Potable Water Reservoir Inspection: Egmont

Inspection Date: June 29th, 2023

Prepared for:

Sunshine Coast Regional District
Attn: Codi Abbott

Prepared By:

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Introduction

Freedom Diving Systems Ltd (FDS) was contracted by the Sunshine Coast Regional District (SCRD) to conduct a visual inspection of their Egmont reservoir. The inspection was conducted on June 29th, 2023, using a remote operated vehicle (ROV) at the reservoir location 6655 Egmont Rd, Egmont BC. The SCRD representative for this project was Codi Abbott. The following report summarizes the inspection observations, the current condition of the reservoir and includes a time-stamped table detailing the video footage which was compiled into a continuous video format for submission to the client.

Project Summary

The Inspection of the reservoir was completed on June 29, 2023. All equipment was sanitized prior to entry into the water reservoir to appropriate industry standards, using a chlorine and water solution of 200 ppm. SCRD was responsible for chlorinating the water supply within the reservoirs prior to the inspection and to ensure chlorine levels were at an appropriate level during and after the inspection took place. Deliverables requested by the SCRD include the following:

- A written report describing the condition of the reservoir internals,
- Video of the inspection.
- Any important observations during the video matched with the location (time of the video capture) for quick reference.

Inspection Details

The submitted video shows the inspection of the Egmont reservoir, with a duration of sixteen minutes and twenty-eight seconds (00:16:28). The inspection involved conducting multiple circumnavigations around the upper and lower sections of the reservoir. The video footage captured various aspects of the reservoir's internal infrastructure, including an overflow pipe, inlet pipe, outlet, drain, access ladder, lower access hatch, and five (5) anodes. Notably, there were no engineering drawings available for reference during the inspection.

The overflow pipe was comprised of an upper and lower support bracket, a middle flange, and a bottom flange. All hardware components were found to be in good working condition, and no signs of corrosion were observed. Similarly, the inlet pipe featured an upper and lower support

bracket and a bottom flange, all of which were in serviceable condition with no observed corrosion.

The access ladder and lower access hatch were both in good condition, indicating no significant issues. Additionally, all five (5) anodes were securely attached to the wall and appeared to be functioning.

Accumulation of sediment within the reservoir was observed at ¾", with a maximum depth of 1" primarily concentrated towards the center.

Timestamps related to the video are in the format of hour: minutes: seconds within Table 1 below. Video collected has been processed into a continuous session detailing underwater portions of the reservoir and submitted to the client. Still images of important observations are also below.

Table 1 – Egmont Reservoir Time-Stamp Table of Video Inspection

Time Stamp (hr:min:sec)	Description
00:00:00	Inspection commences below hatch at access ladder
00:00:29	Upper ladder
00:02:25	Overflow and Inlet pipes
00:03:06	Upper Section of Inlet pipe and support bracket
00:04:15	Overflow pipe upper support bracket
00:06:29	Inlet pipe lower support bracket
00:06:53	Overflow pipe lower support bracket
00:07:16	Overflow pipe middle flange, all bolts appear to be in place.
00:08:48	Lower access hatch
00:09:30	Close up of Anode with connection
00:11:00	Discharge Outlet
00:12:05	Close up of Anode with connection
00:12:12	Inlet Flange, all bolts appear to be in place
00:12:26	Overflow Flange, all bolts appear to be in place
00:12:37	Instrumentation
00:13:11	Sump
00:14:06	Close up of Anode with connection
00:14:36	Counterclockwise pan of reservoir bottom and 5 anodes

