Notice of Decision

Web posting 2/1/2011

Deadline for appeal 2/12/11

Permit # NEV0050037

Coeur Rochester, Inc.

Rochester Mining Project

The Nevada Division of Environmental Protection (Division) has decided to issue a major modification of Water Pollution Control Permit NEV0050037 to Coeur Rochester, Inc. This permit authorizes the construction, operation, and closure of approved mining facilities in Pershing County. The Division has been provided with sufficient information, in accordance with Nevada Administrative Code (NAC) 445A.350 through NAC 445A.447, to assure the Division that the waters of the State will not be degraded by this operation, and that public safety and health will be protected.

The permit will become effective February 17, 2011. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to Nevada Revised Statute (NRS) 445A.605 and NAC 445A.407. All requests for appeals must be filed by 5:00 PM, February 12, 2011, on Form 3, with the State Environmental Commission, 901 South Stewart Street, Suite 4001, Carson City, Nevada 89701-5249. For more information, contact Paul Eckert at (775) 687-9401 or visit the Division's Bureau of Mining Regulation website at www.ndep.nv.gov/bmrr/bmrr01.htm .

One comment letter was received during the public notice period. The responses to the comments contained therein are attached.

Great Basin Resource Watch (GBRW), comment letter received from John Hadder (cover letter) and Tom Myers (technical memorandum), received by electronic mail on December 6, 2010:

Comment 1: (cover letter, paragraph 2) The central issue has been contamination that has appeared down-gradient of the Stage I heap leach pad. The extent of the plume has not been characterized, nor has the specific source clearly identified. As discussed in the review the explanation of contamination as a result of a spill from the process pond(s) does not hold up, and NDEP should require Coeur to resolve the cause, determine the extent of the plume, and then develop a credible action plan for containment and remediation before any new mining activity occurs.

Division Response: The degradation that appears downgradient of the Stage I Heap Leach Pad has been the subject of numerous studies since 1991. The understanding of the hydrogeology of this area has evolved over time, based on analyses from these studies, boreholes, and water quality data. The extent of the Stage I plume extends no more than approximately 600 feet north of the Stage I leach pad (in the vicinity of the pregnant ponds) as documented by the following wells that show no degradation of groundwater: MW-40B, MW-41B, TB-3, and TB-5. Recent degradation on the west edge of this zone at WI-29/WI-29R and MW-48 may also be from Stage I and will be investigated and remediated appropriately.

The Permittee continues to monitor the groundwater quality in this area based on requirements of the WPCP and the Division reviews the monitoring data quarterly and periodically requires the Permittee to complete a corrective action plan (CAP) to re-evaluate specific sites if water quality trends merit. The intent of the CAPs are to determine the source of degradation, refine the extent of the plume and determine the best method(s) to remediate the situation.

Comment 2: (cover letter, paragraph 3) We also note that the American Canyon Spring is showing elevated contaminate levels, in particular, nitrate and selenium. It is possible that the contamination from the mine is impacted this surface water source. This possibility needs to fully investigated, and if so, action taken to protect the spring prior to new activity.

Division Response: The elevated nitrate concentrations at American Canyon Spring (ACS) have been well documented in the quarterly Supplemental Water Quality Reports as required by the WPCP (HydroGeo, 2005-2010). Nitrate concentrations have been highly variable over the period of record, but have not shown an increasing trend since about November 2003. The primary source of the nitrate at ACS is believed to be from the Rochester septic system leach field which is located directly upgradient of the spring. The apparent increase in selenium concentration is likely an artifact of a decreased laboratory minimum reporting limit. Selenium concentrations are far below the Profile I reference value, and are low enough that it is unclear if the selenium source is anthropogenic or natural. The Division requested that the Permittee further investigate the elevated nitrate and TDS levels at ACS in October 2010. That study is underway and a mitigation plan is being developed.

Comment 3: (cover letter, paragraph 4) There appears to be no way to distinguish between leaks in the existing Stage I heap leach and the to be constructed Stage III heap leach in the future. Although not simple, we strongly recommend that NDEP require Coeur to emplace 2 to 3 monitoring wells between the Stage I facility and Stage III facility (if it is constructed). Of course these wells may need to be collared in the Stage I facility, but without these wells it will be difficult to isolate any contamination that may
occur from leakage in the future.

Division Response: The Division does not concur with penetrating the Stage I and/or Stage II liner to install additional monitoring wells. The Stage III leach pad will be free draining, and there are sufficient monitoring wells downgradient of Stage I. Furthermore, the Black Ridge Fault aquifer is monitored just north of the Stage III footprint.

