

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

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 INFORMATION

Permit No. 63-34334

1. Owner Thorpe Family Trust c/o Ryan Thorpe Phone No. 208-859-2690
Current address 28854 Boulder Road, Parma, ID 83660
2. Examiner's name Scott King, P.E., CWRE EXAM DATE 12/17/18 and 1/29/19
3. Accompanied by Ryan Thorpe Email ryanthorpefarms@gmail.com
Address 28854 Boulder Road, Parma, ID 83660
Relationship to permit holder Permit holder Phone No. 208-859-2690
4. Source Boise River tributary to Snake River

B. OVERLAP REVIEW

1. Other water rights with the same place of use 63-291, 63-292, 63-293, , 63-63-3001, 63-172B, 63-202B, 63-34333
2. Other water rights with the same source and point of diversion 63-291, 63-292, 63-293

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
			SW	SE	16	5N	5W	Canyon	GIS

2. Place(s) of Use: Method of determination GIS and field examinations.

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	17					X	X	X	X									
									L4	L3									

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
Ramped Flume						
Teledyne StreamPro ADCP						

2. **Measurements:** _____

Ramped flume measurements 0.88 feet staff gage (29.2 cfs) 12/17/18 and 0.72 ft (22.0 cfs) 1/29/19. Rating curve is attached.

Flume measurements checked with ADCP on 12/17/18 at 29.5 cfs (see attached sheet)

E. NARRATIVE/REMARKS/COMMENTS

Water is diverted from Boise River through the Island Highline Canal to place of use. At place of use, water is delivered to fields and habitat area through existing irrigation ditch system. Delivered water is used to flood fields for the purpose of attracting and holding waterfowl during hunting season. Hunting occurs within the property on designated fields, while other fields are used as refuge areas.

Water is commingled in northern portion of place of use with water diverted from the Boise River under permit 63-34333.

Attachment A - Field Exam Maps

Attachment B - Ramped Flume Rating Curve

Attachment C - ADCP Flow Measurement

Attachment D - Exam Photos

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?

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

Ramped flume using rating curve. Rating checked at single point using acoustic Doppler current profiler.

Permit holder was over-diverting at time of exam due to misunderstanding of rating curve (permit holder used rectangular sharp crested weir table rather than ramped flume table).

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:

Storage volumes based on permit amounts. Actual seepage and evaporation losses not determined, but instead estimated based on estimates from permit application.

Wildlife and Recreation volumes based on $13.1 \text{ cfs} \times 152 \text{ days} \times 1.9835 \text{ af/cfs-day} = 3949.5 \text{ af}$

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Wildlife	9/30	2/28	13.1	3949.5
Recreation	9/30	2/28	13.1	3949.5
Diversion to Storage	9/30	2/28	13.1	3949.5
Wildlife Storage	9/30	2/28		1620
Recreation Storage	9/30	2/28		1620
Totals:			13.1	3949.5

