



IDAHO DEPARTMENT OF
WATER RESOURCES

BRBA FIELD EXAMINATION REPORT

Claim Number: 11-4024A

Exam Date: 7/30/2026

Exam Time: 8:00 AM

IDWR Staff Present: Collin Macheel & Brian Wunsch.

Claimant/Representative Present: John Gambling (Secretary).

☐ **No**

☒ **Yes**

Exam Location: 1.5 miles upstream on the Mill Canyon North Canal from where it crosses Old Mill Road, Montpelier.

Examiner's Signature:

Purpose of Exam: Verify the source, POD, diversion works, and flow rate.

Conclusion of Exam: The source was confirmed as Liberty Creek tributary to Mill Creek. The POD location and diversion works were verified and documented. The theoretical maximum flow rate (31 cfs) exceeds the claimed flow rate (28.04 cfs). The POD claimed for a secondary

source (Copenhagen Creek) will not be recommended under this water right number. A separate claim will need to be filed to document this source.

Exam Narrative:

We met John at a spot to park off of Old Mill Road and started the 1.5 mile hike up to the diversion works of the canal. The canal was running clear along the hike. When we arrived at the point of diversion, I took GPS readings and photos. Collin took measurements and observations to be used in Manning's equation.

Back in the office, I uploaded the GPS coordinates and confirmed the POD location and that the source is listed as Liberty Creek tributary to Mill Creek per USGS data. Collin ran Manning's equation with the information collected during the field exam and LIDAR data via the USGS National Map 3D viewer. The theoretical maximum rate of diversion (31 cfs) exceeds the claimed rate of diversion (28.04 cfs).

Explanation of Elements not Examined:

☐ **POD:**

☒ **POU:** Verified by in office analysis of maps and information provided by claimant.

☐ **Quantity:**

☐ **Other:**

Amendments Needed:

☒ **No**

☐ **Yes:**

Flow/Volume Calculations:

11-4024A

Elevation Change 10 ft
Distance 3250 ft

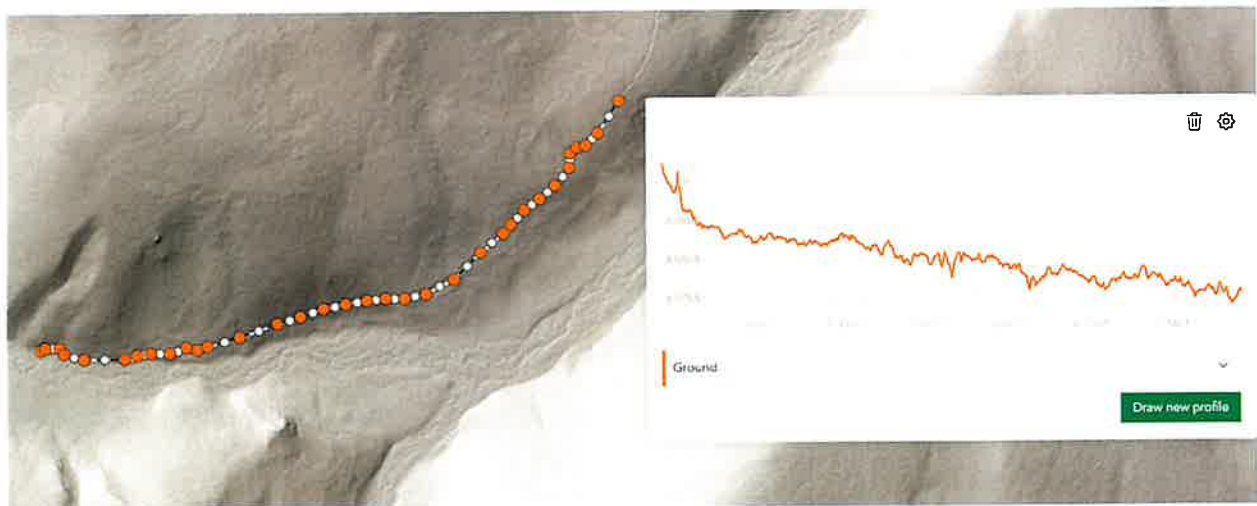
Manning's Equation

Channel Rectangle

Top 6 ft
Depth 1.4 ft
Area 8.4 sqft
Perimeter 8.8 ft
n (NCEES 2023 CE Ma 0.022

Q 31 cfs

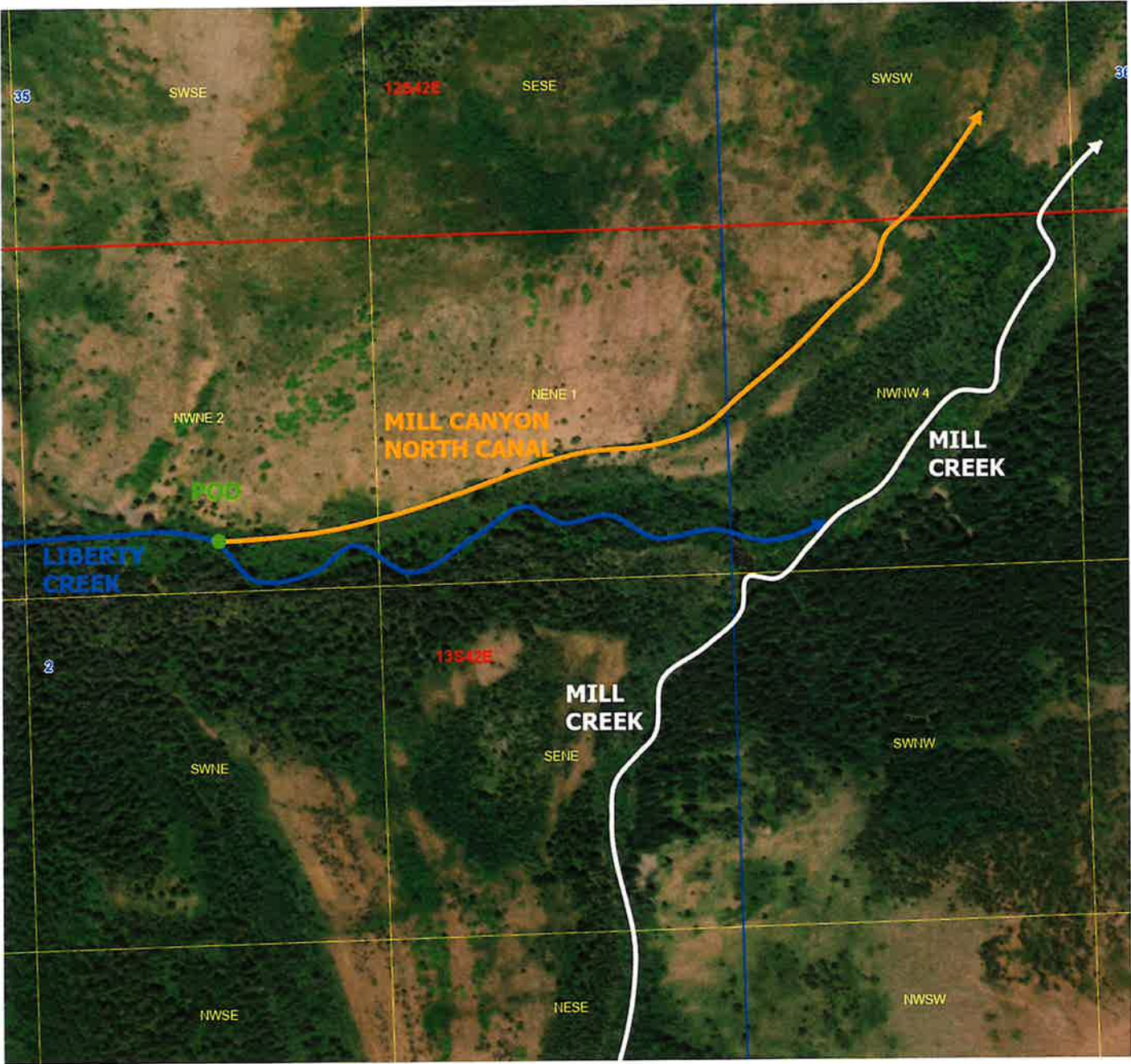
Channel bank erroded where accessible due to stock in the area.
Channel exceeds claim.



Approximate Values of Manning's Roughness Coefficient

	Material	Manning <i>n</i>
Closed Conduit or Built-up Channel	Metal:	
	Brass	0.01
	Copper	0.011
	Steel – welded	0.012
	Steel – riveted	0.016
	Cast iron – coated	0.013
	Wrought iron – galvanized	0.016
	Corrugated metal (storm drain)	0.024
	Nonmetal:	
	Glass	0.01
	Cement	0.011
	Cement mortar	0.013
	Concrete culvert	0.013
	Concrete-lined channel/pipe	0.015
	Wood	0.012
	Clay	0.013
	Brickwork	0.013
	Brickwork with cement mortar	0.015
	Masonry/rubble masonry	0.025
	Sanitary sewer coated with slime	0.013
	Asphalt	0.013
	Plastic	0.013
	PVC	0.009–0.011
	Polyethylene	0.009–0.015
Excavated or Dredged Channel	Straight and clean	0.022
	Winding and sluggish	0.025
	Dredged	0.028
	Rock cut/stony	0.035
	Earth bottom, rubble sides	0.03
	Unmaintained/uncut brush	0.08
Natural Streams	On plain, clean, straight, no pools	0.03
	On plain, clean, winding, some pools	0.04
	On plain, sluggish, weedy, deep pools	0.07
	On mountain, few boulders	0.04
	On mountain, large boulders	0.05

System Map:



Photos:



Photo 1: Mill Canyon North Canal looking upstream.



Photo 2: Diversion works from above.



Photo 3: Diversion works with Liberty Creek (top) & return flow (left).



Photo 4: South side of headgate.



Photo 5: North side of headgate.



Photo 6: Headgate & canal.