

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-23430
Exam Date: 10/16/2024

1. Current Owner:
STEPHEN T BARNARD 18450 HIGHWAY 20 BELLEVUE ID 83313-5116
2. Accompanied by: Mr. Stephen T. Barnard
Phone No: (650) 644-9516
Address: 18450 Hwy 20
Relationship to permit Holder: Permit Holder

3. **SOURCE:**
LOVING CREEK

Tributary
SILVER CREEK

Method of Determination: On-site inspection

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
37-8569	Unnamed Drain	Wildlife Storage	License
37-8571	Ground Water	Mitigation-By Non-Use	License

Comments: 37-8571 provides the mitigation for this right

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
37-252	Loving Creek	Irrigation	Decree
37-712	Loving Creek	Irrigation	Decree

Comments:

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
LOVING CREEK NE¼ NE¼, Sec. 14, Twp 01S, Rge 19E, B.M. BLAINE County

Method of Determination: On-site inspection and aerial imagery

PLACE OF USE: WILDLIFE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
01S	19E	14				X									X				
01S	19E	13										X							

Method of Determination: On-site Inspection

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

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

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

 X Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
PODID 1079195					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Submerged Orifice						

2. Measurements: A reading was taken by determining the difference in head on the outside and inside staff gauges installed on the submerged orifice:
Outside gauge reading 0.9' – inside gauge reading 0.48' the difference = 0.42'; orifice opening is 24" wide by 6" high, making the area of the orifice 1 square foot. From Table 29 (Discharge of standard submerged rectangular orifice in second-feet) in the Bureau of Reclamation's Water Measurement manual, a difference in head of 0.42' through a 1 square foot orifice is equivalent to 3.17 cfs.

I'm also including the Annual Summary for Water District 37 for 1/1/2023 – 12/31/2023 for the diversion that indicates that after the irrigation rights are shut off, 2.00 cfs is still being measured flowing through the diversion

E. FLOW CALCULATIONS

 Additional Computation Sheets Attached

Measured Method: N/A

F. 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: Wildlife:

$$V = [\text{Diversion Rate (cfs)}] \times (\text{Days in season}) \times 1.9835 = 2.0 \text{ cfs} \times 365 \times 1.9835 = 1447.955 \approx 1448 \text{ a.f.}$$

G. NARRATIVE/REMARKS/COMMENTS

I met with Mr. Barnard on the morning of 10/16/2024 to conduct this field exam. We drove out to his diversion, on the way there we surprised about thirty head of elk that ran from the ponds northeast into the trees just north of his diversion on Loving Creek. At the diversion he showed me his "beaver deceiver" which was a fence constructed around the culvert diverting water from the creek to keep beaver out of the system. A few feet downstream from the diversion the water passes through the culvert and into a submerged orifice. We both measured the difference in head on the staff gauges installed on the submerged orifice which appeared to be properly installed and calibrated. I used the Water Measurement Manual, and he used an app on his phone. We both arrived at the exact same answer, 3.17 cfs was flowing through the device (see details in Section D.2). From there the water travels south through a buried pipeline to his wildlife ponds.

At the ponds, we were careful to view open water from the east side only as he indicated there were more elk and likely moose on the west side of the ponds. He did not want to disturb any wildlife as the two ponds and woodlands surrounding them provide habitat for wildlife in the area.

At the south end of the south pond the water flows out into another buried pipeline. The water travels southeast in the pipeline and then emerges from the pipeline and out to Loving Creek about thirty feet west of the creek.

I asked Mr. Barnard if he had run his well at all, and he indicated it has been completely idle since this permit was approved, which verifies the Mitigation by Non Use of water right 37-8571. He indicated he's very pleased that he's been able to completely turn off his well which saves him money and keeps additional acre feet of ground water from being pumped.

Recommend licensing 2.0 cfs and 1448 af for Wildlife use.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

Beneficial Use	Period of Use	Rate of Diversion	
WILDLIFE	01/01 to 12/31	2.00 CFS	1448 AF

Totals: 2.00 CFS 1448 AF

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

I. AUTHENTICATION

Bill Mills - Water Resource Agent, Senior

Field Examiner's Name

Date

10-18-2024

Reviewer

Date

10/21/2024



Figure 1: "Beaver Deceiver" at POD into culvert



Figure 2: Measuring device and Headgate (downstream side)



