

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

Nov 14, 2023

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. 63-324581. Owner W & H Limited Liability CompanyPhone No. 208-841-7175Current address 7036 N Spurwing Way, Meridian, ID 836462. Examiner's name Terry Scanlan, P.E., P.G., CWRE #129EXAM DATE 10/26/20233. Accompanied by Allan Humphries, Bruce Steinwinter, G. WallerEmail adh@rmph.netAddress 7036 N Spurwing Way, Meridian, ID 83646Relationship to permit holder permit holders and operatorPhone No. 208-841-71754. Source Unnamed Drain (aka Baldrige and Meadows Drain) tributary to Boise River**B. OVERLAP REVIEW**1. Other water rights with the same place of use 63-2611A&B, 63-33354, 63-12601, 63-32910, 63-333612. Other water rights with the same source and point of diversion 63-2611A&B, 63-33354, 63-12601, 63-32910, 63-33503 63-32460, 63-33508**C. DIVERSION AND DELIVERY SYSTEM**

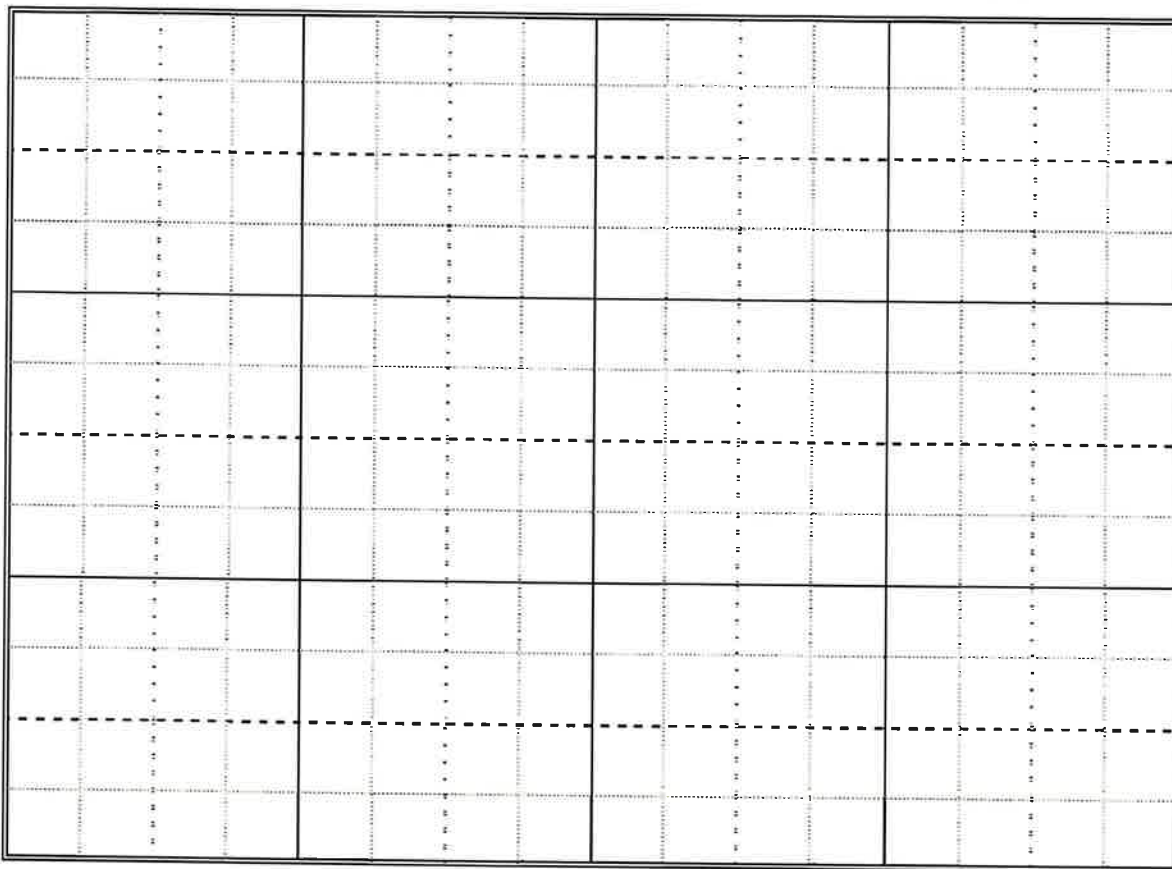
1. Point(s) of Diversion: Point of diversion is on line between L3 and L4

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
	L3		NE	NW	27	5N	5W	Canyon	GIS
	L4		NW	NW	27	5N	5W	Canyon	GIS

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

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	21	X	X	X	X										X			
		21	L2	L3,L7	L7	L8									L9				
		22						X	X										
		22							L4										

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
Flow Tracker 2 ADV	Doppler	SonTek				
4-foot suppressed weir						

2. Measurements: _____

5.32 to 6.79 cfs

E. NARRATIVE/REMARKS/COMMENTS

See attached narrative.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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?

Condition 18 notes “*Water will return to the Boise River at the NENE, Sec. 21, Twp. 05 N., Rge. 05 W.*” Although most of the flow returns at this location, return from ponds south of the Lower Haas Ditch flows to the Snake River through the Ross East End Drain (tributary to the South Boise Drain). These ponds are less than 15 percent of the total pond area. This condition can be modified to “*Water will return to the Boise River at the NENE, Sec. 21, Twp. 05 N., Rge. 05 W. and to the Snake River in NENW Sec.11, Twp 05N, Rge. 06 W.*” Alternatively, the condition could be removed.

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

Sum of suppressed weir (north ditch) and velocity profile (west ditch) measurements ranged from 5.32 cfs to 6.79 cfs. Limit to permit rate of 4.60 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:

45 acres of pond and flooded surface area with average depth of 2 feet = 90 acre feet. Limit storage to permit volume of 78.8 acre feet.

11/16 to 2/28 (inclusive) is 105 days

105 days $\times$ 4.60 cfs $\times$ 1.9835 af/cfs-day = 958 acre feet

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Wildlife	11/16	2/28	4.60 cfs	958 afa
Diversion to Storage	11/16	2/28	4.60 cfs	958 afa
Wildlife Storage	11/16	2/28		78.8 afa
Totals:			4.60 cfs	958 afa

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

Terry M Scanlan

Date November 9, 2023

Reviewer

Date



Narrative

Introduction

Permit 63-32458 authorizes diversion from the Baldrige and Meadows Drain through the Upper Haas Ditch for wildlife and wildlife storage uses during the non-irrigation season (11/16 to 2/28).

A field examination of permit 63-32458 was conducted on October 26, 2023, prior to the season of use for permit 63-32458. Due to this timing, the permit was not being exercised during the field examination. Diversions were occurring, however, under water rights 63-12601 and 63-32910 allowing flow to be measured. Pond locations were examined, but check structures were not holding back water allowing the ponds to fill in most cases. Pond areas were visible based on water marks and vegetation. Pond area maps and water system diagram are provided in Attachment 1.

Water Use

Water is stored in nine pond areas and some adjacent agricultural fields and wetlands, with a total of approximately 45 acres intentionally inundated. Wildlife use is primarily by waterfowl. Numerous waterfowl, along with upland game birds and non-game bird species were observed at and around the pond areas during the field examination. Hunting blinds are present at the ponds.

Flow Measurements

Water is diverted from the Baldrige and Meadows Drain through the Upper Haas Ditch to the W & H property. There is one user (GO Investments) upstream that also diverts through the Upper Haas Ditch.

Flow can be measured where the Upper Haas Ditch enters the W & H property and immediately bifurcates into two ditches. A concrete ditch (West Ditch) takes water west, to supply lands west and south of the Lower Haas Ditch. An earthen ditch (North Ditch) takes water north to supply lands east and north of the Lower Haas Ditch. The West Ditch functions as a rated section. A staff gage is bolted to the side of the ditch for this purpose. The head of the North Ditch is a check structure with 4-foot check boards that functions as a suppressed rectangular weir.

On the day of the field exam, the flow entering the property was measured using a Flow Tracker (Acoustic Doppler Velocity Meter) in the West Ditch and using a ruler at the North Ditch weir. Flows through the West Ditch were varied to create a rating curve for the staff gage. Readings are summarized below, and Flow Tracker data sheets are provided as Attachment 2.

Time	North Ditch (4' Suppressed Weir)		West Ditch (Flow Tracker)		Total Flow (cfs)
	Water Height (ft)	Flow (cfs)	Staff Gage (ft)	Flow (cfs)	
13:45	0.54	5.14	-0.54	0.18	5.32
14:05	0.46	4.06	0.09	1.29	5.35
14:30	0.42	3.55	0.54	2.77	6.32
15:00	0.33	2.48	0.87	4.31	6.79

I previously measured flow through the Upper Haas Ditch on April 26, 2010. Flow at Baldridge and Meadows Drain point of diversion on April 26, 2010 was 8.19 cfs and flow entering the W & H property was 8.06 cfs. At that time, the farmer informed me that more water is typically diverted during midsummer, and it was apparent from watermarks that the ditch could be operated at a higher level, suggesting that the ditch could potentially carry approximately 10 cfs.

The point of diversion has been equipped with an orifice weir as a measurement device, but the Water District 63 watermaster, Mike Meyers, indicated to me that use of the device has been discontinued because measurement inaccuracies. The portion of the Upper Haas Ditch in the vicinity of the headgate is very flat, making measurement difficult. As a result, measurement on the W & H property is more accurate and eliminates any depletions by the upstream user on the Upper Haas Ditch.

Places of Use

The places of use consist of nine informally named ponds with a combined area of approximately 45 acres. Each pond is equipped with a control structure that allows the water level to be raised during the fall months. Average pond depth is reported to be "thigh deep" which is assumed to be approximately 2 feet. Water marks, vegetation, and overflow structures suggest that 1.5 to 2 feet is a reasonable approximation.

