	1.2%	2.7%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.3%	-
Overall	3.4%	3.1%

Summary

Averaging Int. 20 # Stations 22
Start Edge LEW Total Width 21.000
Mean SNR 39.6 dB Total Area 32.500
Mean Temp 45.94 °F Mean Depth 1.548
Disch. Equation Mid-Section Mean Velocity 1.4854
Total Discharge 48.2741

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:17	4.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	11:17	5.00	0.6	1.000	0.6	0.400	0.0033	1.00	0.0033	1.000	0.0033	0.0
2	11:19	6.00	0.6	1.300	0.6	0.520	0.9852	1.00	0.9852	1.300	1.2807	2.7
3	11:20	7.00	0.6	1.400	0.6	0.560	1.0502	1.00	1.0502	1.400	1.4702	3.0
4	11:21	8.00	0.6	1.500	0.6	0.600	1.0837	1.00	1.0837	1.500	1.6255	3.4
5	11:23	9.00	0.6	2.000	0.6	0.800	1.4183	1.00	1.4183	2.000	2.8366	5.9
6	11:24	10.00	0.6	2.400	0.6	0.960	1.6434	1.00	1.6434	2.400	3.9440	8.2
7	11:25	11.00	0.6	2.700	0.6	1.080	1.7740	1.00	1.7740	2.700	4.7899	9.9
8	11:26	12.00	0.6	2.400	0.6	0.960	1.6352	1.00	1.6352	2.400	3.9243	8.1
9	11:29	13.00	0.6	2.200	0.6	0.880	1.7730	1.00	1.7730	2.200	3.9008	8.1
10	11:30	14.00	0.6	1.900	0.6	0.760	2.1270	1.00	2.1270	1.900	4.0411	8.4
11	11:31	15.00	0.6	1.700	0.6	0.680	2.1161	1.00	2.1161	1.700	3.5977	7.5
12	11:35	16.00	0.6	1.800	0.6	0.720	1.6765	1.00	1.6765	1.800	3.0175	6.3
13	11:36	17.00	0.6	1.900	0.6	0.760	1.9839	1.00	1.9839	1.900	3.7693	7.8
14	11:38	18.00	0.6	1.900	0.6	0.760	1.8701	1.00	1.8701	1.900	3.5530	7.4
15	11:39	19.00	0.6	1.600	0.6	0.640	1.8517	1.00	1.8517	1.600	2.9629	6.1
16	11:40	20.00	0.6	1.500	0.6	0.600	1.1207	1.00	1.1207	1.500	1.6811	3.5
17	11:41	21.00	0.6	1.200	0.6	0.480	0.6522	1.00	0.6522	1.200	0.7828	1.6
18	11:42	22.00	0.6	1.000	0.6	0.400	0.6257	1.00	0.6257	1.000	0.6257	1.3
19	11:43	23.00	0.6	0.600	0.6	0.240	0.4954	1.00	0.4954	0.600	0.2973	0.6
20	11:44	24.00	0.6	0.500	0.6	0.200	0.3412	1.00	0.3412	0.500	0.1706	0.4
21	11:44	25.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Discharge Measurement Summary