Comment 4: (Tech Memo, page 4, first paragraph) The Fact Sheet (p. 17) describes three primary aquifers at the site. It claims that the "lower aquifer is locally separated from the upper aquifer by a higher permeability dry zone at the contact between the sediment and bedrock layers in the area of the Stage I pad and process plan." This is an important claim because ostensibly if true it might protect the lower bedrock layers. Therefore, the NDEP should document the wells and well logs in which the "dry zone" has been observed. Also, the description states "higher permeability dry zone" which suggests it is dry, which probably should be described as unsaturated, because the permeability is high enough that water seeping to its upper limits would quickly flow through the zone.

Division Response: The sediment/bedrock contact is monitored in wells WI-16, MW-37, MW-40A, MW-41A, and MW-42. At WI-16 and MW-37 the sediment/bedrock contact is saturated and degraded from Stage I leakage, while at MW-40A, MW-41A, and MW-42 the sediment/bedrock contact is not saturated. In the January 2007 Telesto report entitled "Fate and Transport Evaluation for the Stage I Area…" average hydraulic conductivities are stated as follows: sediments 3.5 x 10^{-6} cm/sec; sediment/bedrock contact 1.5 x 10^{-5} cm/sec; and bedrock 2.8 x 10^{-7} cm/sec.

Comment 5: (Tech Memo, page 4, third paragraph) The Stage 1 heap leach pad, first built in the 1980 essentially on top of the BRF, has been a problem for almost two decades. Leakage from the pad was first noticed in 1991 and located near the north side of the pad (Fact Sheet, p. 5). Two wells, WI-17R and WI-16 were converted to remediation or pumpback wells. The Fact Sheet should discuss

- the amount of water being pumped for remediation
- the extent of the contaminant plume, and
- estimate the leakage from the pad

Without this information, it is not possible to adequately understand the leak or determine the time for its remediation. At present, after 19 years, all the Fact Sheet can claim is that there is no evidence the plume has affected nearby aquifers. There is no evidence as to the time which will be required for remediation. Worse, the major mod application states the Stage I heap is in "final permanent closure" without even acknowledging the leaks (Coeur, 2010, p. 4).

Division Response: *There are two groundwater pumpback wells for Stage I degradation -- WI-16 and WI-17R -- plus the Catch-Basin-Central (CBC) French drain system. On average, 896 gallons per day of dilute degraded groundwater was pumped from CBC during the first three quarters of 2010. The pumping rates in the pumpback wells are very low because the rock that hosts the degraded groundwater have low hydraulic conductivities. On average, 268 gallons were pumped per day from WI-16 during the first three quarters of 2010. WI-17R was converted to a pumpback well in August 2010, but problems were encountered and no pumping occurred during the third quarter 2010. The leakage rate from the Stage I leach pad is unknown, but based on the low hydraulic conductivities and the observed magnitude and extent of degraded groundwater, the leakage rate appears to be relatively low. Because of the leakage, the Permittee was required to permanently close the Stage I leach pad in 1999 and not allow any more solution addition to the pad. More recently, the Permittee was required to perform an investigation, which is currently in progress, to determine if any solution is flowing from the Stage II leach pad to the Stage I leach pad. The continuing goals of these efforts are elimination or reduction of the source of groundwater degradation at Stage I, prevention of further downgradient migration of the contaminant plume, and cleanup of the degraded groundwater.*

Comment 6: (Tech Memo, page 5, last paragraph) Well WI-29 is particularly valuable because it has monitored water quality since 1994 and shows that concentration of Cl, TDS, and NO3 has trended upward and that WAD CN has been observable since the mid 2000s (Figures 4 and 5). Hydrogeo (2010a, p. 22) mentions the source "appears to be the North Dike, CBW, the Pregnant Pond area, or possibly the Stage II heap leach.

Division Response: *The Permittee is implementing a CAP to address the rising constituent concentrations in WI-29. A replacement well (WI-29R) was installed in October 2009 because the existing well had a damaged casing and would be difficult to convert to a pumpback well, but WI-29R has not exhibited the same high constituent concentrations as WI-29 and is periodically dry. The Division will continue to work with the Permittee to implement the CAP, including, if necessary, installation of a remedial system to collect degraded groundwater and prevent this water from migrating further.*

Comment 7: (Tech Memo, page 6, first paragraph) Well MW-30 is downgradient of the stage 1 pad at the downgradient side of the well cluster, but Hydrogeo (2010, p. 25) notes that it has a much higher concentration of chloride, mercury and nitrate than are found upgradient in well WI-16. They suggest the contaminants have different sources, pointing to process solution releases from the Barren Pond, Storage Pond, and Pregnant Ponds. Figures 6 and 7 demonstrate that contaminants Cl, WAD CN, NO3, and TDS are trending upward, but this is not mentioned by Hydrogeo (2010a). This could be the slug of contaminants finally reaching this well; it also indicates the contaminants have passed the pumpback well WI-16.

