
REDACTED

From: GREENFIELD Sarah * DEQ <Sarah.GREENFIELD@deq.oregon.gov>

Sent: Thursday, July 27, 2023 10:56 AM

To: Kendra Skellenger <kskellenger@anchorqea.com>; GREENFIELD Sarah <Sarah.GREENFIELD@state.or.us>; NELSON Heidi <Heidi.NELSON@state.or.us>; HAFLEY Dan <Dan.HAFLEY@state.or.us>

Cc: Bob Wyatt <rjw@nwnatural.com>; Patricia Dost <pdost@pearllegalgroup.com>; Todd Thornburg <tthornburg@anchorqea.com>; Jen Mott <jmott@anchorqea.com>

Subject: RE: PGM Year 3 Bathymetry Results

Kendra and Todd –

Thanks for meeting with DEQ today to discuss results of the Year 3 bathymetry results. We are pleased to see that the SDU D has now stabilized and the scour hole at SDU B1 has begun to fill with new sediment. We were surprised to see new erosion occurring in SDUs A and F2 since the design assumed these areas to be depositional and would like to keep a close eye on these areas. We support your recommendation to conduct an additional bathymetric survey in Year 4 to further evaluate depositional and erosional trends. We also agree that chemical monitoring is not needed this year based on our review of the historical data. We will use results of the Year 4 bathymetry to determine whether there are areas of significant erosion that may warrant chemical monitoring or other actions. To support development of the Year 3 monitoring report and future evaluations, we'd like to request that the Year 3 report include the following information.

1. A summary of the max depth of erosion or sedimentation observed in each SDU
2. Survey results evaluated on the 10-foot by 10-foot or 3-foot by 3-foot grid spacing established for the post-construction acceptance survey
3. An updated Table 3 from the Year 2 report that shows depth of contamination and exceedance ratios
4. A table that shows contamination at depth based on the current sediment surface, particularly in areas of erosion
5. Cross sections with greater vertical exaggeration so that it's easier to compare changes in the sediment surface

We look forward to reviewing the report in September.

Thanks,

Sarah Greenfield, P.E.

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Teleworking Tuesday – Friday, off on Mondays

New e-mail address: sarah.greenfield@deq.oregon.gov

From: Kendra Skellenger <kskellenger@anchorqea.com>

Sent: Thursday, July 13, 2023 12:19 PM

To: GREENFIELD Sarah <Sarah.GREENFIELD@state.or.us>; NELSON Heidi <Heidi.NELSON@state.or.us>; HAFLEY Dan <Dan.HAFLEY@state.or.us>

Cc: Bob Wyatt <rjw@nwnatural.com>; Patricia Dost <pdost@pearllegalgroup.com>; Todd Thornburg <tthornburg@anchorqea.com>; Jen Mott <jmott@anchorqea.com>

Subject: PGM Year 3 Bathymetry Results

Some people who received this message don't often get email from kskellenger@anchorqea.com. [Learn why this is important](#)

Sarah, Heidi, and Dan –

We have analyzed the latest PGM bathymetry survey data that was collected on June 20, 2023, and results are summarized in the attached figures and table:

1. Year 3 Bathymetry – June 2023 map
2. June 2022 to June 2023 bathymetry comparison map
3. June 2022 to June 2023 bathymetry comparison cross sections
4. 2020 vs. June 2023 bathymetry comparison isopach map
5. June 2023 cap, cover, infill thickness map
6. Cap evaluation locations and results map
7. Table of Cap/Cover/Infill Thickness by SDU

The key results of this analysis include:

1. Over a large majority of the site, there has been negligible change in mudline elevation between the 2022 and 2023 surveys. See attached June 2022 vs. June 2023 bathymetry comparison map.
 - a. The scour hole that was a concern in 2022 in the downstream MNR area – SDU B1 – has partially filled in with 6" to 18" of new sediment.
 - b. There has been no change at SDU D, it looks stable.
2. There is one notable area of measurable material loss. There is an area along the seawall in SDUs A and F2 that shows a 6" to 12" loss of elevation. In SDU A, this is along the top of the cut slope adjacent to the seawall.
 - a. This could be a result of material sloughing down the slope into SDU C1 or natural river redistribution processes.
 - b. This slope did not need much carbon amendment based on cap model predictions (0.0% to 0.1% GAC) and our design was overly conservative.
 - c. On an SDU-averaged basis, there was 4" (-0.36 feet) of erosion in SDU A and 1.4 feet of cover thickness still remains. See Table of Cap/Cover/Infill Thickness by SDU.
 - d. Review of subsurface sediment quality:
 - i. The historical sediment cores that are most relevant to the affected area are

PGM-03 and PGM-04 in SDU F2, and PGM-05 in SDU A. Subsurface sediment chemistry (summarized below) shows that all of these cores are below or near cleanup levels in the top foot, and within the range of natural recovery processes in the 1 to 3 feet depth interval, indicating no imminent risk of exposure of unacceptable levels of contamination.

CORE	DEPTH (bml)	CLEANUP LEVEL EXCEEDANCES
PGM-03	0-1 ft.	No exceedances
	1-3 ft.	TPH-D at 3.5x, Hg at 2.3x, Pb at 1.3x
PGM-04	0-1 ft.	No exceedances
	1-3 ft.	Pb at 1.5x, TPH-D at 1.4x
PGM-05	0-1 ft.	Pb at 1.1x
	1-3 ft.	Hg at 3.1x, TPH-D at 2.4x, Naph at 2.0x, Pb at 1.8x

- ii. Upward groundwater flow along this inner slope is greatly attenuated by the sheet pile wall at the base of the seawall.
 - iii. PGM-35 and PGM-37, located downslope at the border with SDU C1, remain well covered with GAC-amended material.
3. We continue to see a return to equilibrium, the cap is working as designed, and the remedy is effective. We do not believe any follow-up sampling is needed this year due to one area that is relatively low risk. We recommend conducting another bathy survey in June 2024 to keep an eye on SDU A.

PGM Permit Renewal Status

Below is a timeline of the PGM permit renewals. We submitted the Joint Permit Application and the Biological Assessment on March 21, 2023. We already received the Removal-Fill Permit Waiver from DSL, but the Corps only just started processing our application in the last week or two. We have been seeing significant delays in permit processing at the Corps.

2/28/2023	DSL Easement Application Renewal Submitted
3/21/2023	JPA/BA Submitted
3/22/2023	JPA/BA Received/Date Stamped
5/23/2023	DSL Removal-Fill Permit Waiver authorized
6/29/2023	Corps requests WQC from DEQ
7/6/2023	Corps requests informal consultation from NMFS

Please let us know if you agree with the recommended path forward, or if you would like us to schedule a call to discuss.

Thank you,

Kendra Skellenger, P.E.

Senior Managing Engineer