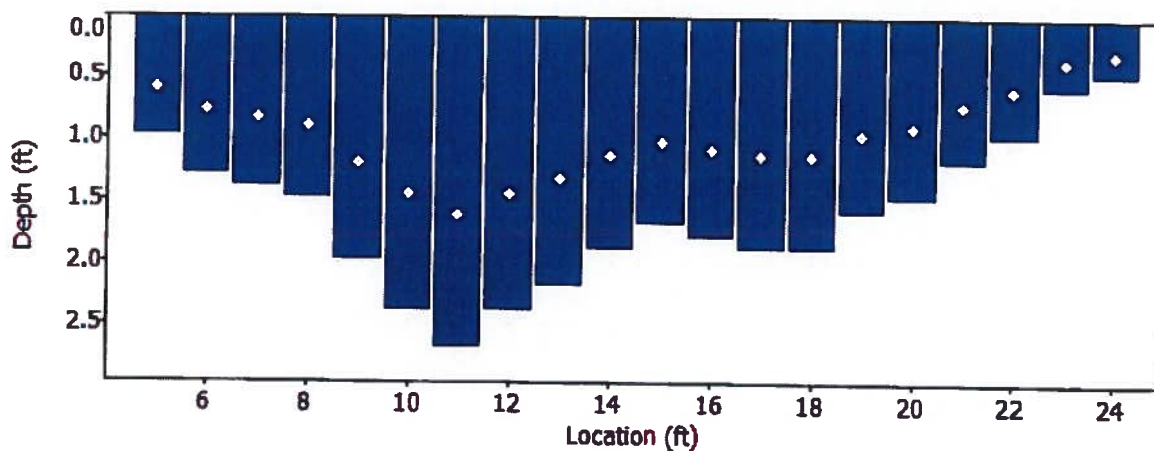
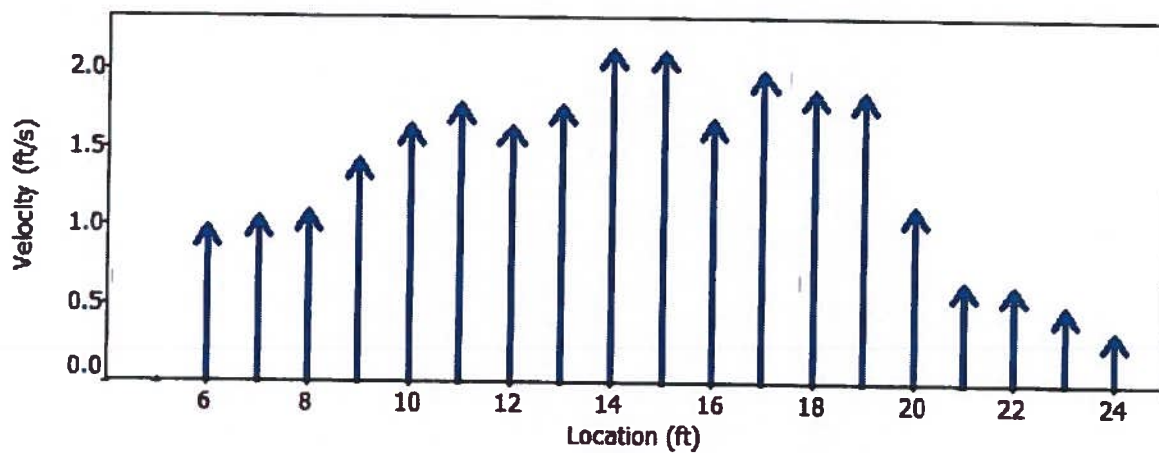
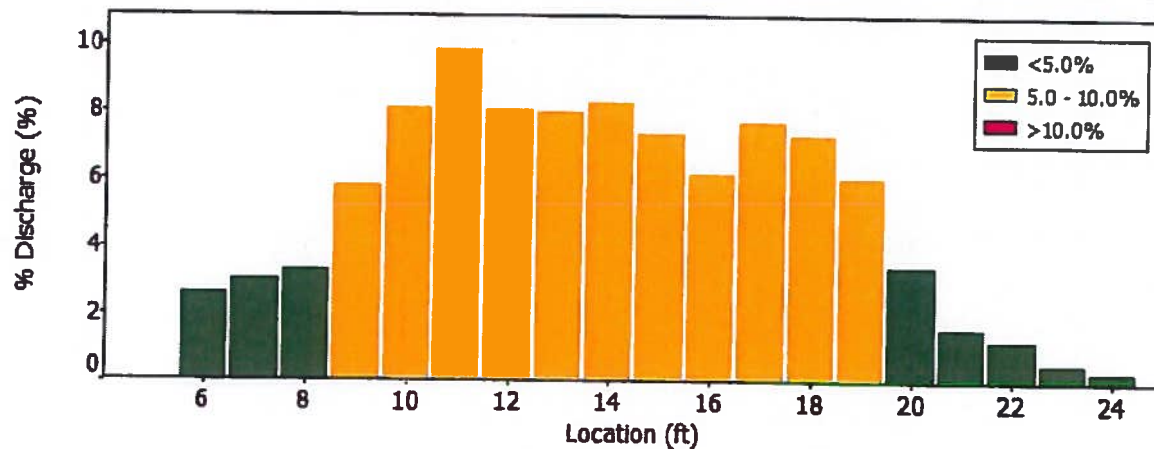
Date Generated: Fri Dec 1 2017

