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RE: **Request for an informal agency review of the decision to issue Waste Management Permit #2019DB0001 to Constantine Mining LLC, pursuant to 18 AAC 15.185**

The Takshanuk Watershed Council (TWC) respectfully requests an informal ADEC review of the decision to issue Waste Management Permit number 2019DB0001 to Constantine Mining LLC for expanded mining activities at the Palmer Project, located in the headwaters of the Chilkat River.

Interest

The Takshanuk Watershed Council is a 501(c)3 community service organization that was founded in 2003 to provide stewardship for the Chilkat, Chilkoot, and Ferebee River systems. Through restoration, education, research and community involvement we seek to benefit the natural ecology, economy, and quality of life valued by all residents. Our vision is to promote the recognition and sustainability of the healthy, natural ecosystems within the area. Through research initiatives, we attain a better understanding of our watershed's ecology and use that information to foster good stewardship of the streams, rivers, lakes and lands. We seek a balance of human uses within the watershed, in order to benefit the entire community, the wildlife, and the salmon populations upon which we all depend.

A significant part of TWC's mission and work involves monitoring industrial activities and providing information to agencies and the public with regard to the effects, and potential effects, of those industrial activities on the watershed, the aquatic environment, our fisheries resources, and our community. On May 15 2019, TWC submitted a letter of comment on the draft Waste Management Permit (WMP) as a part of ADEC's public comment solicitation period. In this letter, TWC discusses a number of shortcomings in the draft WMP and supporting documents. It is TWC's interest that these deficiencies in the permit be addressed so that the existing high level of water quality in the area is maintained, and aquatic habitats are protected from harm. TWC's core purpose is the protection,

conservation, and restoration of aquatic resources for the ultimate benefit of the people of the Chilkat Valley. Inadequate regulatory oversight of the Palmer Project is an immediate threat to the health of those aquatic resources.

WMP Shortcomings

In its revised WMP and response to public comment (RTC), ADEC has neglected to address a number of issues that were discussed in TWC's comment letter, as well as in the letters of other individuals and organizations.

1. The LAD system is not designed to handle 100% of predicted wastewater flows from the tunnel.

   From ADEC's RTC #25: "Exploration activities involve a great deal of uncertainty. As wastewater flows increase incrementally with adit length, the permittee will have to manage the inflow of water to the adit to stay within the permitted limits. Predicted wastewater flows have been maximized for this reason. No change was made to the permit as a result of this comment."

   ADEC is assuming that the permittee will have control over the amount of water entering the tunnel and exiting via the wastewater system. From the WMP Application Attachment 2, page 10: "the estimate [of inflow] can still have a range that is as large as an order of magnitude." The permittee is unlikely to have a high level of control over the situation. The LAD system should be designed to handle 100% of predicted wastewater flows.

2. How will the permittee prevent freezing of the LAD settling ponds?

   In the ADEC RTC #3, a reference is made to the Waste Management Permit requiring that the LAD system piping be installed below the frost line. The issue of freezing settling ponds is not addressed at all. Without protection from the cold, the settling ponds will surely freeze in the winter. The extent to which they freeze will likely depend on the volume of wastewater flowing through them. Even partial freezing of the ponds may render the LAD system non-functional.

3. How will the permittee conduct the required water quality monitoring and LAD system inspection in winter, beneath snow, ice, and avalanche debris?

   In order for the permittee to comply with the conditions of the WMP, the surface and ground water must be monitored for contamination, and the LAD system must be inspected and its proper function assessed. No information is provided as to how this may be accomplished over the six months of winter.

4. The location of the water quality monitoring stations is inadequate.

   For more than a year, TWC has sought to develop and maintain a water quality monitoring site just below the Hangover Creek confluence, at a location suggested by a number of commenters on the

draft WMP. Despite numerous attempts at an access agreement, the permittee refuses to allow TWC staff use of the gated road to access this water quality site. If allowed this access, TWC would independently gather additional surface water quality data to be shared with the permittee, ADEC, and the public in support of maintaining the conditions of this permit.

5. The likely hydrologic connection of the LAD system diffusers to both surface and ground water is ignored.

   This is a quote from TWC's May 15 comment letter:

   > …it was noted in the WMP Application Appendix A, on page 8, that *"Infiltration testing indicated a hydraulic connection from the upper Waterfall Creek test pit (TP18) to the lower test pit (TP27) over a distance of about 100 m (330 ft), as evidenced by seepage observed in the lower test pit during the infiltration test in the upper test pit".* This occurred at the exact location of the upper diffuser and is less than 200m from the lower diffuser. The water traveled a distance of 100m, underground, and quickly enough to be observed in real time.

   The permittee, via the permit application itself, clearly indicates the significant potential for movement of tunnel seepage wastewater from the LAD diffusers into both ground and surface waters. ADEC should require that the permittee investigate and document the hydraulic isolation of the LAD diffusers. Given this situation, as well as the likelihood of discharge over the settling pond spillways, an APDES permit should be required (see TWC draft WMP comment letter, page 3).

6. There is no explanation of how the LAD system removes contaminants from the waste water without releasing those contaminants into ground and surface water.

   From the WMP Application Attachment 2, page 6: *"the predicted water chemistry from the underground ramp may not meet AWQS* [Alaska Water Quality Standards] *for Al, Mn and V".* ADEC appears to be making an assumption that contamination will simply disappear into the ground without affecting surface or ground water, which is unlikely if not impossible.

   In the RTC, at Comment #21, ADEC states "wastewater will contain lower concentrations of mineral constituents than natural groundwater quality." This statement is not supported by the water quality data and analyses that has been provided by the permittee and is cited in the permit application. The baseline surface water quality in the immediate project area is very good (WMP Application, pages 26-29).

7. How will leachate from the PAG waste rock piles be treated and disposed?

   This issue was addressed in TWC's WMP comment letter but was neglected in the RTC.

8. How will seepage from the proposed portal plug be treated and disposed after closure?

   This issue was addressed in TWC's WMP comment letter but was neglected in the RTC.

9. There is no plan for how to construct avalanche protection structures *before* the construction the LAD system and the adit.

   In the RTC, at comment #19, ADEC states "The LAD system…must be installed before the adit." In order for the LAD system to function it must be protected from avalanches. No explanation is offered as to where the material for construction of avalanche protection structures will originate if no adit excavation is yet occurring.

10. The self-monitoring "trigger limits" for a number of contaminants, notably copper, are designated well above both water quality standards for aquatic life as well as the baseline background levels as reported by the permittee.

    Background copper levels detected in water samples have been very low, especially from surface water in the immediate project area. In the RTC #31 ADEC states that "Groundwater quality is protected by prohibiting statistically significantly increases of constituents over their background concentrations. Therefore, the permit prohibits degradation of groundwater quality, thus satisfying the department's Antidegradation Policy at 18 AAC 70.015." The standard of "statistical significance" is based on very little existing baseline data. Furthermore, the trigger limits allow for a level of contamination in some cases far above both baseline levels and water quality standards. This WMP is, in fact, permitting the degradation of surface waters.

The Takshanuk Watershed Council thanks you for this opportunity to provide additional input on the WMP for Constantine Mining's Palmer Project expansion, and we greatly appreciate your careful consideration of this important issue via an informal agency review.

Thank you,

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