CVRI – EPO 2013 / CR-34

To:	AER, cc DFO, AEP	**Project No.:**	EPO 2013/CR-34
	Alberta Energy Regulator	**Transmittal No.:**	SUB-REG-0244
	Suite 1000, 250 – 5 Street SW, Calgary, Alberta T2P 0R4	**Date:**	August 23, 2018
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Subject:	Bi-Weekly Report 3	**Prepared By:**	Kp/km

OBED MOUNTAIN MINE

REMEDIATION DESIGN – BI-WEEKLY UPDATE REPORT

AUGUST 10 – AUGUST 22, 2018

ISSUED: August 23, 2018

HEALTH AND SAFETY:

- Daily WCC Line-Up's were completed and included the following topics: working in warm weather, dealing with rain events, muddy/wet conditions, slippery driving and walking surfaces, uneven walking surfaces, seat belts, air quality (increased levels of smoke from forest fires), congested work areas, wildlife, and adequate rest.
- No incidents occurred during the 2-week time period

REMEDIATION DESIGN PROGRESS:

- Activities Completed:
    - DFO Authorization received on August 10, 2018
    - No flow in APC-1; limited pumping from MTP to ECP via 8" diesel; electric pump in MTP barge cell was not required due to the low water levels; a temporary pitrun gravel berm was constructed at 0+240 to contain local runoff in the work area
    - Fish fence inspections and maintenance; re-enforced and installed a finer mesh to the fish fence within APC-4
    - Rig mats were placed in APC-3 from laydown 2
    - Weed pulling throughout the active work zone

ENGINEERING AND GEOMORPHIC DESIGN:

- Linear Progress Report (m): to approximately 0+430
    - Flow isolation around 0+030 to 0+400 using boards at MTP outlet weir, dry weather and 8" diesel pump; no need to use the electric pump
    - Hauling pitrun gravel, salvaging rounded and angular riprap for construction from APC-1
    - Topsoil and vegetation salvaged and stockpiled before shaping and flattening of slopes
    - Channel shaping activities were completed prior to rock placement
    - Placement of pitrun gravel, Class 1 rounded rock and Class 2 angular rock

- Creation of 13 rock checks, for a total of 15 to date, consisting of Class 2 angular riprap
- Channel shaping above Class 1 rounded rock in preparation of topsoil placement and seeding/planting
- Fines in APC-1 were flushed via a pump and hose; fines were forced down into the riprap voids keeping the gravels near the surface
- The natural channel design will start at about 0+350; this starting location will provide about 50 m more natural channel length compared to the design (Drawing 102); this field layout change reduces the number of rocks required (and amount of angular riprap imported to site from Nordegg; more earthworks were required to construct the floodplain at the natural channel section; the equipment Rocko's has on site is well-suited for these earthworks
- Weather delays (rain) were experienced during the time period
- Survey pick up of pre-construction terrain, sub-excavation and placement of rip rap

TRANSITION TO NATURAL CHANNEL AND HABITAT FEATURES

- The armoured spillway outlet channel transitions to the natural channel design around 0+360. This transition provides additional natural channel length compared to the design (Drawing 101). Additionally, the transition allowed the contractor (Rocko's) to develop their methodology for constructing habitat features before constructing features downstream of 0+400 (designed start of the natural channel).
- APC-1g pool no.1 constructed at 0+365 and riffle no.1 constructed at 0+370. This location was selected by Matrix and Hatfield for its shade and the cover provided by salvaged vegetation.

- APC-1g habitat feature no.1 (woody debris with boulders) constructed at 0+365 and habitat feature no.2 (woody vanes with boulders) constructed at 0+390. Five logs and three boulders were included in each habitat feature (Drawing 10).

FISH SALVAGE ACTIVITES

- There has been no fish salvage activity from August 6 to August 24. A fish salvage will be completed in APC-3 next week when fish crew is back on site. Another salvage will be completed based on reports of fish observed by construction crew downstream of North Arm Tributary.

CONCERNS & RISKS:

- Multiple days of rain are forecasted for the site for the next time fame; water management and erosion control mitigation will be staged and actively managed
- No other concerns/risks were identified during this specified time frame

PLANS FOR NEXT TIME PERIOD (AUGUST 24 – SEPTEMBER 5, 2018):

- Rain forecasted starting Thursday PM into next week. The contractor (Rocko's) will focus on water management/erosion and sediment control during the rain event. Construction progress through the weekend and next week will be dictated by weather.
- Natural channel and habitat feature construction in APC-1 between 0+360 and 0+500.

- Topsoil/vegetation stripping and earthworks in the incised section of APC-3 between 0+960 (beaver dam) and 1+040 (upstream of N.A. Tributary).
- Pump-around set-up before working in APC-3 channel between 0+960 and 1+040 (currently working above channel).
- Rock drain construction at outlet of secondary flow path (Drawing 304).

SITE PHOTOS:

August 14, 2018: Looking downstream at channel shaping from 0+250 to 0+290 and pitrun gravel placement on channel bed from about 0+240 to 0+270.

August 15, 2018: Looking downstream from 0+060 at channel shaping above the Class 1 rounded in preparation of topsoil placement and seeding/planting. Fines on the channel surface will be flushed using pumped water.

August 17, 2018: Looking downstream from 0+360 at shaping of right overbank.

August 18, 2018: Looking downstream from 0+080 at APC-1 flushing using hose connected to trash pump.

August 19, 2018: Looking downstream from 0+360 at constructed floodplain excavation for natural channel design. The natural channel design will start at about 0+350. This starting location will provide an extra 50 m of natural channel compared to design (sump in foreground; water from sump is being pumped to well vegetated areas away from the natural watercourse).