Overlapping Water Rights

Multiple water rights and permits divert from the Baldridge and Meadows Drain through the Upper Haas Ditch. These rights include (in order of priority):

- Water right 63-2611A (W & H LLC) authorizes diversion of 2.28 cfs for seasonal irrigation of 114 acres with a priority date of 3/13/1944.
- Water right 63-2611B (W & H LLC) authorizes diversion of 2.28 cfs for seasonal irrigation of 114 acres with a priority date of 3/13/1944.
- Water right 63-33503 (GO Investments Idaho) authorizes diversion of 1.00 cfs for seasonal irrigation of 12 acres with a priority date of 3/13/1944.
- Water right 63-33354 (W & H LLC) authorizes diversion of 0.05 cfs for year-round stockwater use with a priority date of 3/13/1944.
- Water right 63-32910 (W & H LLC) authorizes year-round diversion of 4.60 cfs, including 0.05 cfs for stockwater, 4.60 cfs for wildlife, 4.60 cfs for diversion to storage, and 45 afa for wildlife storage with a priority date of 1/1/1970. This water right is subordinate to permit 63-32460 from November 16 to February 28 is subordinate to permit 63-33508 from October 1 through November 15, giving it an effective priority date of 5/11/2011 from October 1 through November 15 and 4/6/2005 from November 16 to February 28. Places of use are ponds in the NWNW, SWNW, and Lots 3 and 4 of Section 22 referred to as the Fish Pond, Mud Pond, and Eagle Pond.
- Water right 63-12601 (W & H LLC) authorizes diversion of 0.20 cfs for 20 af of year-round wildlife storage with a priority date of 8/24/2000. Places of use are ponds in the NENE and Lot 2 of Section 21 and NWNW, SWNW, and Lot 4 of Section 22, referred to as the Fish Pond, Mud Pond, Eagle Pond, and Beaver Pond.
- Permit 63-32460 (GO Investments Idaho) authorizes diversion of 6.00 cfs for wildlife, diversion to storage, and wildlife storage between 11/16 and 2/28 with a priority date of 4/5/2005.

- Permit 63-32458 (W & H LLC) authorizes diversion of 4.60 cfs for wildlife, diversion to storage, and wildlife storage (78.8 AFA) between 11/16 and 2/28 with a priority date of 9/12/2006. This permit is subordinate to permit 63-33508, but the subordination is meaningless because the season of use for the two permits do not overlap.
- Permit 63-33508 (GO Investments Idaho) authorizes diversion of 6.00 cfs for wildlife, diversion to storage, and wildlife storage (78.8 AFA) between 9/1 and 11/15 with a priority date of 5/11/2011.

Overlapping water right places of use for wildlife purposes include 63-12601 licensed for 0.20 cfs and 20 afa in the NENE and Lot 2 of Section 21 and NWNW, SWNW, and Lot 4 of Section 22 and 63-32910 decreed for 4.60 cfs in the NWNW, SWNW, and Lots 3 and 4 of Section 22. An overlap map is provided in Attachment 1.

Permit 63-32458 provides additional flow for the 63-12601 and 63-32910 places of use and provides flow and volume for ponds not overlapped by license 63-12601 and decree 63-32910. A high flow-through rate prevents freezing of pond areas during winter months. Under optimum conditions, it appears that the entire 9.4 cfs authorized under 63-12601, 63-32458, and 63-32910 can be diverted and delivered through the property.

Amendments

The permit should be amended to include places of use in L2 (NENE), L7 (NWNE), L3 (NWNE), L8 (SENE), and SENE, Section 21 and L4 (SWNW), Section 22, T5N, R5W.

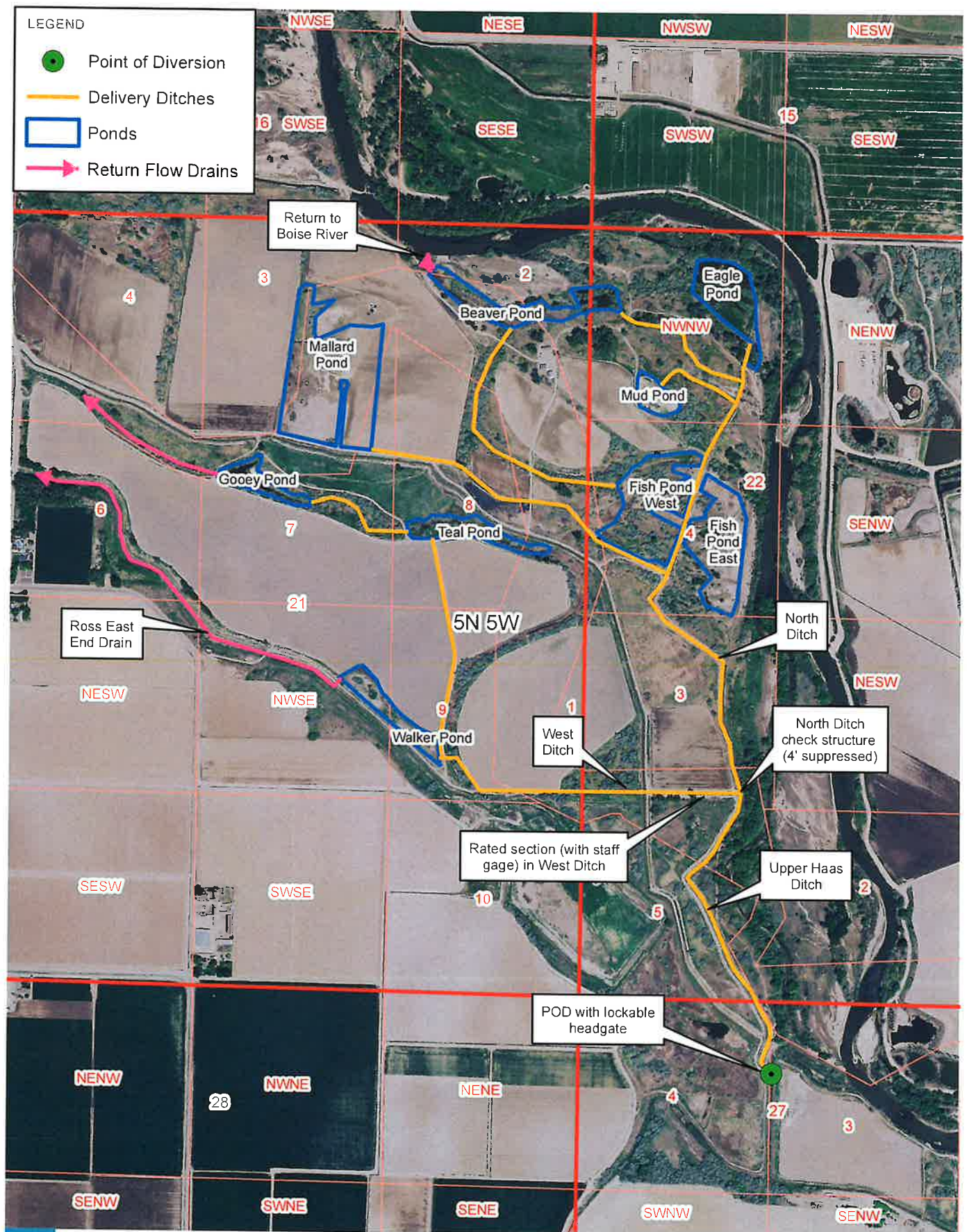
The point of diversion channel leading to the headgate is on the dividing line between L3 (NENW) and L4 (NWNW), Section 27, T5N, R5W. The permit could be amended to add L4 (NWNW), Section 27.

Alternatively, if only one POD description is desired, GIS mapping shows the headgate is in L4 (NWNW), Section 27.

Attachments

1. Maps
 - a. Place of Use and Point of Diversion – Topographic
 - b. Place of Use and Point of Diversion – Aerial Imagery
 - c. System Diagram
 - d. Overlap Map
2. Flow Measurements
3. Exam Photos

Attachment 1 – Maps



HR

0 Feet 1,000

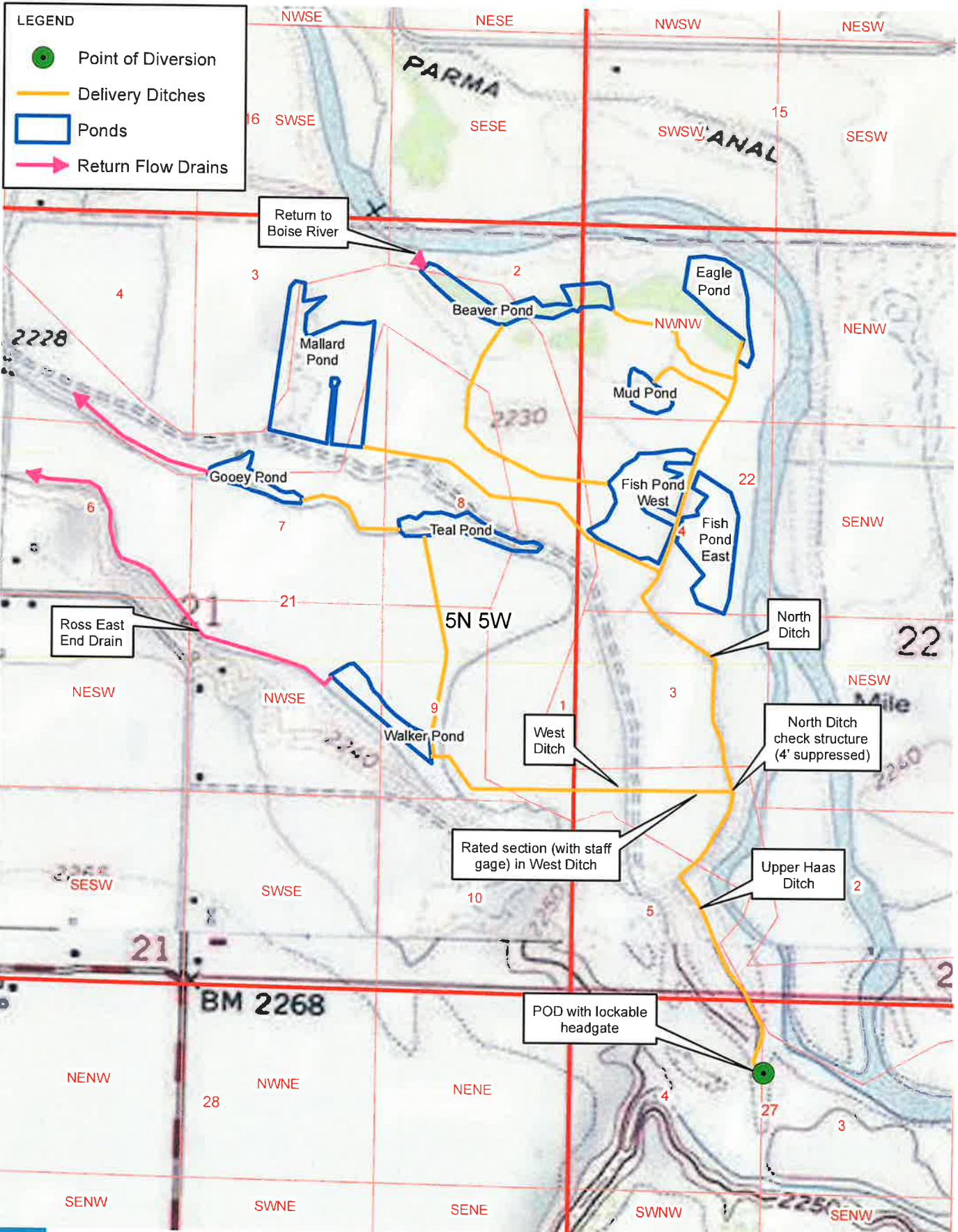


63-32458 BUFE
AERIAL IMAGERY MAP

W & H LLC

PROJECT #10384668

PATH: S:\PROJECTS\THRU 2 PROJECTS\W & H\63-32458 BUFE\PROJECT\GIS\ARCMAP_PROJECTS\63-32458 BUFE POND MAP.MXD * USER: LGRABES * DATE: 11/17/2010