Figure 3: North Pond



Figure 4: South Pond



Figure 5: Flow back out to Loving Creek



Figure 6: Local wildlife running from pond area as we approach POD

**Annual Summary for Water District 37 Big and Little Wood River Drainages
including Ground Water
13150365 - D - BILL 9A AND 9B**

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR 01/01/2023 - 12/31/2023

c - Calculated, e - Estimated, i - Interpolated, m - Measured and n - Not Specified

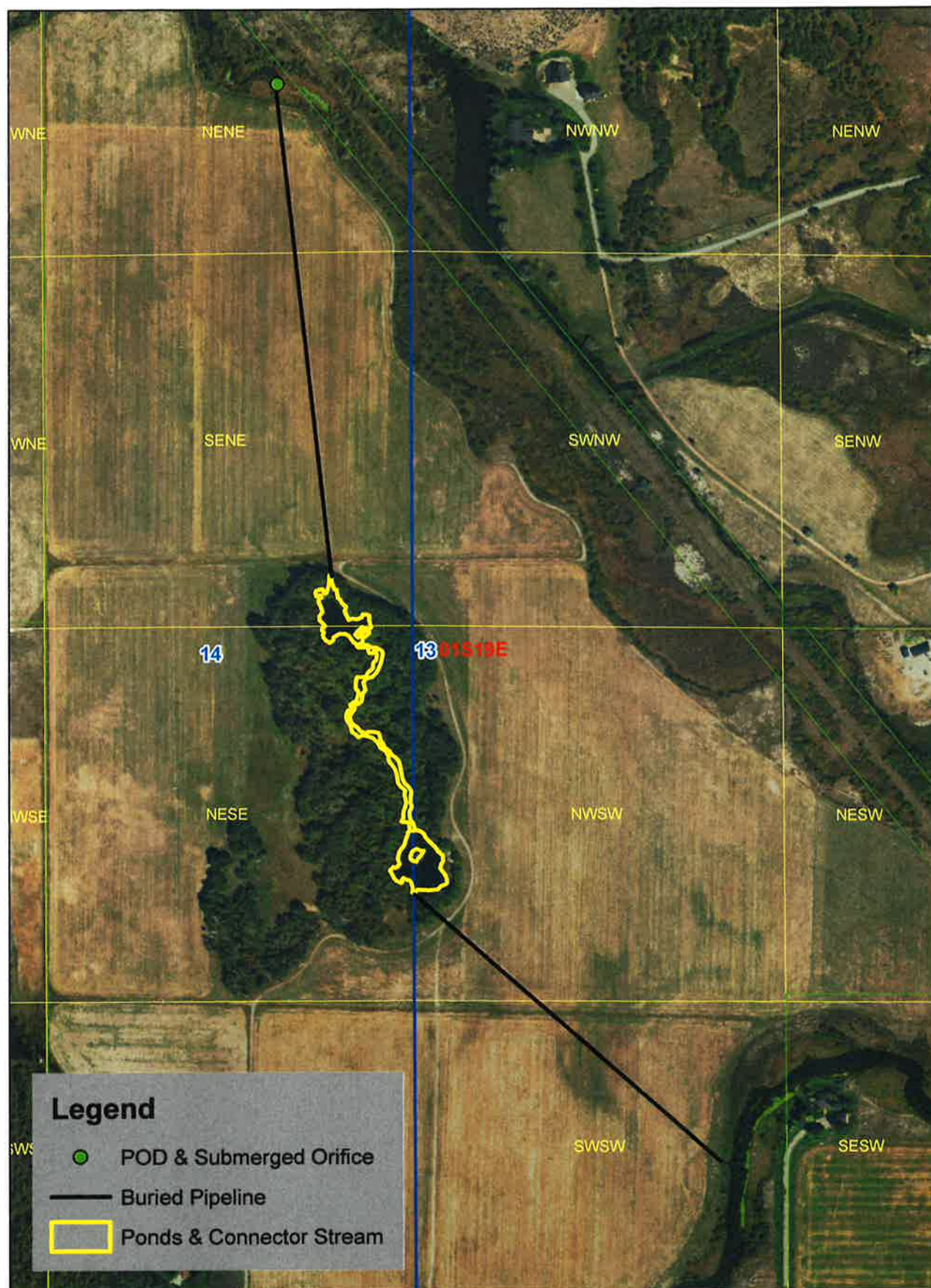
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	--	--	--	--	2.00 ⁱ	3.74 ⁱ	4.00 ⁱ	3.80 ^m	3.32 ⁱ	3.53 ⁱ	3.80 ⁱ	--
2	--	--	--	--	2.00 ⁱ	3.60 ^m	4.00 ⁱ	3.80 ⁱ	3.32 ⁱ	3.53 ⁱ	3.74 ^m	--
3	--	--	--	--	0.00 ^m	3.60 ⁱ	3.74 ^m	3.80 ⁱ	3.32 ⁱ	3.53 ⁱ	2.00 ^m	--
4	--	--	--	--	0.00 ⁱ	3.60 ⁱ	3.74 ⁱ	3.80 ⁱ	3.32 ⁱ	3.89 ^m	2.00 ⁱ	--
5	--	--	--	--	0.00 ⁱ	3.60 ⁱ	3.74 ⁱ	3.80 ⁱ	3.32 ⁱ	3.89 ⁱ	2.00 ⁱ	--
6	--	--	--	--	0.00 ⁱ	3.46 ^m	3.74 ^m	3.80 ⁱ	3.24 ^m	3.89 ⁱ	2.00 ⁱ	--
7	--	--	--	--	0.00 ⁱ	3.46 ⁱ	3.74 ⁱ	3.03 ^m	3.24 ⁱ	3.89 ⁱ	2.00 ⁱ	--
8	--	--	--	--	0.00 ⁱ	3.46 ⁱ	3.74 ⁱ	3.03 ⁱ	3.24 ⁱ	3.89 ⁱ	2.00 ⁱ	--
9	--	--	--	--	0.00 ^m	3.46 ⁱ	3.74 ⁱ	3.47 ^m	3.24 ⁱ	3.89 ⁱ	2.00 ⁱ	--
10	--	--	--	--	3.75 ^m	3.46 ⁱ	3.74 ^m	3.47 ⁱ	3.24 ⁱ	3.89 ⁱ	2.00 ⁱ	--
11	--	--	--	--	3.75 ⁱ	3.46 ⁱ	3.74 ⁱ	4.00 ^m	3.24 ⁱ	3.89 ⁱ	2.00 ⁱ	--
12	--	--	--	--	3.75 ⁱ	4.00 ^m	3.74 ⁱ	4.00 ⁱ	3.32 ^m	3.89 ⁱ	2.00 ⁱ	--
13	--	--	--	--	3.75 ⁱ	4.00 ⁱ	3.80 ^m	4.00 ⁱ	3.32 ⁱ	3.80 ^m	2.00 ⁱ	--