File Information

File Name AD1.WAD
Start Date and Time 2017/11/28 11:17:54

Site Details

Site Name
Operator(s) AG



Discharge Measurement Summary

Date Generated: Fri Dec 1 2017

File Information

File Name AD1.WAD
Start Date and Time 2017/11/28 11:17:54

Site Details

Site Name
Operator(s) AG

Quality Control

St	Loc	%Dep	Message
1	5.00	0.6	High number of spikes: 5
		0.6	SNR (14.1) is different from typical SNR (39.6)
9	13.00	0.6	High standard error: 0.124
12	16.00	0.6	High standard error: 0.110
15	19.00	0.6	High standard error: 0.101

Discharge Measurement Summary

Date Generated: Fri Dec 1 2017

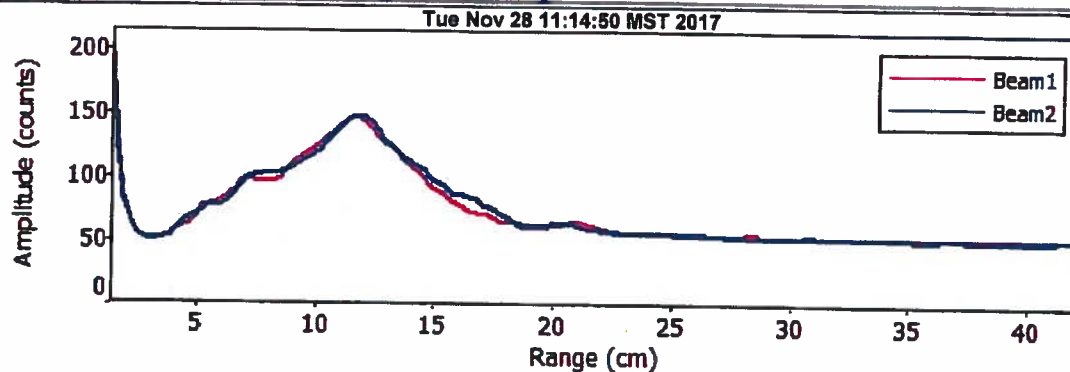
File Information

File Name AD1.WAD
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Site Details

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Operator(s) AG

Automatic Quality Control Test (BeamCheck)



- ✓ Noise level check - Pass
- ✓ SNR check - Pass
- ✓ Peak location check - Pass
- ✓ Peak shape check - Pass

Tree Top Ranches
Parma Lodge & Stables
Wildlife Permit Information

Water Body	Flooded Area No.	Ac.	Depth	AF	Source	Permits
Rest Pond	1	6.3	4.5	28.4	Sand Hollow Creek	63-32912
Rest Pond North Flooding	1	5.8	1.5	8.7	Sand Hollow Creek	63-32912
Rest Pond East Flooding	1	1.9	1	1.9	Sand Hollow Creek	63-32912
Russian Olive Flooding	2	9.3	2	18.6	Sand Hollow Creek	63-32912
Total		23.3		57.6		
Deep Pond	3	6.5	5.5	35.8	Boise River	63-32467 & 63-32911
Asparagus Flooding	3	5.3	2	10.6	Boise River	63-32467 & 63-32911
Shop Pond	4	3.7	4.5	16.7	Boise River	63-32467 & 63-32911
NE Shop Flooding	4	2.8	1	2.8	Boise River	63-32467 & 63-32911
West Shop Flooding	4	2.2	1.5	3.3	Boise River	63-32467 & 63-32911
Sweet Corn Pond	5	2.7	4.5	12.2	Boise River	63-32467 & 63-32911
Sweet Corn Flooding	5	3.4	1.5	5.1	Boise River	63-32467 & 63-32911
South Field Flooding	6	13.1	2	26.2	Boise River	63-32467 & 63-32911
Total		39.7		112.6		
Grand Total		63		170.1		
Permit Limit		63		181.5		