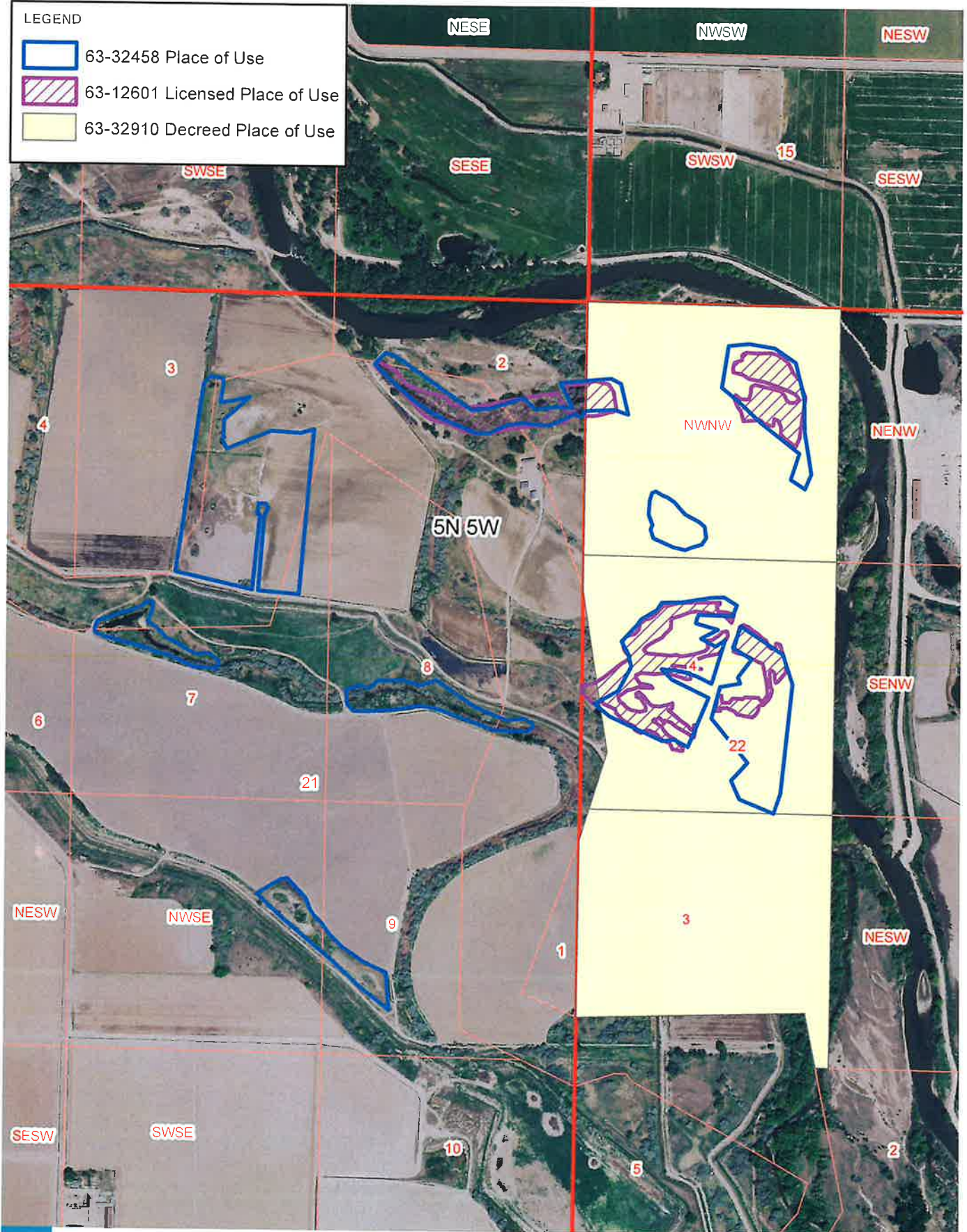


63-32458 BUFE
TOPOGRAPHICAL MAP

W & H LLC

LEGEND

-  63-32458 Place of Use
-  63-12601 Licensed Place of Use
-  63-32910 Decreed Place of Use



HDR

0 Feet 1,000



63-32458 BUFE
OVERLAPPING WATER RIGHTS

W & H LLC

Attachment 2- Flow Measurements

W & H

10384668

Beneficial Use Field Exam

Permit 63-32458

by S.King

Discharge measurements of 4-ft contracted weir using checkboards as weir plate.

Discharge measurements in trapezoidal concrete ditch using HDR flowtracker 2.

1-ft staff plate mounted to concrete ditch wall.

Date	Time (MST)	Ditch SG (ft)	Ditch Q (cfs)	Width (ft)	Depth (ft)	Area (ft ²)	Temp F	Depth over check boards (ft)	Weir Q (cfs)	Total Q (cfs)
		-0.83333	0							
10/26/2023	13:45	-0.54167	0.18	1.3	0.15	0.2	55.6	0.54	5.14	5.32
	14:05	0.09	1.29	2.2	0.45	1	55.5	0.46	4.06	5.35
	14:30	0.54	2.77	2.9	0.6	1.74	55.7	0.42	3.55	6.32
	15:00	0.87	4.31	3.45	0.71	2.47	55.9	0.33	2.48	6.79

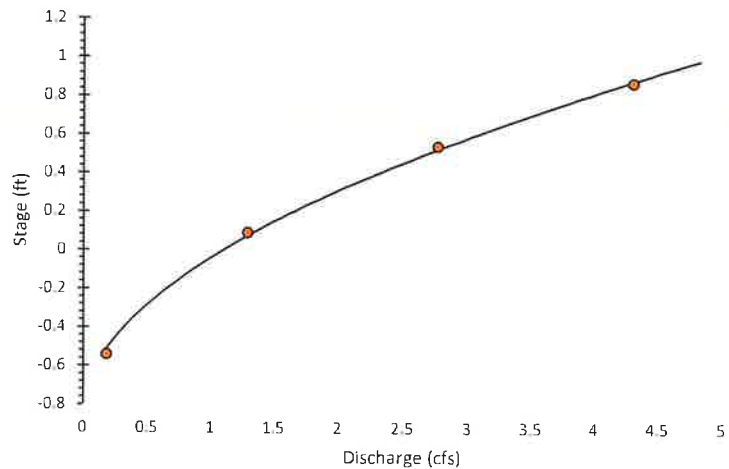
SG Adjust = 0.83

C_d = 1.55

Exp = 1.9

SG+0.83333	SG	Q
0.00	-0.83	0.00
0.02	-0.81	0.00
0.04	-0.79	0.00
0.06	-0.77	0.01
0.08	-0.75	0.01
0.10	-0.73	0.02
0.12	-0.71	0.03
0.14	-0.69	0.04
0.16	-0.67	0.05
0.18	-0.65	0.06
0.20	-0.63	0.07
0.22	-0.61	0.09
0.24	-0.59	0.10
0.26	-0.57	0.12
0.28	-0.55	0.14
0.30	-0.53	0.16
0.32	-0.51	0.18
0.34	-0.49	0.20
0.36	-0.47	0.22
0.38	-0.45	0.25
0.40	-0.43	0.27
0.42	-0.41	0.30
0.44	-0.39	0.33
0.46	-0.37	0.35
0.48	-0.35	0.38
0.50	-0.33	0.42
0.52	-0.31	0.45
0.54	-0.29	0.48
0.56	-0.27	0.52
0.58	-0.25	0.55
0.60	-0.23	0.59
0.62	-0.21	0.62
0.64	-0.19	0.66
0.66	-0.17	0.70
0.68	-0.15	0.74

W & H Concrete Ditch Rating 1.0



0.70	-0.13	0.79
0.72	-0.11	0.83
0.74	-0.09	0.87
0.76	-0.07	0.92
0.78	-0.05	0.97
0.80	-0.03	1.01
0.82	-0.01	1.06
0.84	0.01	1.11
0.86	0.03	1.16
0.88	0.05	1.22
0.90	0.07	1.27
0.92	0.09	1.32
0.94	0.11	1.38
0.96	0.13	1.43
0.98	0.15	1.49
1.00	0.17	1.55
1.02	0.19	1.61
1.04	0.21	1.67
1.06	0.23	1.73
1.08	0.25	1.79
1.10	0.27	1.86
1.12	0.29	1.92
1.14	0.31	1.99
1.16	0.33	2.05
1.18	0.35	2.12
1.20	0.37	2.19
1.22	0.39	2.26
1.24	0.41	2.33
1.26	0.43	2.40
1.28	0.45	2.48
1.30	0.47	2.55
1.32	0.49	2.63
1.34	0.51	2.70
1.36	0.53	2.78
1.38	0.55	2.86
1.40	0.57	2.94
1.42	0.59	3.02
1.44	0.61	3.10
1.46	0.63	3.18
1.48	0.65	3.26
1.50	0.67	3.35
1.52	0.69	3.43
1.54	0.71	3.52
1.56	0.73	3.61
1.58	0.75	3.70
1.60	0.77	3.79
1.62	0.79	3.88
1.64	0.81	3.97
1.66	0.83	4.06
1.68	0.85	4.15
1.70	0.87	4.25
1.72	0.89	4.34
1.74	0.91	4.44
1.76	0.93	4.54
1.78	0.95	4.64
1.80	0.97	4.74
1.82	0.99	4.84