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. King

Date

4/9/2018

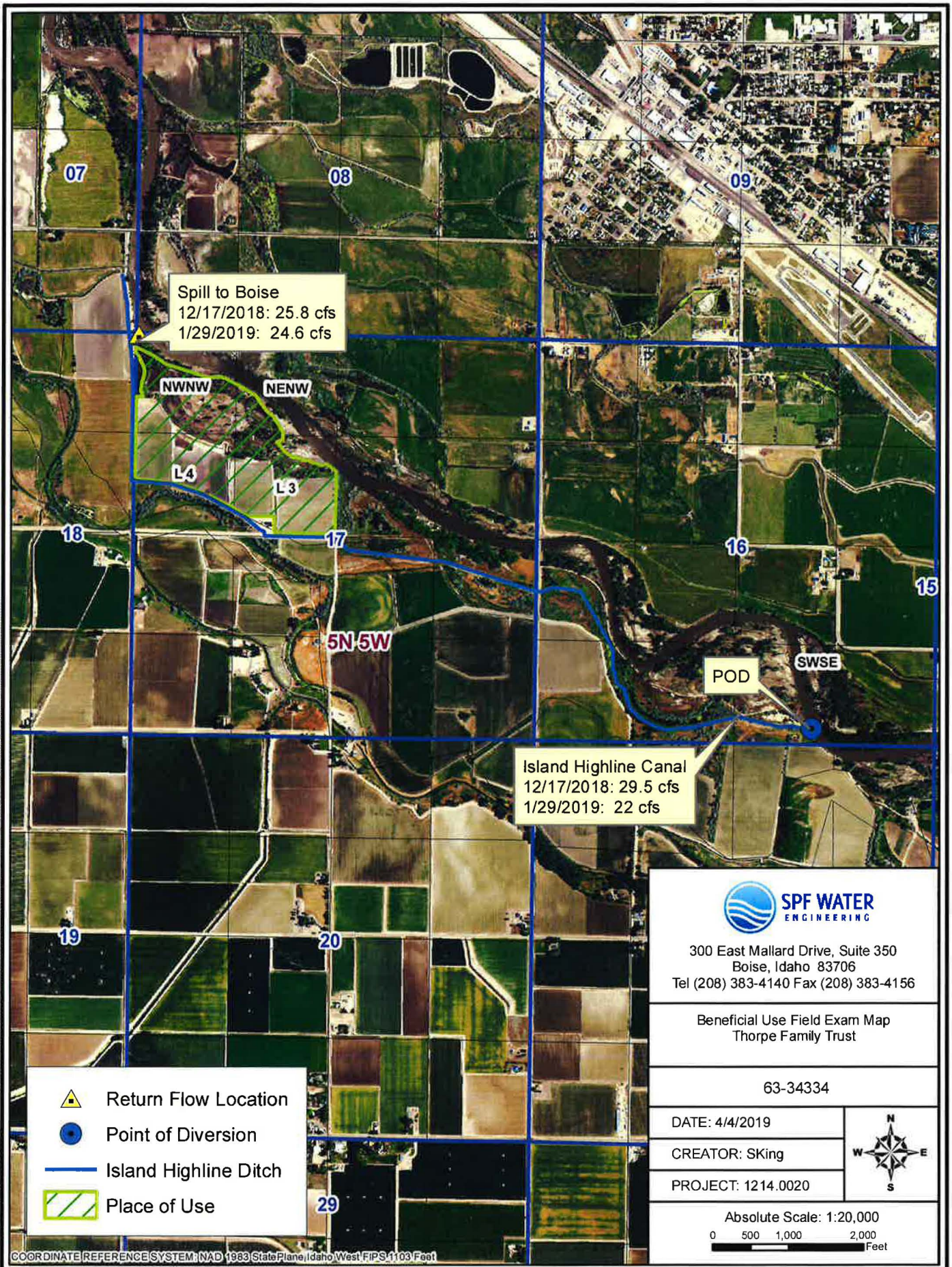
Reviewer

Date



Attachment A
Field Exam Map

Path: \\SPF\Company\PROJECTS\Thru Z\Projects\Thorp Family Trust_12140020_Wildlife Permits\PROJECT\GIS\Map_3\Project\Thorp BUFE Photo.mxd



- Return Flow Location
- Point of Diversion
- Island Highline Ditch
- Place of Use