14	--	--	--	--	3.75 ⁱ	4.00 ⁱ	3.80 ⁱ	4.00 ⁱ	3.32 ⁱ	3.80 ⁱ	2.00 ^m	--
15	--	--	--	--	3.24 ^m	4.00 ⁱ	3.80 ⁱ	3.80 ^m	2.64 ^m	3.80 ⁱ	--	--
16	--	--	--	--	3.24 ⁱ	3.74 ^m	3.80 ⁱ	3.80 ⁱ	2.64 ⁱ	3.80 ⁱ	--	--
17	--	--	--	--	3.24 ⁱ	3.74 ⁱ	3.74 ^m	3.80 ⁱ	2.64 ⁱ	3.74 ^m	--	--
18	--	--	--	--	3.24 ⁱ	3.74 ⁱ	3.74 ⁱ	3.74 ^m	2.64 ⁱ	3.74 ⁱ	--	--
19	--	--	--	--	3.46 ^m	3.74 ⁱ	3.74 ⁱ	3.74 ⁱ	1.02 ^m	3.74 ⁱ	--	--
20	--	--	--	--	3.46 ⁱ	3.74 ^m	3.74 ⁱ	3.74 ⁱ	1.02 ⁱ	3.80 ^m	--	--
21	--	--	--	--	3.46 ⁱ	3.74 ⁱ	3.74 ^m	3.66 ^m	1.02 ⁱ	3.80 ⁱ	--	--
22	--	--	--	--	4.35 ^m	3.74 ⁱ	3.74 ⁱ	3.66 ⁱ	1.02 ⁱ	3.80 ⁱ	--	--
23	--	--	--	--	4.35 ⁱ	3.74 ⁱ	3.74 ⁱ	3.66 ⁱ	1.02 ⁱ	3.80 ⁱ	--	--
24	--	--	--	--	3.74 ^m	3.74 ⁱ	3.80 ^m	3.39 ^m	1.02 ⁱ	3.80 ⁱ	--	--
25	--	--	--	--	3.74 ⁱ	3.74 ⁱ	3.80 ⁱ	3.39 ⁱ	3.53 ^m	3.80 ⁱ	--	--
26	--	--	--	0.00 ^m	3.74 ^m	3.74 ⁱ	3.80 ⁱ	3.39 ⁱ	3.53 ⁱ	3.80 ⁱ	--	--
27	--	--	--	2.00 ^m	3.74 ⁱ	3.74 ⁱ	3.80 ⁱ	3.39 ⁱ	3.53 ⁱ	3.80 ⁱ	--	--
28	--	--	--	2.00 ⁱ	3.74 ⁱ	3.74 ⁱ	4.00 ^m	3.14 ^m	3.53 ⁱ	3.80 ⁱ	--	--
29	--	--	--	2.00 ⁱ	3.74 ⁱ	4.00 ^m	4.00 ⁱ	3.14 ⁱ	3.53 ⁱ	3.80 ⁱ	--	--
30	--	--	--	2.00 ⁱ	3.74 ^m	4.00 ⁱ	4.00 ⁱ	3.14 ⁱ	3.53 ⁱ	3.80 ⁱ	--	--
31	--	--	--	--	3.74 ⁱ	--	4.00 ⁱ	3.32 ^m	--	3.80 ^m	--	--
Total:	--	--	--	8.00	84.7	111.5	118.0	111.7	83.9	117.6	31.5	--
Mean:	--	--	--	1.60	2.73	3.72	3.81	3.60	2.80	3.79	2.25	--
Min:	--	--	--	0.00	0.00	3.46	3.74	3.03	1.02	3.53	2.00	--
Max:	--	--	--	2.00	4.35	4.00	4.00	4.00	3.53	3.89	3.80	--
AC-FT:	--	--	--	15.9	168.0	221.2	234.0	221.6	166.3	233.3	62.6	--