Discharge Measurement Summary

Site name WH -0.54
Site number W&H -0.54ft
Operator(s) SNK
File name 20231026_1234.ft
Comment Low Flow

Start time	10/26/2023 12:45 PM	Sensor type	Top Setting
End time	10/26/2023 12:53 PM	Handheld serial number	FT2H2010022
Start location latitude	43°45.172'N	Probe serial number	FT2P2010016
Start location longitude	116°55.693'W	Probe firmware	1.30
Calculations engine	FlowTracker2	Handheld software	1.6

# Stations	Avg interval (s)	Total discharge (ft³/s)
6	40	0.1812

Total width (ft)	Total area (ft²)	Wetted Perimeter (ft)
1.300	0.1950	1.414

Mean SNR (dB)	Mean depth (ft)	Mean velocity (ft/s)
39	0.150	0.9294

Mean temp (°F)	Max depth (ft)	Max velocity (ft/s)
55.638	0.200	1.1419

Discharge Uncertainty		
Category	ISO	IVE
Accuracy	1.0%	1.0%
Depth	0.8%	25.6%
Velocity	0.7%	3.5%
Width	0.3%	0.3%
Method	3.8%	
# Stations	9.4%	
Overall	10.3%	25.9%

Discharge equation	Mid Section
Discharge uncertainty	IVE
Discharge reference	Rated

Data Collection Settings	
Salinity	0.000 PSS-78
Temperature	-
Sound speed	-
Mounting correction	0.000 %

Summary overview

No changes were made to this file
Quality control warnings



Discharge Measurement Summary

Site name WH -0.54
Site number W&H -0.54ft
Operator(s) SNK
File name 20231026_1234.ft
Comment Low Flow

Station discharge OK

Station discharge caution

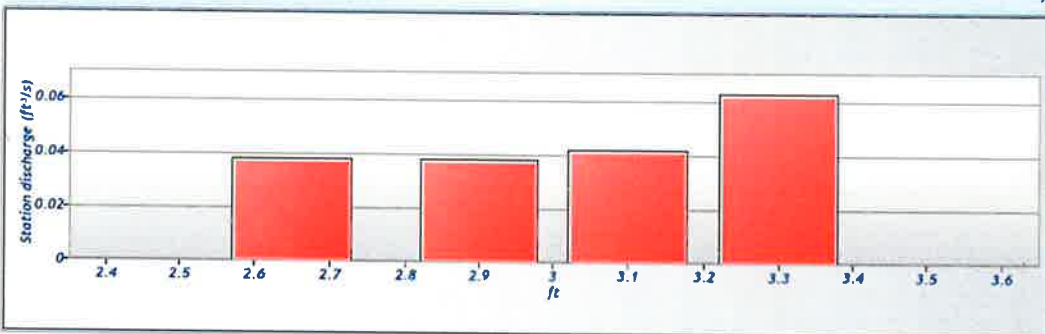
Station discharge warning

Station Warning Settings

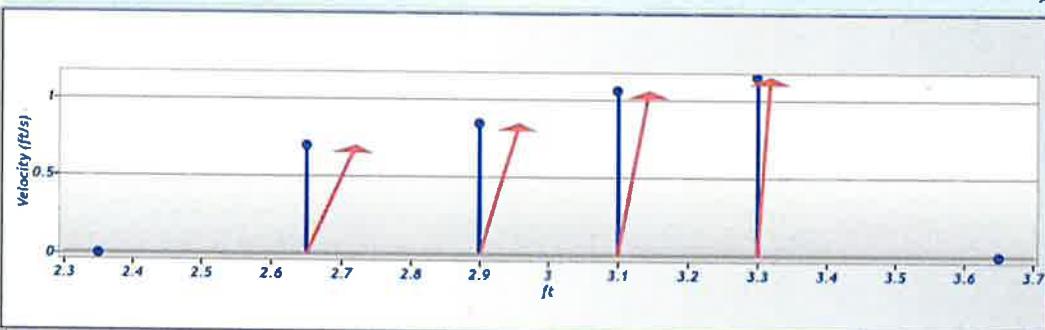
Station discharge < 5.00%
5.00% >= Station discharge < 10.00%
Station discharge >= 10.00%



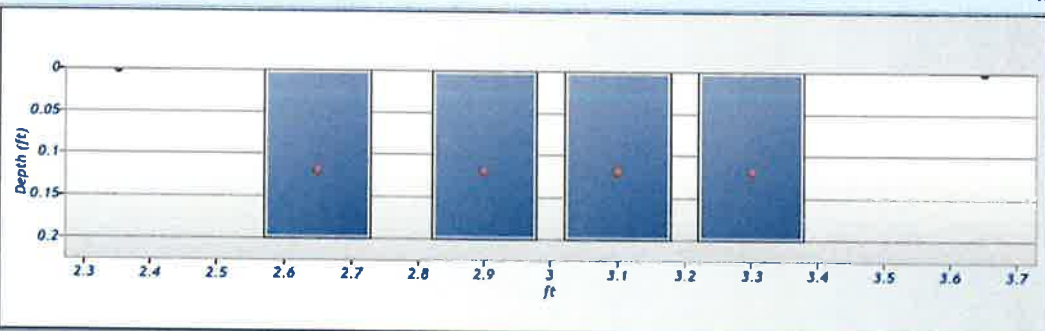
Discharge chart



Velocity chart



Depth chart





Discharge Measurement Summary

Site name WH -0.54
Site number W&H -0.54ft
Operator(s) SNK
File name 20231026_1234.ft
Comment Low Flow

Measurement results

St.#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Samples	Velocity (ft/s)	Correction	Mean Velocity (ft/s)	Area (ft ²)	Flow (ft ³ /s)	%Q	
0	12:45 PM	2.350	None	0.000	0.0000	0.000	0	0.0000		0.6955	0.0000	0.0000	0.00	✓
1	12:46 PM	2.650	0.6	0.200	0.6000	0.120	80	0.6955	1.0000	0.6955	0.0550	0.0383	21.11	✓
2	12:47 PM	2.900	0.6	0.200	0.6000	0.120	80	0.8443	1.0000	0.8443	0.0450	0.0380	20.96	✓
3	12:50 PM	3.100	0.6	0.200	0.6000	0.120	80	1.0546	1.0000	1.0546	0.0400	0.0422	23.28	✓
4	12:51 PM	3.300	0.6	0.200	0.6000	0.120	80	1.1419	1.0000	1.1419	0.0550	0.0628	34.65	✓
5	12:53 PM	3.650	None	0.000	0.0000	0.000	0	0.0000		1.1419	0.0000	0.0000	0.00	✓



Discharge Measurement Summary

Site name WH -0.54
Site number W&H -0.54ft
Operator(s) SNK
File name 20231026_1234.ft
Comment Low Flow

Quality Control Settings

Maximum depth change 50.00%
Maximum spacing change 100.00%
SNR threshold 10 dB
Standard error threshold 0.0328 ft/s
Spike threshold 10.00%
Maximum velocity angle 20.0 deg
Maximum tilt angle 5.0 deg

Quality control warnings

St#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Warnings
1	12:46 PM	2.650	0.6	0.200	0.6000	0.120	Boundary Interference, High Stn % Discharge
2	12:47 PM	2.900	0.6	0.200	0.6000	0.120	High Stn % Discharge
3	12:50 PM	3.100	0.6	0.200	0.6000	0.120	High Stn % Discharge
4	12:51 PM	3.300	0.6	0.200	0.6000	0.120	High Stn % Discharge



Discharge Measurement Summary

Site name WH -0.54
Site number W&H -0.54ft
Operator(s) SNK
File name 20231026_1234.ft
Comment Low Flow

Supplemental data summary

Gauge height time	Gauge height (ft)	Rated discharge (ft ³ /s)	Temperature (°F)	Salinity (PSS-78)	Gauge height comments
10/26/2023 12:45 PM	-0.540				



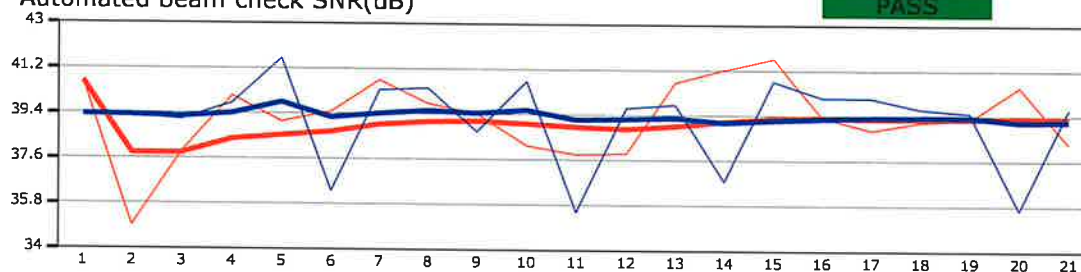
Discharge Measurement Summary

Site name WH -0.54
Site number W&H -0.54ft
Operator(s) SNK
File name 20231026_1234.ft
Comment Low Flow

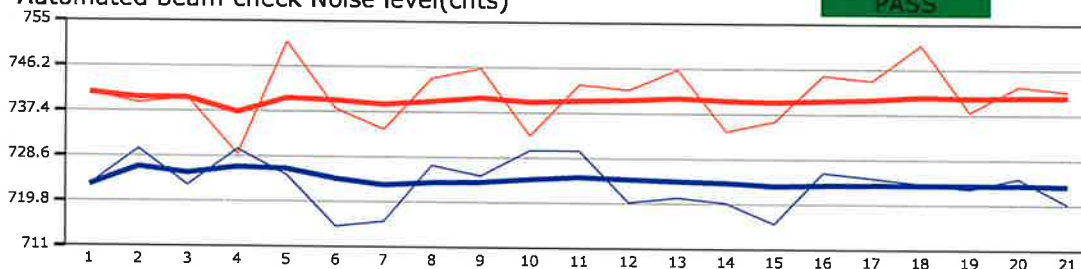
Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 12:45:03 PM

Automated beam check SNR(dB)



Automated beam check Noise level(cnts)