Photo Log

Image 1 - Overflow and Inlet pipes

Image 2 - Upper portion of Inlet pipe and Support bracket

Image 3 - Overflow pipe upper support bracket

Image 4 - Discharge Outlet

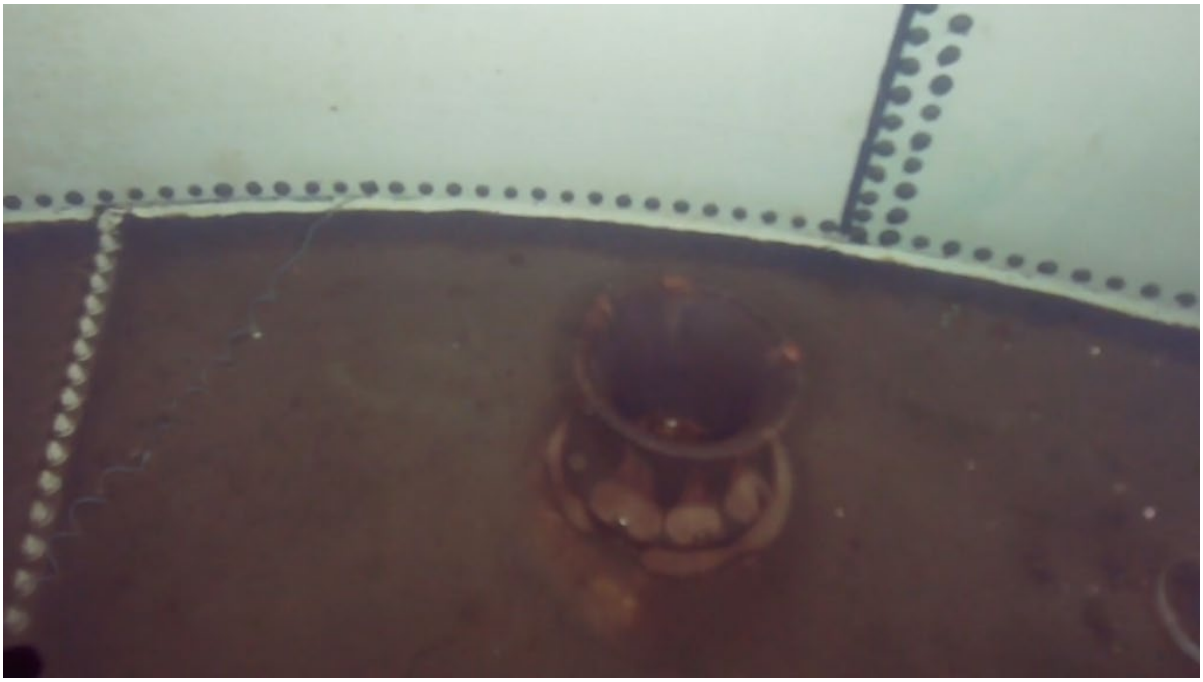


Image 5 - Inlet pipe lower support bracket

Image 6 - Overflow pipe lower support bracket

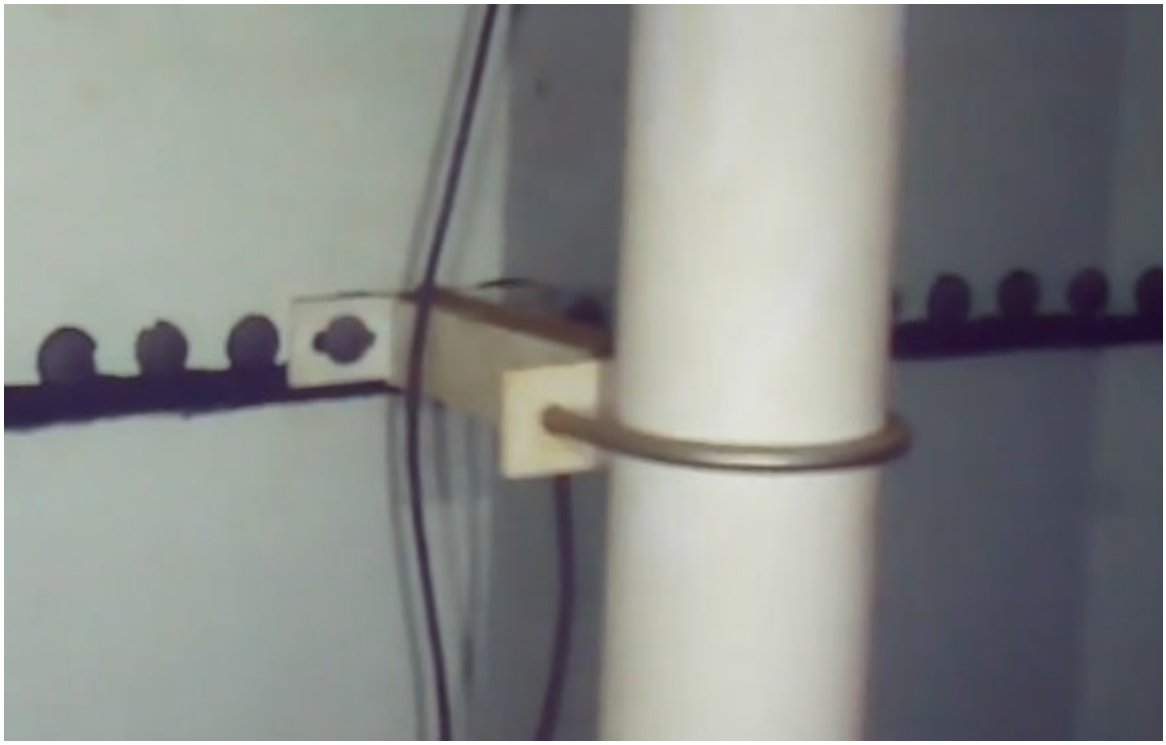


Image 7 - Overflow pipe middle flange, all bolts appear to be in place.