CALENDAR YEAR 01/01/2023 - 12/31/2023

TOTAL CFS: 666.9

TOTAL AC-FT: 1322

37-23430 System Diagram





IDAHO

Department Of



Annual Summary

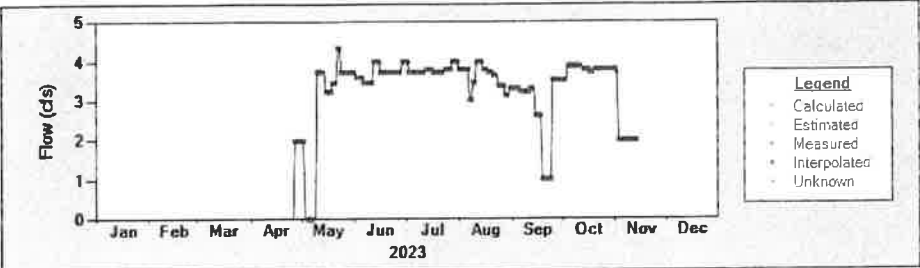
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- Print & Export Data
- Reset User Preferences
- Log Off

Year Type:
Calendar Year
Year Period:
01/01/2023 - 12/31/2023
Water District:
37 Big and Little Wood R



Publish Date: 9/25/2024
(Ver. 2.0.0.1)

Point of Diversion: 13150365 - D - BILL 9A AND 9B



Annual Summary for Water District 37 Big and Little Wood River Drainages
including Ground Water
13150365 - D - BILL 9A AND 9B

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR 01/01/2023 - 12/31/2023
c - Calculated, e - Estimated, i - Interpolated, m - Measured and n - Not Specified