Automated beam check Quality control warnings
No quality control warnings



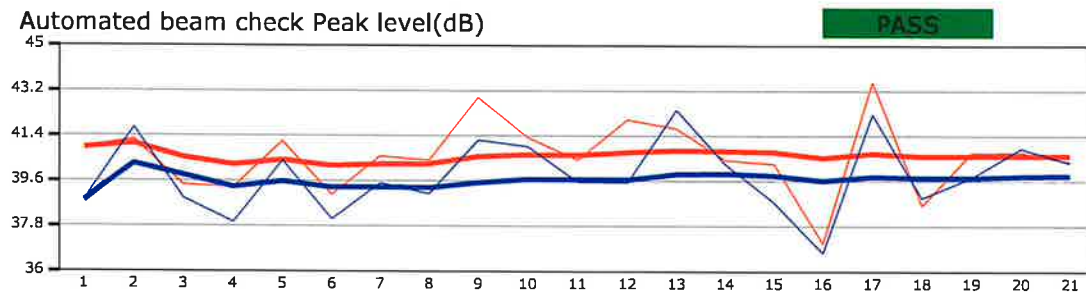
Discharge Measurement Summary

Site name WH -0.54
Site number W&H -0.54ft
Operator(s) SNK
File name 20231026_1234.ft
Comment Low Flow

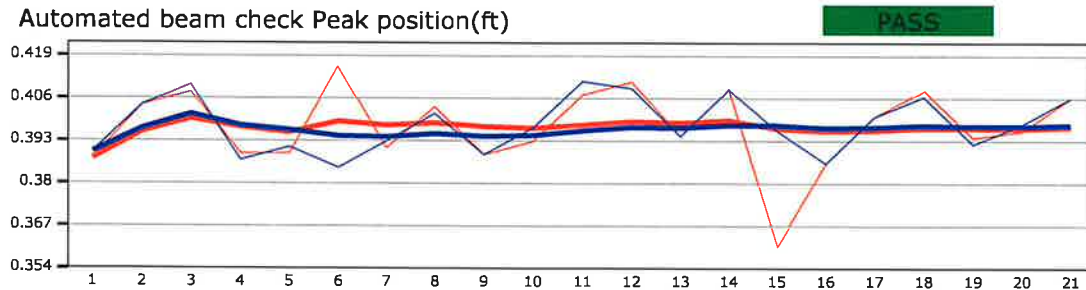
Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 12:45:03 PM

Automated beam check Peak level(dB)



Automated beam check Peak position(ft)



Automated beam check Quality control warnings

No quality control warnings

10/27/2023 11:00:33 AM



Discharge Measurement Summary

Site name WH 0.06
Site number 1234
Operator(s) SNK
File name 20231026_1234_2.ft
Comment

Start time	10/26/2023 1:03 PM	Sensor type	Top Setting
End time	10/26/2023 1:13 PM	Handheld serial number	FT2H2010022
Start location latitude	43°45.173'N	Probe serial number	FT2P2010016
Start location longitude	116°55.695'W	Probe firmware	1.30
Calculations engine	FlowTracker2	Handheld software	1.6

# Stations	Avg interval (s)	Total discharge (ft³/s)
7	40	1.2946

Total width (ft)	Total area (ft²)	Wetted Perimeter (ft)
2.200	0.9963	2.741

Mean SNR (dB)	Mean depth (ft)	Mean velocity (ft/s)
40	0.453	1.2994

Mean temp (°F)	Max depth (ft)	Max velocity (ft/s)
55.463	0.650	1.4903

Discharge Uncertainty		
Category	ISO	IVE
Accuracy	1.0%	1.0%
Depth	0.7%	8.1%
Velocity	0.6%	6.7%
Width	0.2%	0.2%
Method	3.6%	
# Stations	7.8%	
Overall	8.7%	10.6%

Discharge equation	Mid Section
Discharge uncertainty	IVE
Discharge reference	Rated

Data Collection Settings	
Salinity	0.000 PSS-78
Temperature	-
Sound speed	-
Mounting correction	0.000 %

Summary overview

No changes were made to this file
Quality control warnings



Discharge Measurement Summary

Site name WH 0.06
Site number 1234
Operator(s) SNK
File name 20231026_1234_2.ft
Comment

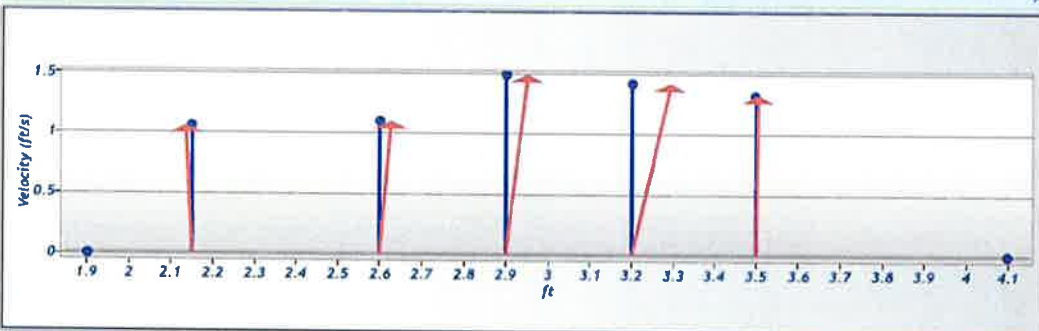
Station Warning Settings	
Station discharge OK	Station discharge < 5.00%
Station discharge caution	5.00% >= Station discharge < 10.00%
Station discharge warning	Station discharge >= 10.00%



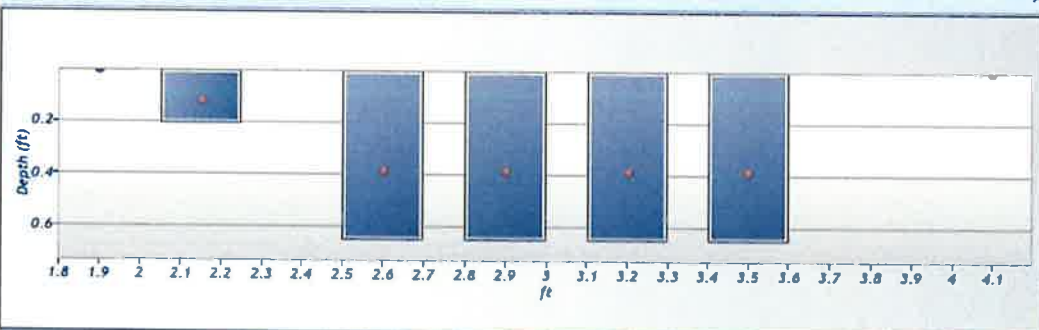
Discharge chart



Velocity chart



Depth chart





Discharge Measurement Summary

Site name WH 0.06
Site number 1234
Operator(s) SNK
File name 20231026_1234_2.ft
Comment

Measurement results

St.#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Samples	Velocity (ft/s)	Correction	Mean Velocity (ft/s)	Area (ft²)	Flow (ft³/s)	%Q	
0	1:03 PM	1.900	None	0.000	0.0000	0.000	0	0.0000		1.0527	0.0000	0.0000	0.00	✓
1	1:03 PM	2.150	0.6	0.200	0.6000	0.120	80	1.0527	1.0000	1.0527	0.0700	0.0737	5.69	✓
2	1:06 PM	2.600	0.6	0.650	0.6000	0.390	80	1.0976	1.0000	1.0976	0.2438	0.2675	20.67	✓
3	1:08 PM	2.900	0.6	0.650	0.6000	0.390	80	1.4903	1.0000	1.4903	0.1950	0.2906	22.45	✓
4	1:09 PM	3.200	0.6	0.650	0.6000	0.390	80	1.4159	1.0000	1.4159	0.1950	0.2761	21.33	✓
5	1:10 PM	3.500	0.6	0.650	0.6000	0.390	80	1.3218	1.0000	1.3218	0.2925	0.3866	29.87	✓
6	1:13 PM	4.100	None	0.000	0.0000	0.000	0	0.0000		1.3218	0.0000	0.0000	0.00	✓



Discharge Measurement Summary

Site name WH 0.06
Site number 1234
Operator(s) SNK
File name 20231026_1234_2.ft
Comment

Quality Control Settings

Maximum depth change 50.00%
Maximum spacing change 100.00%
SNR threshold 10 dB
Standard error threshold 0.0328 ft/s
Spike threshold 10.00%
Maximum velocity angle 20.0 deg
Maximum tilt angle 5.0 deg

Quality control warnings

St#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Warnings
1	1:03 PM	2.150	0.6	0.200	0.6000	0.120	Boundary Interference
2	1:06 PM	2.600	0.6	0.650	0.6000	0.390	High Stn % Discharge
3	1:08 PM	2.900	0.6	0.650	0.6000	0.390	High Stn % Discharge
4	1:09 PM	3.200	0.6	0.650	0.6000	0.390	High Stn % Discharge
5	1:10 PM	3.500	0.6	0.650	0.6000	0.390	High Stn % Discharge



Discharge Measurement Summary

Site name WH 0.06
Site number 1234
Operator(s) SNK
File name 20231026_1234_2.ft
Comment

Supplemental data summary

Gauge height time	Gauge height (ft)	Rated discharge (ft^3/s)	Temperature ($^{\circ}\text{F}$)	Salinity (PSS-78)	Gauge height comments
10/26/2023 1:03 PM	0.060				
10/26/2023 1:03 PM	0.090				



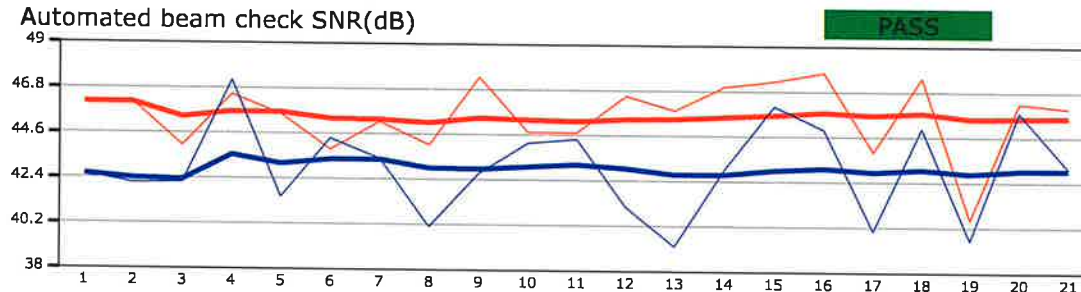
Discharge Measurement Summary

Site name WH 0.06
Site number 1234
Operator(s) SNK
File name 20231026_1234_2.ft
Comment