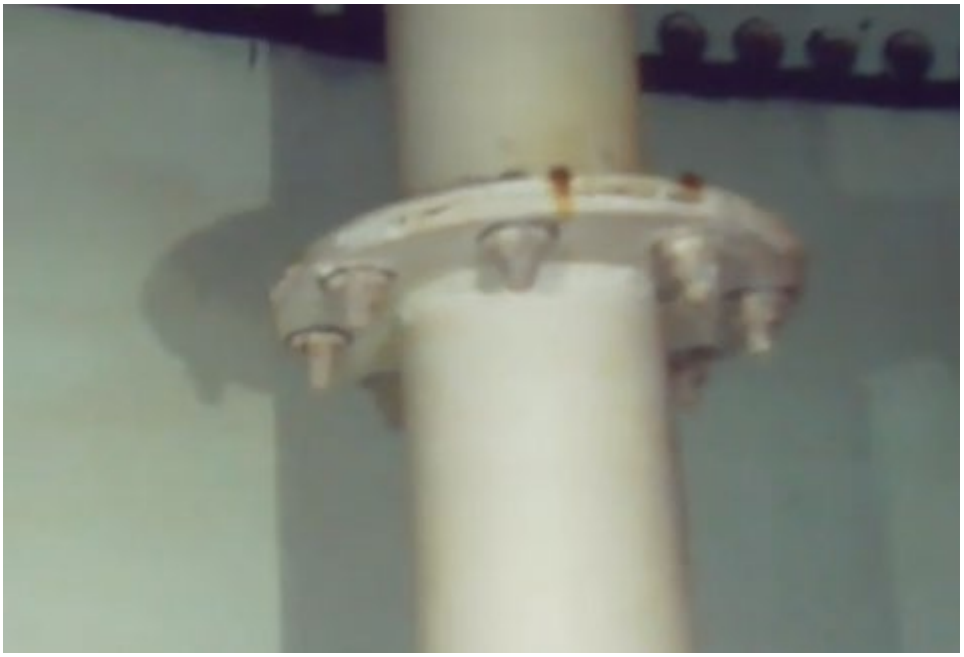


Image 8 - Lower access hatch.

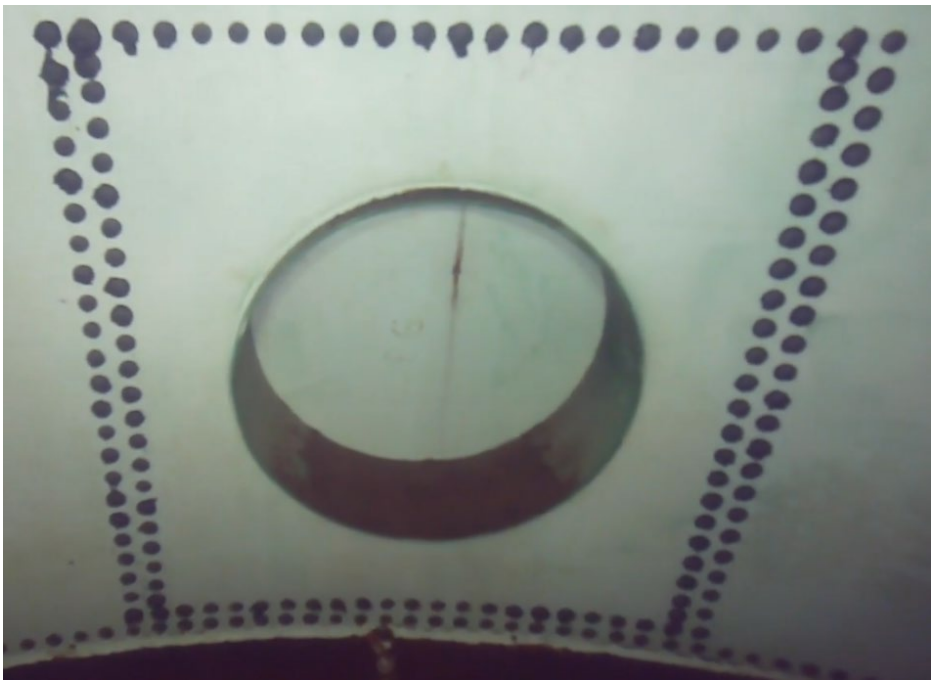


Image 9 - Inlet Flange, all bolts appear to be in place.

Image 10 - Overflow Flange, all bolts appear to be in place.

Image 11 - Sump.