Attachment C

Exam Photos



Figure 1: Andrews Ditch diversion from Boise River.

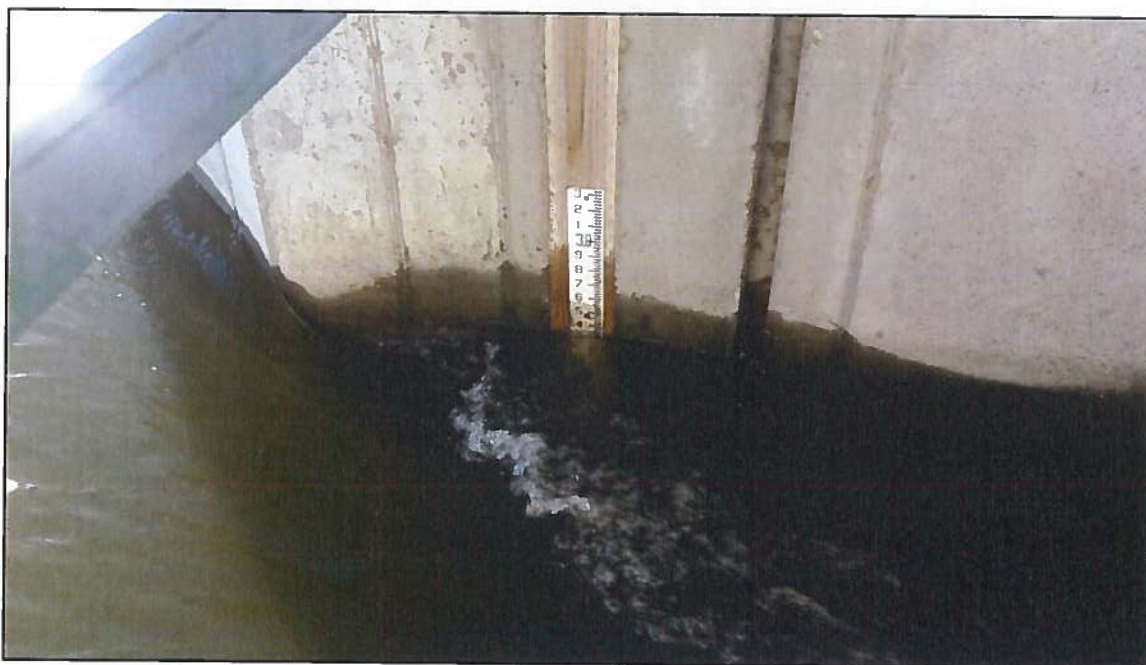


Figure 2: Below diversion is a 5-ft contracted rectangular weir. The weir was submerged on November 27, 2017. IDWR measured discharge on November 28, 2017 (see report for 63-32066 prepared by Aaron Skinner).



Figure 3: Andrews Ditch flow entering Tree Top Ranches property on west side of Hwy 95.



Figure 4: Same location as above figure facing northwest .



Figure 5: Lower end of Boise River source water collection ditch and entrance to pipeline under Parma Ditch.



Figure 6: Boise River source water is piped under the Parma Ditch and returned to the Boise River.



Figure 7: Sweet Corn Pond is typical place of use with flooding starting for the season.



Figure 8: South Field place of use.



Figure 9: Lower end of Shop Pond.

Attachment D
Proof of Beneficial Use