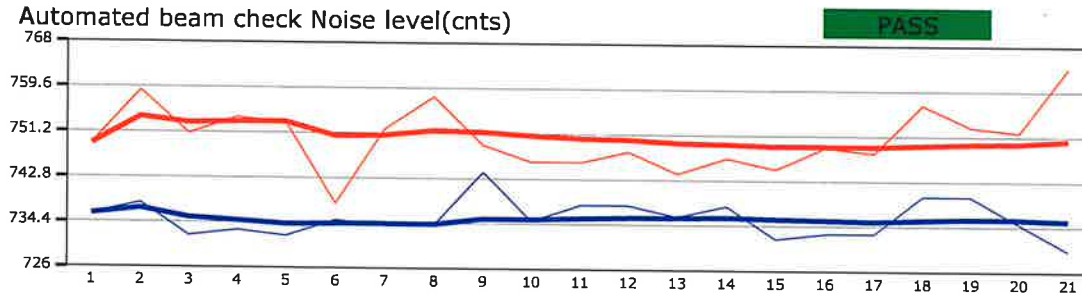
Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 1:02:44 PM

Automated beam check SNR(dB)



Automated beam check Noise level(cnts)



Automated beam check Quality control warnings
No quality control warnings



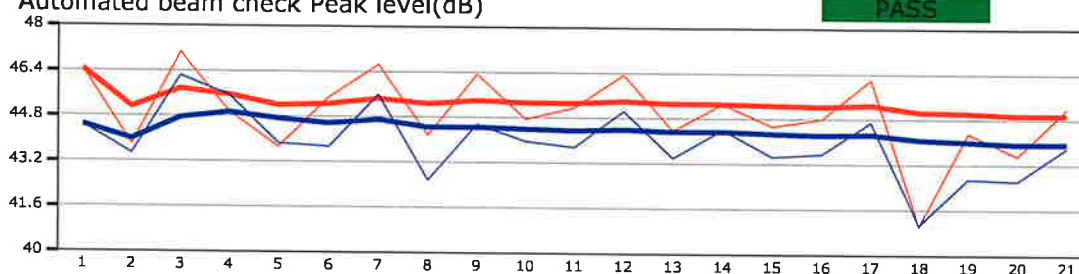
Discharge Measurement Summary

Site name WH 0.06
Site number 1234
Operator(s) SNK
File name 20231026_1234_2.ft
Comment

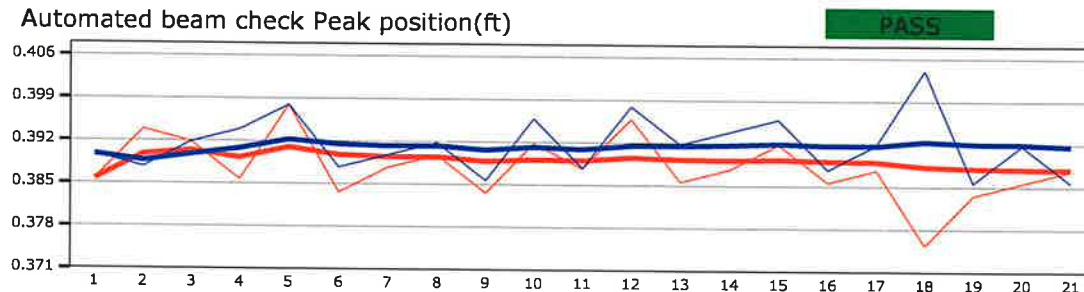
Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 1:02:44 PM

Automated beam check Peak level(dB)



Automated beam check Peak position(ft)



Automated beam check Quality control warnings

No quality control warnings

10/27/2023 11:03:05 AM



Discharge Measurement Summary

Site name WH 0.53
Site number 1234
Operator(s) SNK
File name 20231026_1234_3.ft
Comment

Start time	10/26/2023 1:29 PM	Sensor type	Top Setting
End time	10/26/2023 1:41 PM	Handheld serial number	FT2H2010022
Start location latitude	43°45.169'N	Probe serial number	FT2P2010016
Start location longitude	116°55.694'W	Probe firmware	1.30
Calculations engine	FlowTracker2	Handheld software	1.6

# Stations	Avg interval (s)	Total discharge (ft³/s)
8	40	2.7701

Total width (ft)	Total area (ft²)	Wetted Perimeter (ft)
2.900	1.7400	3.678

Mean SNR (dB)	Mean depth (ft)	Mean velocity (ft/s)
40	0.600	1.5920

Mean temp (°F)	Max depth (ft)	Max velocity (ft/s)
55.742	1.000	1.7972

Discharge Uncertainty		
Category	ISO	IVE
Accuracy	1.0%	1.0%
Depth	0.3%	6.3%
Velocity	0.5%	2.8%
Width	0.2%	0.2%
Method	3.3%	
# Stations	6.6%	
Overall	7.5%	7.0%

Discharge equation	Mid Section
Discharge uncertainty	IVE
Discharge reference	Rated

Data Collection Settings	
Salinity	0.000 PSS-78
Temperature	-
Sound speed	-
Mounting correction	0.000 %

Summary overview

No changes were made to this file
Quality control warnings

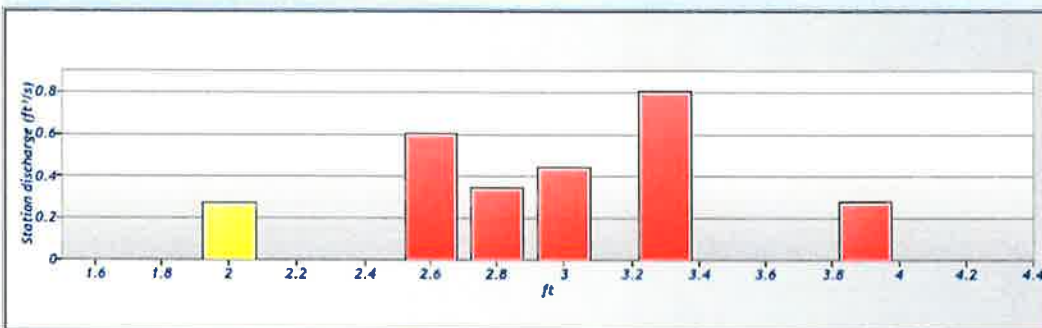


Discharge Measurement Summary

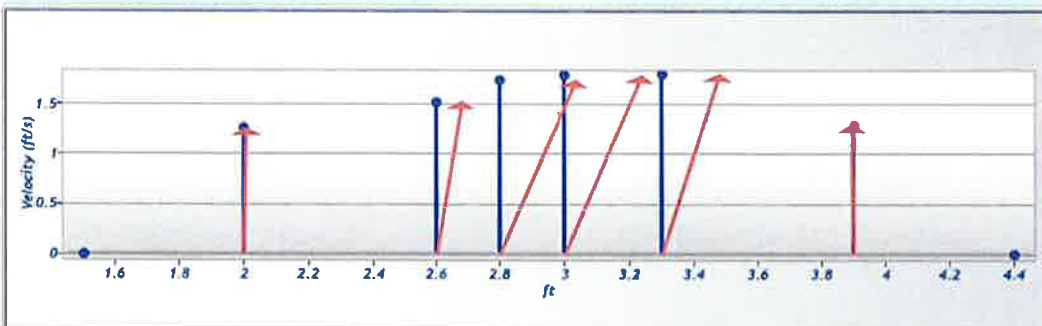
Site name WH 0.53
Site number 1234
Operator(s) SNK
File name 20231026_1234_3.ft
Comment

Station Warning Settings	
Station discharge OK	Station discharge < 5.00%
Station discharge caution	5.00% >= Station discharge < 10.00%
Station discharge warning	Station discharge >= 10.00%

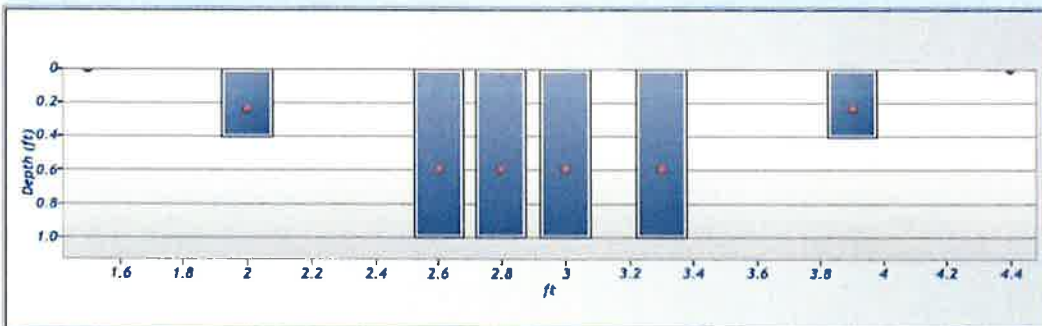
Discharge chart



Velocity chart



Depth chart





Discharge Measurement Summary

Site name WH 0.53
Site number 1234
Operator(s) SNK
File name 20231026_1234_3.ft
Comment

Measurement results

St#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Samples	Velocity (ft/s)	Correction	Mean Velocity (ft/s)	Area (ft ²)	Flow (ft ³ /s)	%Q	
0	1:29 PM	1.500	None	0.000	0.0000	0.000	0	0.0000		1.2581	0.0000	0.0000	0.00	✓
1	1:30 PM	2.000	0.6	0.400	0.6000	0.240	80	1.2581	1.0000	1.2581	0.2200	0.2768	9.99	✓
2	1:32 PM	2.600	0.6	1.000	0.6000	0.600	80	1.5191	1.0000	1.5191	0.4000	0.6076	21.93	✓
3	1:34 PM	2.800	0.6	1.000	0.6000	0.600	80	1.7380	1.0000	1.7380	0.2000	0.3476	12.55	✓
4	1:35 PM	3.000	0.6	1.000	0.6000	0.600	80	1.7840	1.0000	1.7840	0.2500	0.4460	16.10	✓
5	1:37 PM	3.300	0.6	1.000	0.6000	0.600	80	1.7972	1.0000	1.7972	0.4500	0.8087	29.19	✓
6	1:38 PM	3.900	0.6	0.400	0.6000	0.240	80	1.2881	1.0000	1.2881	0.2200	0.2834	10.23	✓
7	1:41 PM	4.400	None	0.000	0.0000	0.000	0	0.0000		1.2881	0.0000	0.0000	0.00	✓