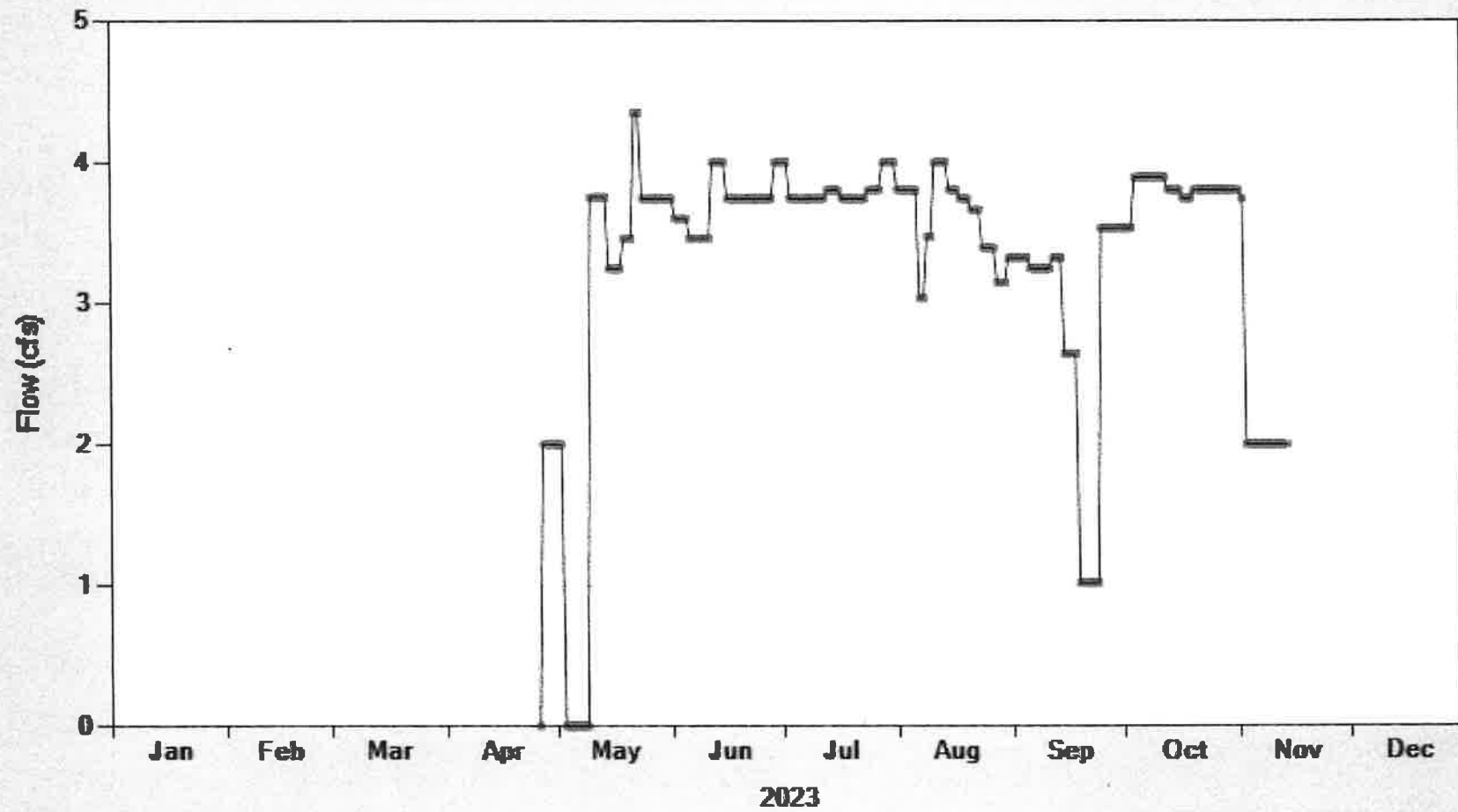
1	--	--	--	--	2.00i	3.74i	4.00i	3.80m	3.32i	3.53i	3.80i	--
2	--	--	--	--	2.00i	3.60m	4.00i	3.80i	3.32i	3.53i	3.74m	--
3	--	--	--	--	0.00m	3.60i	3.74m	3.80i	3.32i	3.53i	2.00m	--
4	--	--	--	--	0.00i	3.60i	3.74i	3.80i	3.32i	3.89m	2.00i	--
5	--	--	--	--	0.00i	3.60i	3.74i	3.80i	3.32i	3.89i	2.00i	--
6	--	--	--	--	0.00i	3.46m	3.74m	3.80i	3.24m	3.89i	2.00i	--
7	--	--	--	--	0.00i	3.46i	3.74i	3.03m	3.24i	3.89i	2.00i	--
8	--	--	--	--	0.00i	3.46i	3.74i	3.03i	3.24i	3.89i	2.00i	--
9	--	--	--	--	0.00m	3.46i	3.74i	3.47m	3.24i	3.89i	2.00i	--
10	--	--	--	--	2.75m	3.46i	3.74m	3.47i	3.24i	3.89i	2.00i	--

CALENDAR YEAR 01/01/2023 - 12/31/2023 TOTAL CFS: 666.9 TOTAL AC-FT: 1322



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Hydrograph of 13150365 - D - BILL 9A AND 9B



Legend

• Calculated • Estimated • Measured • Interpolated • Unknown