Diamond Point Port

Copper-gold concentrate would be transferred from the mine site to the Diamond Point port by concentrate pipeline, then dewatered at the port site, and stored between vessel sailings in a dedicated concentrate storage building. Use of a concentrate pipeline would require concentrate handling, dewatering, and treatment facilities at Diamond Point port (Figure 2-86). Port operations would change due to the requirements of dewatering the concentrate, storing water and concentrate, and treating and discharging the filtrate water; however, the overall footprint of the port terminal would not increase.

In addition to the jetty described for Alternative 3, the marine facility would include a series of three caissons (60 feet by 60 feet) placed in the dredge basin to provide mooring and loading for concentrate lightering barges; expanding the marine facility footprint by less than 1 acre (approximately 0.2 acre) (Figure 2-86). A gantry would support an enclosed conveyor from the jetty to a barge loader mounted on the caissons.

Copper-gold concentrate would be loaded onto lightering barges using the enclosed conveyor system and then transported to the lightering location in Iniskin Bay for bulk transfer. The lightering barges would have dust covers to control dust emissions. Once loaded, the barges would be transported to and secured against Handysize vessels at the mooring location in Iniskin Bay. Wheel loaders would reclaim the concentrate from the barge deck and transfer it to a ship loader, which would load the ships. The barge location would be adjusted along the ship during the loading process. The loading trunk would extend down into the hold of the ship to minimize dusting, and mist sprays would be used to further control dust generation. Due to the high density of the concentrate, the holds would not be loaded to the top, further reducing any potential for concentrate dust to escape the hold. About five to six trips by the lightering barges would be required to load a bulk carrier, which would be anchored for 3 to 4 days at the lightering location.

The moisture content of the concentrate after dewatering would be 8 percent, resulting in an average of approximately 220 gallons of filtrate water per minute that would need to be treated. Water produced from sources such as pipeline flushing, or process-contacted stormwater, would also require treatment. The port water treatment facility would therefore be designed for a treatment capacity of up to 350 gpm (approximately 0.8 cfs). The water quality characteristics of the slurry filtrate water and port area stormwater streams are expected to exceed discharge criteria for pH and metals concentrations to marine waters. The treatment of this stream would consist of chemical addition for pH adjustment and metals precipitation, followed by clarifiers for bulk suspended solids removal. Following clarification, additional metals precipitation would be accomplished by addition of sodium hydrogen sulfide, and either multimedia filtration or ultrafiltration. The filtered water would be discharged through an outfall pipeline and diffuser into surrounding marine waters (PLP 2019-RFI 066a). The ADEC regulates discharges of process wastewater under the APDES program and EPA has oversight authority for the program. EPA commented that CWA regulations at 40 CFR 440, Subparts J and L apply to the proposed port site discharges of process water and that the concentrate filtrate discharge would not be an allowable discharge.[19] ADEC's position on the discharge of this process water at the port is outlined in response to RFI 158 (ADEC 2020-RFI 158); based on information provided in response to RFI 066 (PLP 2018-RFI 066) they do not dispute EPA's comments. RFI 066 (PLP 2018-RFI 066) presents PLP's position that EPA's CWA New Source Performance Standards Effluent Limitation Guidelines do not prohibit the discharge of the concentrate filtrate at the port site. Solids and/or brine captured in the clarification process and the filtration backwash would be trucked to the mine site, or barged to an off-site disposal facility as appropriate. If, during State permitting, it was confirmed to not be an allowable discharge, a water return pipeline to transport water removed from the concentrate slurry to the mine site for treatment would be proposed (see below).

[19] 40 CFR Part 440.104(b)(1) specifies "there shall be no discharge of process water to navigable waters from mills that use the froth-flotation process alone, or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores or any combination of these ores."

EPA-6692-0003848