Discharge Measurement Summary

Site name WH 0.53
Site number 1234
Operator(s) SNK
File name 20231026_1234_3.ft
Comment

Quality Control Settings

Maximum depth change 50.00%
Maximum spacing change 100.00%
SNR threshold 10 dB
Standard error threshold 0.0328 ft/s
Spike threshold 10.00%
Maximum velocity angle 20.0 deg
Maximum tilt angle 5.0 deg

Quality control warnings

St#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Warnings
2	1:32 PM	2.600	0.6	1.000	0.6000	0.600	High Stn % Discharge
3	1:34 PM	2.800	0.6	1.000	0.6000	0.600	High Stn % Discharge
4	1:35 PM	3.000	0.6	1.000	0.6000	0.600	Stn Spacing > QC, High Stn % Discharge
5	1:37 PM	3.300	0.6	1.000	0.6000	0.600	High Stn % Discharge
6	1:38 PM	3.900	0.6	0.400	0.6000	0.240	High Stn % Discharge



Discharge Measurement Summary

Site name WH 0.53
Site number 1234
Operator(s) SNK
File name 20231026_1234_3.ft
Comment

Supplemental data summary

Gauge height time	Gauge height (ft)	Rated discharge (ft ³ /s)	Temperature (°F)	Salinity (PSS-78)	Gauge height comments
10/26/2023 1:29 PM	0.550				
10/26/2023 1:29 PM	0.540				

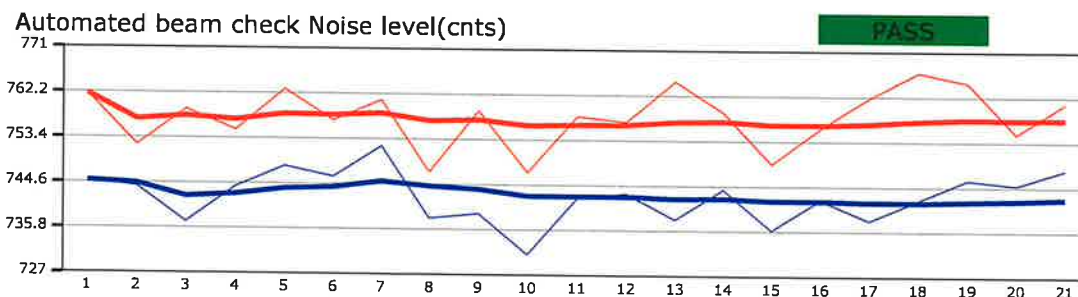
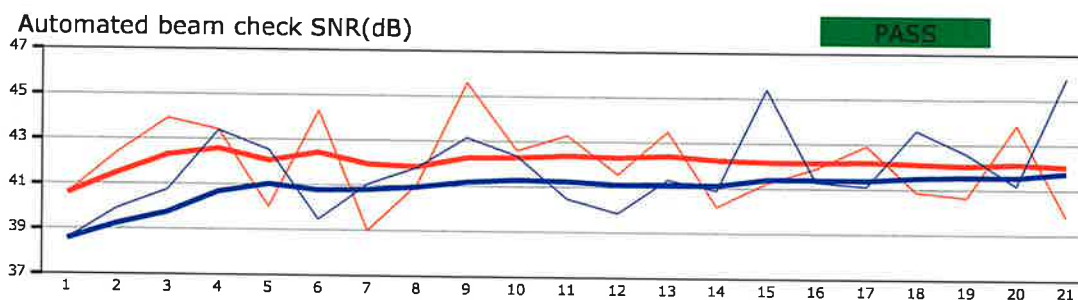


Discharge Measurement Summary

Site name WH 0.53
Site number 1234
Operator(s) SNK
File name 20231026_1234_3.ft
Comment

Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 1:29:07 PM



Automated beam check Quality control warnings
No quality control warnings

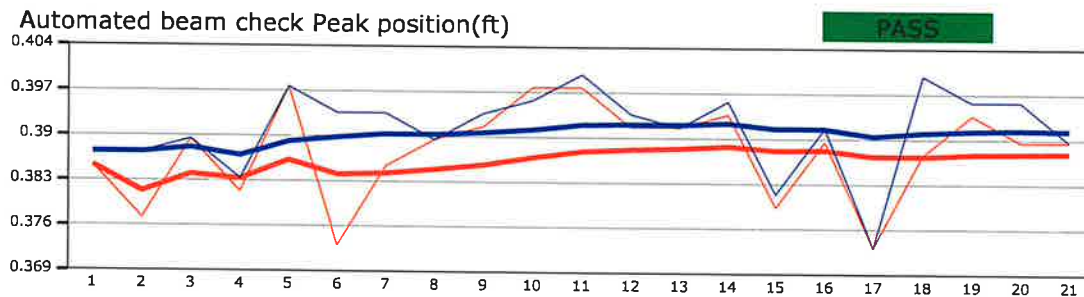
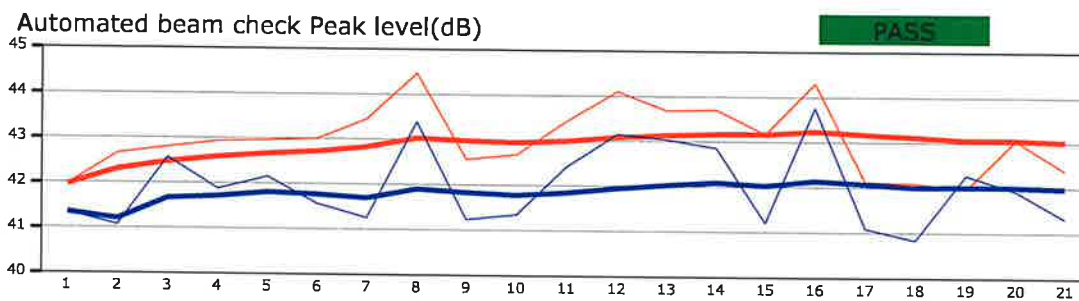


Discharge Measurement Summary

Site name WH 0.53
Site number 1234
Operator(s) SNK
File name 20231026_1234_3.ft
Comment

Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 1:29:07 PM



Automated beam check Quality control warnings
No quality control warnings



Discharge Measurement Summary

Site name WH 0.88
Site number 1234
Operator(s) SNK
File name 20231026_1234_4.ft
Comment

Start time	10/26/2023 1:52 PM	Sensor type	Top Setting
End time	10/26/2023 2:07 PM	Handheld serial number	FT2H2010022
Start location latitude	43°45.166'N	Probe serial number	FT2P2010016
Start location longitude	116°55.696'W	Probe firmware	1.30
Calculations engine	FlowTracker2	Handheld software	1.6

# Stations	Avg interval (s)	Total discharge (ft³/s)
10	40	4.3052

Total width (ft)	Total area (ft²)	Wetted Perimeter (ft)
3.450	2.4645	4.403

Mean SNR (dB)	Mean depth (ft)	Mean velocity (ft/s)
24	0.714	1.7469

Mean temp (°F)	Max depth (ft)	Max velocity (ft/s)
55.949	1.230	1.9846

Discharge Uncertainty		
Category	ISO	IVE
Accuracy	1.0%	1.0%
Depth	0.3%	4.0%
Velocity	0.4%	1.0%
Width	0.2%	0.2%
Method	2.8%	
# Stations	5.1%	
Overall	6.0%	4.2%

Discharge equation	Mid Section
Discharge uncertainty	IVE
Discharge reference	Rated

Data Collection Settings	
Salinity	0.000 PSS-78
Temperature	-
Sound speed	-
Mounting correction	0.000 %

Summary overview

No changes were made to this file
Quality control warnings



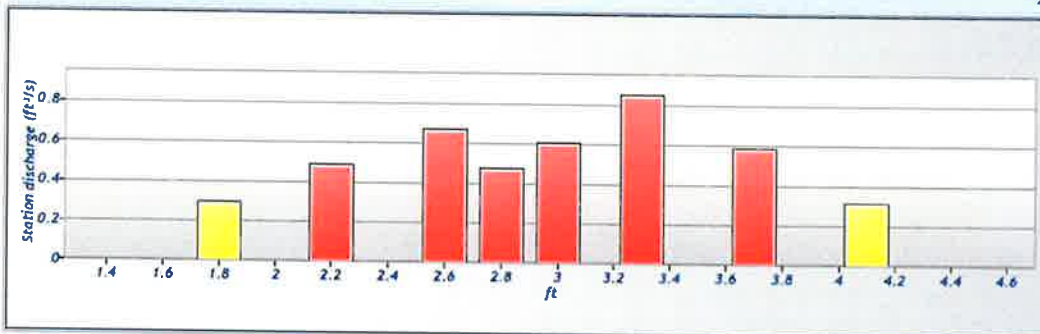
Discharge Measurement Summary

Site name WH 0.88
Site number 1234
Operator(s) SNK
File name 20231026_1234_4.ft
Comment

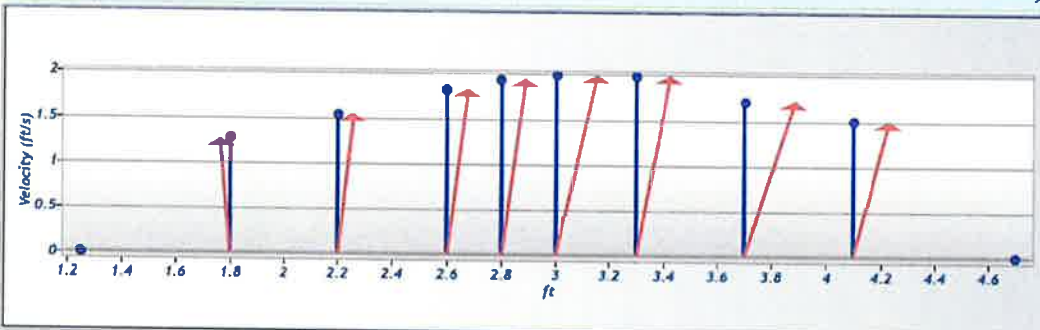
Station Warning Settings	
Station discharge OK	Station discharge < 5.00%
Station discharge caution	5.00% >= Station discharge < 10.00%
Station discharge warning	Station discharge >= 10.00%