300 East Mallard Drive, Suite 350
Boise, Idaho 83706
Tel (208) 383-4140 Fax (208) 383-4156

Beneficial Use Field Exam Map
Thorp Family Trust

63-34334

DATE: 4/4/2019

CREATOR: SKing

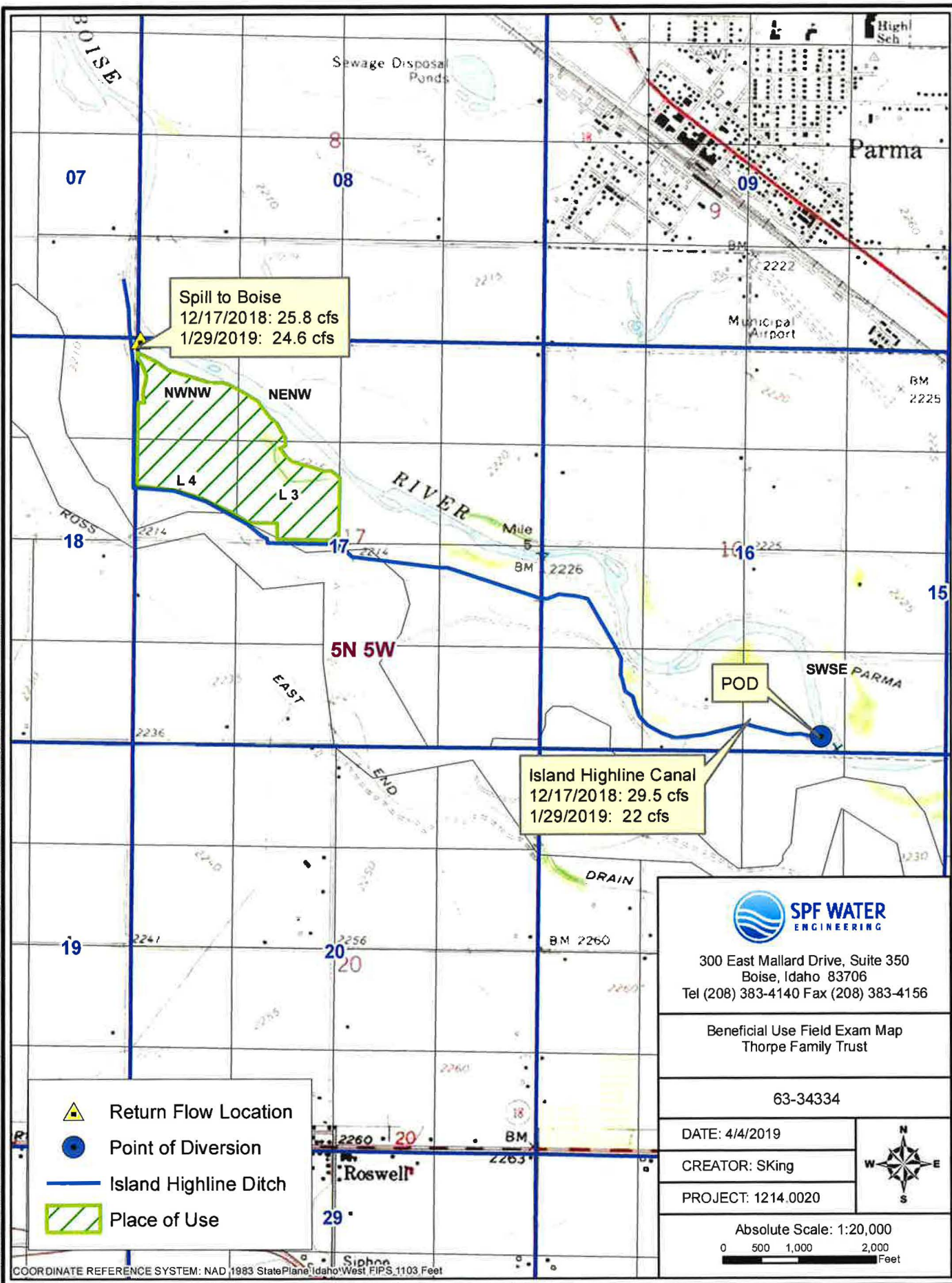
PROJECT: 1214.0020



Absolute Scale: 1:20,000

0 500 1,000 2,000
Feet

Path: \\USGFA\Company\PROJECTS\12140020_Wildlife Permits\PROJECT\GIS\ArcMap_Projects\Thorp BUFE Topo.mxd



Attachment B
Ramped Flume Rating Curve

ISLAND HIGH LINE
Discharge Table - February-1974

<u>Stage</u>	<u>Discharge Sec. Ft.</u>	<u>Difference</u>
.10	3	3
.20	6	3
.30	9	3
.40	12	3
.50	15	3
.60	17	3
.70	21	3
.80	25	3
.90	30	4
1.00	34	4
1.10	39	5
1.20	44	5
1.30	49	5
1.40	53	5
1.50	58	5
1.60	62	4
1.70	66	4
1.80	71	5
1.90	75	4
2.00	80	5
2.10	84	4

Attachment C
ADCP Measurement

Station Number:

Meas. No: 007

Station Name: Island Highline Canal at Measuring Device

Date: 12/17/2018

Party: SNK & HW

Width: 15.8 ft

Processed by: SNK

Boat/Motor: StreamPro

Area: 19.7 ft²

Mean Velocity: 1.49 ft/s

Gage Height: 0.88 ft

G.H.Change: 0.000 ft

Discharge: 29.5 ft³/s

Area Method: Avg. Course

ADCP Depth: 0.164 ft

Index Vel.: 0.00 ft/s

Rating No.: 1

Nav. Method: Bottom Track

Shore Ens.: 10

Adj. Mean Vel: 0.00 ft/s

Qm Rating: U

MagVar Method: None (0.0°)

Bottom Est: Power (0.1667)

Rated Area: 0.000 ft²

Diff.: 0.864%

Depth Sounder: Not Used

Top Est: Power (0.1667)

Control1: Unspecified

Control2: Unspecified

Control3: Unspecified

Screening Thresholds:

BT 3-Beam Solution: NO

Max. Vel.: 3.18 ft/s

ADCP:

WT 3-Beam Solution: NO

Max. Depth: 1.94 ft

Type/Freq.: StreamPro/2000 kHz

BT Error Vel.: 32.81 ft/s

Mean Depth: 1.25 ft

Serial #:

Firmware: 31.12

WT Error Vel.: 32.81 ft/s

% Meas.: 41.31

Bin Size: 4 cm

Blank: 3 cm

BT Up Vel.: 32.81 ft/s

Water Temp.: None

BT Mode: 10

BT Pings: 2

WT Up Vel.: 32.81 ft/s

ADCP Temp.: 45.7 °F

WT Mode: 12

WT Pings: 6

Use Weighted Mean Depth: NO

WV : 0

WO : 1, 4

Performed Diag. Test: NO

Project Name: CanalHead000r.mmt

Performed Moving Bed Test: NO

Software: 2.07

Performed Compass Test: NO

Meas. Location: above measuring device

Tr.#	Edge Distance			#Ens.	Discharge						Width	Area	Time		Mean Vel.		% Bad	
		L	R		Top	Middle	Bottom	Left	Right	Total			Start	End	Boat	Water	Ens.	Bins
001	L	4	4	73	7.42	11.9	4.87	2.51	2.22	29.0	15	19	14:54	14:56	0.13	1.52	11	1
004	R	4	4	86	6.71	11.4	4.48	2.05	2.65	27.4	15	19	15:01	15:02	0.10	1.42	3	2
005	L	4	4	89	8.48	12.7	6.04	2.30	2.58	32.0	16	20	15:03	15:05	0.13	1.57	8	1
006	R	4	4	91	7.66	12.6	5.05	1.91	2.26	29.5	16	20	15:06	15:07	0.12	1.47	12	0
Mean		4	4	84	7.57	12.2	5.11	2.19	2.43	29.5	16	20	Total	00:13	0.12	1.49	9	1
SDev		0	0	8	0.729	0.596	0.662	0.266	0.216	1.92	0.4	0.6			0.01	0.07		
SD/M		0.00	0.00	0.10	0.10	0.05	0.13	0.12	0.09	0.07	0.03	0.03			0.10	0.04		

Remarks: 43.764483, -116.941617. About 900 feet below headgate.

Discharge for transects in *italics* have a total Q more than 5% from the mean

Attachment D
Exam Photos



Ramped flume measurement device and staff gage at point of diversion



Return channel to River looking upstream



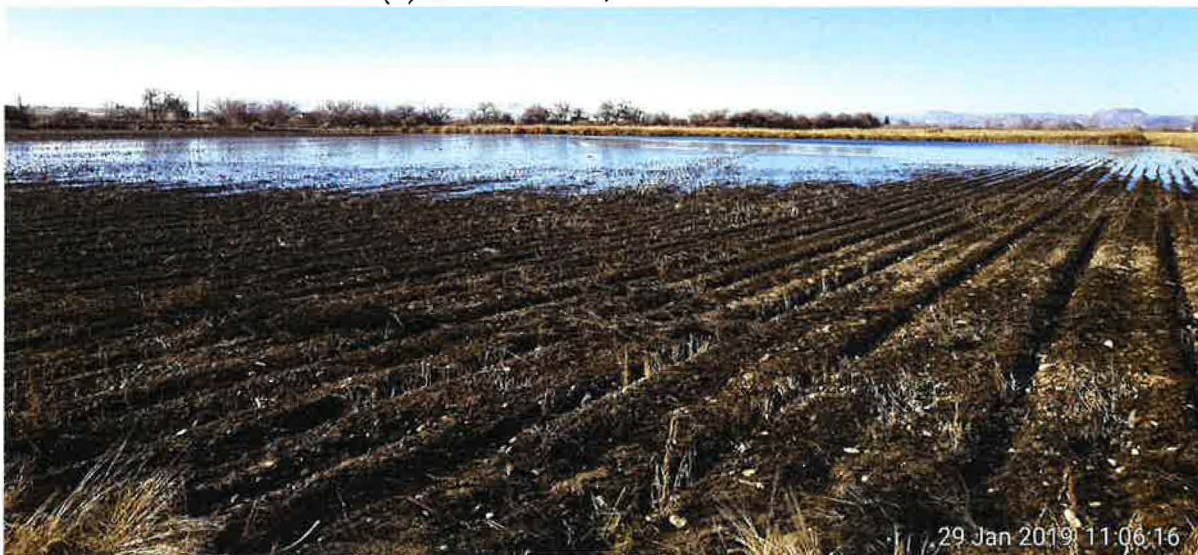
Return flow to River



Field flooding

North East Elevation

☉ 228°SW (T) ☉ 43.773314, -116.965553 ±4m ▲ 642 m



Field flooding



Flooding of wildlife habitat north of fields



April 9, 2019

RECEIVED
APR 10 2019
DEPARTMENT OF
WATER RESOURCES

Idaho Department of Water Resources
PO Box 83720
Boise, ID 83720-0098

Attn: Dan Nelson

*Subject: Thorpe Family Trust
Permit No. 63-34334
Beneficial Use Field Report*

Dan,

Enclosed on behalf of Thorpe Family Trust is a Beneficial Use Field Report and signed Statement of Completion for the above-referenced permit. I sent the digital shapefiles by email this morning so you should have them, but if you don't just let me know.

Please let me know if you have any questions regarding this submittal.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott N. King", is written over a light blue circular stamp.

Scott N. King, P.E.
Supervising Engineer
CWRE No. 133

Enclosures

cc: Thorpe Family Trust c/o Ryan Thorpe

File: 1214.0020