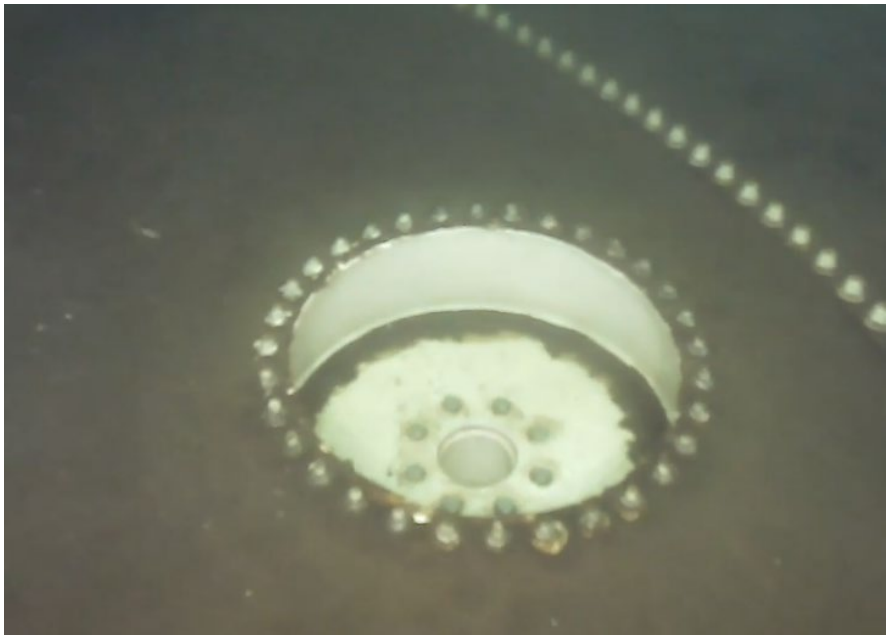
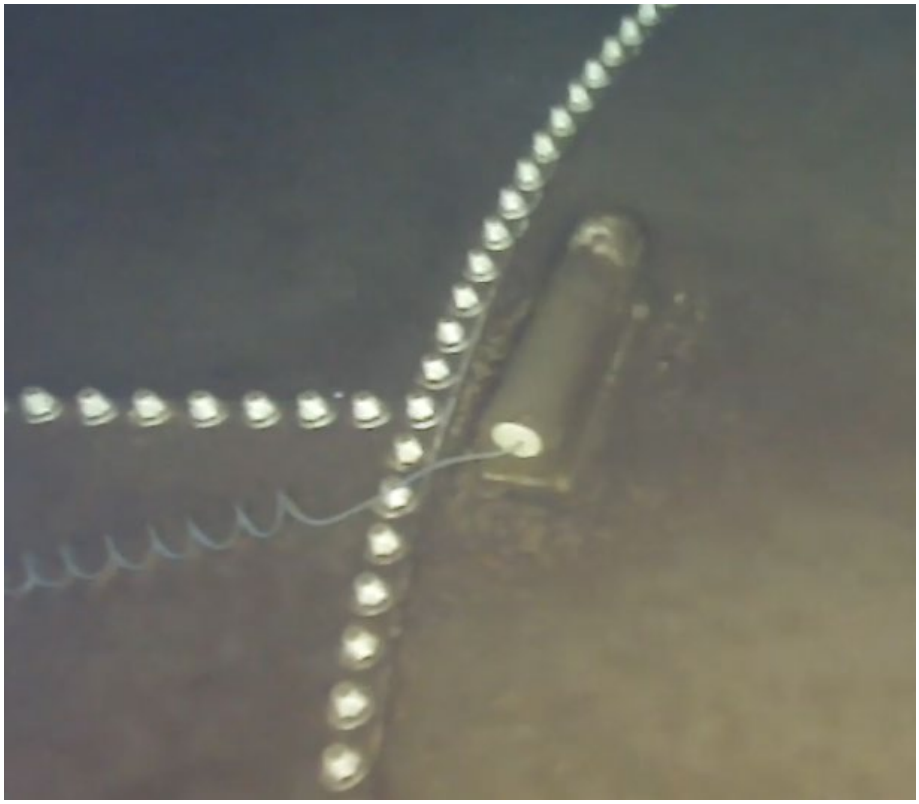


Image 12 - Anode



Inspection Conclusion

Observations from the inspection include the overall good condition of the overflow pipe, inlet pipe, access ladder, and lower access hatch. The overflow pipe exhibited no signs of corrosion, and all hardware components were appeared serviceable. Similarly, the inlet pipe showed no corrosion and remained in good working condition. The access ladder and lower access hatch were also found to be in satisfactory condition, ensuring ease of access and maintenance.

Furthermore, all five anodes within the reservoir were securely fastened to the wall and appeared to be functioning as intended, contributing to the effective corrosion protection of the infrastructure.

Accumulation of sediment within the reservoir was observed at ¾", with a maximum depth of 1" primarily concentrated towards the center.

Reinspection should be considered within 3-5 years following the guidelines published by the American Water Works Association, of sooner as required.

Please do not hesitate to contact Freedom Diving System Ltd. for any additional information.

Sincerely,

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