Message

From: Sedlacek, Michael [Sedlacek.Michael@epa.gov]
Sent: 10/19/2016 8:12:20 PM
To: McKim, Krista [mckim.krista@epa.gov]; Poleck, Thomas [poleck.thomas@epa.gov]; Marko, Katharine [Marko.Katharine@epa.gov]; Burdick, Melanie [Burdick.Melanie@epa.gov]
Subject: FW: use of Barr's model for outflow prediction
Attachments: 2015-12-14_comment_letter_mine-site_MODFLOW_calib.pdf

FYI

From: Westlake, Kenneth
Sent: Wednesday, October 19, 2016 1:32 PM
To: Sedlacek, Michael <Sedlacek.Michael@epa.gov>
Subject: FW: use of Barr's model for outflow prediction

From: john.coleman [mailto:jcoleman@glifwc.org]
Sent: Wednesday, October 19, 2016 11:50 AM
To: Kenton Spading <Kenton.E.Spading@usace.army.mil>
Cc: nancyschuldt@fdlrez.com; Westlake, Kenneth <westlake.kenneth@epa.gov>
Subject: Fwd: use of Barr's model for outflow prediction

kenton,
Thanks for sending the modeling report. I have not yet read it in detail but will soon. In the mean time, I want to finally send you the email I drafted but did not send after the report was first mentioned on the cooperators call. My points below are still completely relevant and they try to clarify a fundamental misinterpretation of our comments by the lead agencies. We are not big supporters of the Barr model for any use, but it was put to multiple uses by Barr/Polymet and all reasonable models that incorporate the correct levels for the Peter-Mitchel pit show northward flow at closure. Our point was and continues to be that that issue needs to be seriously investigated, evaluated and plausible mitigation articulated. I look forward to that occurring.
thanks,
john

-------- Forward of Message drafted September 27th--------
Subject:use of Barr's model for outflow prediction
Date: Tue, 27 Sep 2016 11:15:53 -0500
From:john.coleman <jcoleman@glifwc.org>
To: Kenton Spading <Kenton.E.Spading@usace.army.mil>

Kenton,
Having lived and breathed the Polymet project for much of the last 10 years, I felt a need to following up on the last call, I'd like to clarify that it is not true that Barr only used their model to predict mine pit inflow. As we documented in our FEIS comment letter of December 14th, 2015 (page 5), despite the widespread use of MODFLOW outputs in the evaluation of the project site and developing the basis for the FEIS, there have been repeated attempts to claim that the MODFLOW model was only used to look at pit inflow. That is simply not

true.
Quoting from our comment letter of 2015/12/14:

> In Attachment B of the FEIS reference PolyMet 2015m,
> Barr stated that:
>
> > "The primary objective of this study was to estimate the amount of groundwater expected to flow
> > into the mine pits during operations and pit flooding, **and to evaluate the groundwater flow**
> > **conditions following pit closure."**
>
> and Barr presented **model results on mine pit outflow**:
>
> > "Simulated groundwater flow rates for the long-term closure simulations are shown in Table 4-
> > 4." and "Table 4-4 Estimated Groundwater Inflow **and Outflow Rates** – Long-term Closure
> > Conditions"

The other point that was raised during the call was that a commenting agency used the Barr model to predict northward flow. While it is true that GLIFWC did use Barr's model, it is also true that we and others, such as ERM also used other models that also showed northward flow. Models show northward flow if the water level in the Peter-Mitchel pits is lower than the water levels in the Polymet pits at closure. That is the condition that MN-DNR has issued Peter-Mitchel water permits for.

Our primary point was not that the Barr model was good for predicting northward flow, but that any reasonable model would predict northward flow if the correct post-closure water levels were considered. I'm afraid that an analysis of how suitable the Barr model was for predicting northward flow misses our primary point, which was that Barr misrepresented post-closure water levels in the Peter-Mitchel (P-M) pit in all of their analysis.

I am hopeful that despite this fundamental flaw in Barr's analysis used in the FEIS, moving forward, the issue of flow in any direction, including northward, can be evaluated using conditions that are permitted by the state to occur at P-M pit closure. I believe that the additional wells that the Corps is working on getting installed is a good step in that direction.
Thank you,
john

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