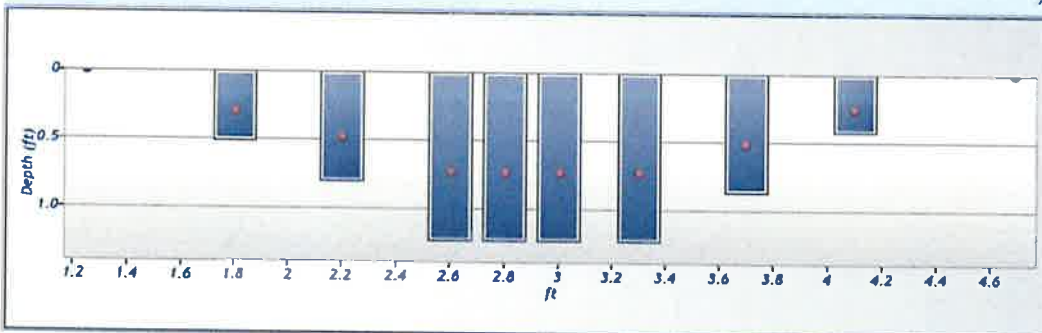
Discharge chart



Velocity chart



Depth chart





Discharge Measurement Summary

Site name WH 0.88
Site number 1234
Operator(s) SNK
File name 20231026_1234_4.ft
Comment

Measurement results

St.#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Samples	Velocity (ft/s)	Correction	Mean Velocity (ft/s)	Area (ft ²)	Flow (ft ³ /s)	%Q	
0	1:52 PM	1.250	None	0.000	0.0000	0.000	0	0.0000		1.2585	0.0000	0.0000	0.00	✓
1	1:53 PM	1.800	0.6	0.500	0.6000	0.300	80	1.2585	1.0000	1.2585	0.2375	0.2989	6.94	✓
2	1:55 PM	2.200	0.6	0.800	0.6000	0.480	80	1.5366	1.0000	1.5366	0.3200	0.4917	11.42	✓
3	1:56 PM	2.600	0.6	1.230	0.6000	0.738	80	1.8253	1.0000	1.8253	0.3690	0.6735	15.64	✓
4	1:58 PM	2.800	0.6	1.230	0.6000	0.738	80	1.9378	1.0000	1.9378	0.2460	0.4767	11.07	✓
5	2:00 PM	3.000	0.6	1.230	0.6000	0.738	80	1.9846	1.0000	1.9846	0.3075	0.6103	14.18	✓
6	2:01 PM	3.300	0.6	1.230	0.6000	0.738	80	1.9804	1.0000	1.9804	0.4305	0.8526	19.80	✓
7	2:02 PM	3.700	0.6	0.860	0.6000	0.516	80	1.7076	1.0000	1.7076	0.3440	0.5874	13.64	✓
8	2:06 PM	4.100	0.6	0.420	0.6000	0.252	80	1.4960	1.0000	1.4960	0.2100	0.3142	7.30	✓
9	2:07 PM	4.700	None	0.000	0.0000	0.000	0	0.0000		1.4960	0.0000	0.0000	0.00	✓



Discharge Measurement Summary

Site name WH 0.88
Site number 1234
Operator(s) SNK
File name 20231026_1234_4.ft
Comment

Quality Control Settings

Maximum depth change 50.00%
Maximum spacing change 100.00%
SNR threshold 10 dB
Standard error threshold 0.0328 ft/s
Spike threshold 10.00%
Maximum velocity angle 20.0 deg
Maximum tilt angle 5.0 deg

Quality control warnings

St#	Time	Location (ft)	Method	Depth (ft)	%Depth	Measured Depth (ft)	Warnings
1	1:53 PM	1.800	0.6	0.500	0.6000	0.300	Boundary Interference
2	1:55 PM	2.200	0.6	0.800	0.6000	0.480	High Stn % Discharge
3	1:56 PM	2.600	0.6	1.230	0.6000	0.738	High Stn % Discharge
4	1:58 PM	2.800	0.6	1.230	0.6000	0.738	High Stn % Discharge
5	2:00 PM	3.000	0.6	1.230	0.6000	0.738	High Stn % Discharge
6	2:01 PM	3.300	0.6	1.230	0.6000	0.738	High Stn % Discharge
7	2:02 PM	3.700	0.6	0.860	0.6000	0.516	High Stn % Discharge



Discharge Measurement Summary

Site name WH 0.88
Site number 1234
Operator(s) SNK
File name 20231026_1234_4.ft
Comment

Supplemental data summary

Gauge height time	Gauge height (ft)	Rated discharge (ft ³ /s)	Temperature (°F)	Salinity (PSS-70)	Gauge height comments
10/26/2023 1:52 PM	0.880				
10/26/2023 1:52 PM	0.870				

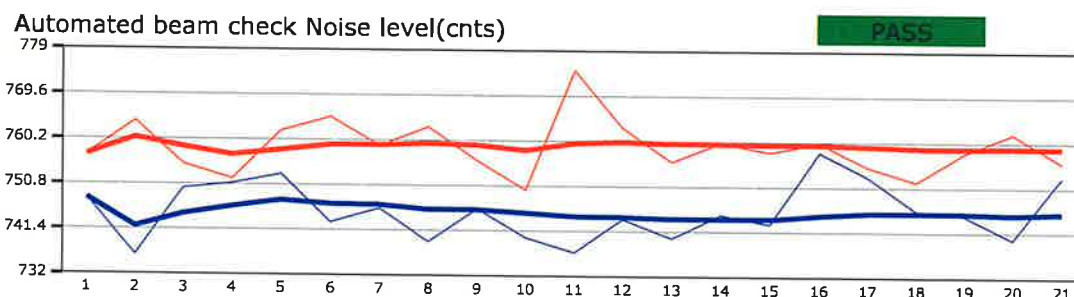
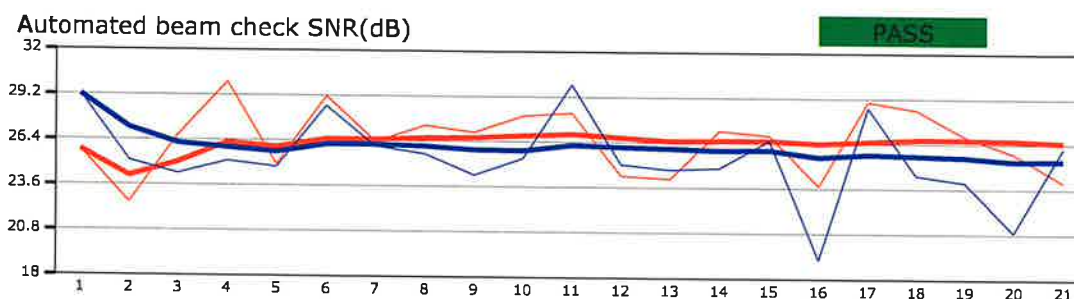


Discharge Measurement Summary

Site name WH 0.88
Site number 1234
Operator(s) SNK
File name 20231026_1234_4.ft
Comment

Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 1:51:28 PM



Automated beam check Quality control warnings
No quality control warnings



Discharge Measurement Summary

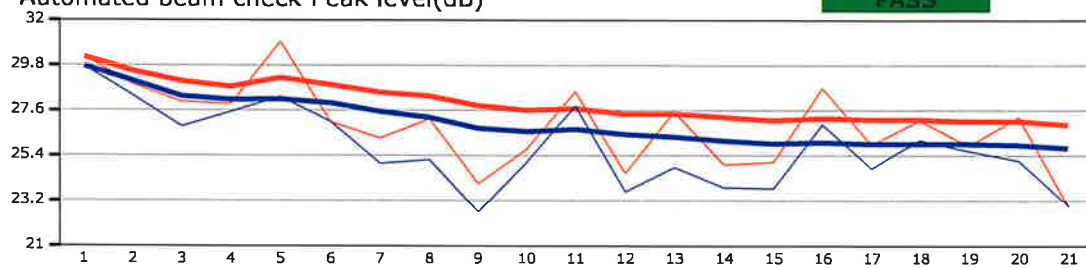
Site name WH 0.88
Site number 1234
Operator(s) SNK
File name 20231026_1234_4.ft
Comment

Beam 1	
Beam 2	

Automated beam check Start time 10/26/2023 1:51:28 PM

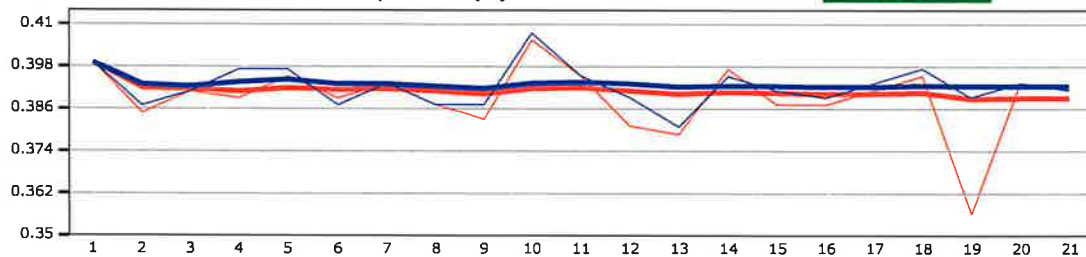
Automated beam check Peak level(dB)

PASS



Automated beam check Peak position(ft)

PASS



Automated beam check Quality control warnings

No quality control warnings

Attachment 3 – Exam Photos



Flow measurement in West Ditch below bifurcation.



Check structure at head of North Ditch at bifurcation of Upper Haas Ditch. Boards function as a 4-foot suppressed weir



Lockable headgate at point of diversion.



Mud Pond partially flooded.



Eagle Pond prior to flooding.



East Fish pond area prior to flooding



Deeper portion of East Fish Pond



Outlet of Beaver Pond to Boise River



Outlet structure at Beaver Pond



Mallard Pond area prior to flooding



Teal Pond area



Teal Pond inlet gate



Walker Pond partially flooded.

Hersley, Jean

From: Scanlan, Terry <Terry.Scanlan@hdrinc.com>
Sent: Tuesday, November 14, 2023 1:20 PM
To: IDWR File
Cc: Graves, Lori; Allan Humphries
Subject: 63-32458 Proof and Beneficial Use Field Report
Attachments: 63-32458 Beneficial Use Field Report 2023-11-09.pdf; Statement of Completion (signed).pdf

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

On behalf of W & H Limited Liability Company, attached please find a completed beneficial use field report and signed Statement of Completion for Submitting Proof of Beneficial Use for W & H Limited Liability Company associated with permit 63-32458. Please contact me with any questions regarding these documents.

Terry M. Scanlan, P.E., P.G.

Principal Engineer

HDR

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