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MEMORANDUM

From: Andrew MacKay, Envirochem **Date:** December 20, 2018
To: Anika Calder, VFPA **Cc:** Andre Olivier, PCT
Tiffany Paul, ECCC Colin Reddin, PCT
Mark Adams, Envirowest
**RE: PACIFIC COAST TERMINAL DREDGE WEEKLY MONITORING REPORT #2
DECEMBER 3-9, 2018 (SUMMARY REPORT)**

This report summarizes monitoring of PAH affected sediment dredging and disposal activities conducted in Port Moody Arm, BC for the week of December 3-9, 2018. All work continued under relevant permits issued by VFPA, ECCC, DFO and Transport Canada.

Operations and Turbidity Monitoring Overview

No work occurred December 9, 2018. December 3 and 4, 2018 was dedicated to remedial dredging of sediment spilled Flavelle Cedar sawmill in Port Moody. Works proceeded using the FRPD MacKenzie, Envirobucket, silt curtain and sealed scow. A total of 335m³ of spilled sediment was recovered from the adjacent upland area and scow berth pocket. FRPD had planned to dispose the material at a permitted upland facility.

December 7, 2018 was dedicated to completing the removal of PAH affected sediment in the Imperial R-o-W from dredge material management units (DMMU) #1, #2 and #3. After dredging, the sealed barge was dewatered at PCT. The dredge spoils were placed mechanically by bucket into the designated disposal area inside the new containment structure. FRPD reported 873 m³ was dredged and 842 m³ was placed after dewatering (difference was attributed to residual sediment remaining on the barge). Including week #1 (November 27-30, 2018), a total of 1471 m³ of PAH affected sediment was placed behind the berm. The material was subsequently covered with a 1m lift of DAS conformant sediment. Covering activities were completed on Monday December 10. All related works were conducted by the FRPD Mackenzie derrick with Envirobucket, silt curtain, effective duty cycles and sealed scow.

All operations for the week advanced without incident.

Turbidity Monitoring Results

As per the predictive model, no exceedances of 8 NTU over 24 hours were measured.

Remedial Dredging At Flavelle Cedar Berth Pocket

Measured turbidity during related works remained low. The, average and maximum did not exceed 1.9 NTU and 3.3 NTU respectively across surface, 1m and 3m depths (5m depth too shallow to obtain measurement).

PAH Affected Sediment Disposal and Covering

Turbidity readings remained low. Average turbidity for these activities was 1.10 NTU. The maximum induced turbidity was measured at 5.48 NTU at 1m. Average turbidity at the reference depth (5m) was 3.8 NTU.

Fish and Marine Mammal Observations

No dead or distressed fish or marine mammals were observed in the dredge or disposal works areas.

Archaeological

No cultural (archaeological) artifacts were observed in the dredge or disposal works areas.

Attachments

Works Period Photos

PCT PAH REMEDIAL DREDGE
WEEKLY MONITORING REPORT #2

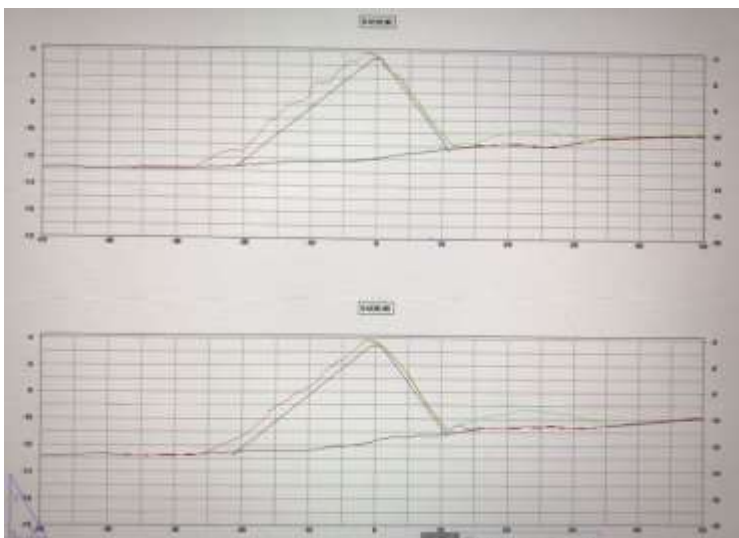
DECEMBER 3-9, 2018



PAH remedial sediment dredging near Reed Point Marina with silt curtain frame and sealed scow.



PAH remedial dredge disposal at designated location in new containment facility (west berm) using Envirobucket, silt curtain, suitable duty cycle and sealed scow.



PAH affected sediment disposal cell cross sections showing berm (pyramid) and placed sediment (green line) on west side of berm.



Bulk fuel storage barge. No sheen (spill) observed on water surface. Note: silt curtain (yellow) temporarily stored around barge.



Though some heavy rains, calm water conditions prevailed during dredging operations.



Daily open water turbidity monitoring using YSI handheld meter including probe on cable positioned to planned depths. Depth (surface, 1m, 3m and reference at 5m) readings are entered into mobile forms on an Ipad submitted on the internet to the Envirochem ENVOLV database for storage and reporting.



Continued use of silt curtain and sealed scow for dredging and transferring to dedicated disposal site in new containment facility (west berm).



Remedial dredge at Flavelle Cedar sawmill: Envirobucket, silt curtain and sealed scow. Recovered material sent for upland disposal.