Division Response: *At MW-30, the Permittee was required to develop and implement a CAP, including installation of a replacement well (MW-30R) and completion of an investigation into possible sources for the observed degradation. Based on the information provided, the*

degradation at MW-30 is from historic solution releases from process ponds, sumps, and piping, rather than from the Stage I leach pad. The Stage I groundwater contaminant plume appears to be restricted to an area much further south, as indicated by a relatively clean groundwater zone (wells MW-40B, MW-41B, TB-3, and TB-5) between the Stage I degradation and the MW-30 degradation. The process ponds have subsequently been relined and/or prohibited from use except in emergencies. Further monitoring is necessary to determine if conversion of MW-30R to a pumpback well is appropriate.

Comment 8: (Tech Memo, page 7, first paragraph) Well MW-35 is further downgradient and shows no trends, except for detectable WAD CN even if at a low concentration, perhaps because it was completed in deep bedrock fracture zones. Although the screen is from 330 to 350 ft bgs, HydroGeo describes the completion to suggest the gravel pack would allow water from fractures as high as 150 ft bgs to reach the screen for sampling. Nearby well MW-36 was dry to 60 ft bgs.

Division Response: The WAD cyanide concentration observed in monitoring well MW-35 is below the Profile I reference value (0.2 mg/L). MW-35 continues to be monitored, but cleanup efforts should be focused further upgradient at MW-30/MW-30R.

Comment 9: (Tech Memo, page 7, second paragraph) Well WI-24 is further downgradient and considered an American Canyon Spring monitoring well (Figure 2 and 3). TDS and Cl have increased, but other contaminants, including WAD CN, have not. These trends parallel those at MW-30 although lower and suggest a downgradient limit to the major plume; that the movement of WAD CN has been attenuated. American Canyon Spring (ACS) has also trended upward for TDS and Cl, but most alarmingly, NO3 at ACS has stepped upward into a variable range from 20 to 50 mg/l (Figure 8). The increase in Se is also troubling (Figure 9) because it now exceeds aquatic standards.

Division Response: As noted in the response to Comment 2 above, ACS is degraded with respect to nitrate + nitrite. The Permittee believes the degradation is derived from the site septic system which is directly upgradient of ACS, rather than from the ore processing facilities, which are located further upgradient. Division correspondence of October 11, 2010 requires the Permittee to submit a plan and schedule to identify and eliminate the source of this degradation.

Well WI-24 is a deep bedrock monitoring well, not an ACS monitoring well, and is not degraded with nitrate + nitrite, or with any other constituent believed to be related to the permitted operation. The source of ACS is shallow alluvium. The TDS and Cl concentrations at ACS are directly related to each other and are believed to be the result of historic calcium hypochlorite use in the area to neutralize CN releases.

Comment 10: (Tech Memo, page 8, first paragraph) The monitoring wells indicate the plume resulting from the leak from the Stage 1 Heap and other process facilities is moving downgradient. It may not have extended deep enough to reach well MW-35, which is completed deep in bedrock, but some constituents may have reached the shallower WI-24 and

American Canyon Spring, which have had conservative constituents trend upward. The edge of the plume varies by constituent with the conservative constituents having transported further from the source.

Division Response: Based on monitoring data, the Stage I groundwater contaminant plume has not migrated northward in recent years. As stated above in the Division response to Comment 1, the Stage I plume extends about 600 feet north of the Stage I leach pad, and is being collected by two pumpback wells and a French drain system. Possible westward migration is being investigated. The degradation observed at MW-30/MW-30R and at ACS (which are located approximately 1,500 feet and 2,800 feet north of Stage I, respectively) appear to be related to other sources which the Permittee has been required to address.

Comment 11: (Tech Memo, page 8, second paragraph) Coeur hired Hydrogeo to complete a corrective action plan to address the contamination observed at MW-30. Specifically, they were to identify the source and recommend remediation. They analyzed the trends and chemical signatures of the process fluids and MW-30, among other wells, and conclude that the contaminants affecting MW-30 are from spills of process fluids rather than ongoing leaks. They are wrong for several reasons.

- The primary reason is that contaminants are increasing at MW-30; the hydrograph would have a spike in it if due to a transient spill, rather than an upward trend.
- The lower pH and WAD CN at MW-30 can be explained simply by dilution, reaction with sulfidic rock or treatment of the spill, and by simple breakdown of CN.
- As discussed above, the wells upgradient of MW-30 have experienced a rise and some are falling.

Hydrogeo's (2010b) too often made comparisons of specific concentrations for given dates rather than acknowledging the lag time for contaminants to flow between the wells. The fact that the concentration at downgradient wells was 1/3rd that at MW-30 was evidence to them they were not of the same source rather than evidence of downgradient transport with dilution or attenuation. The evidence suggests that the plume was caused by a leak in the leach pad that may have ceased or significantly decreased. The plume is still moving downgradient. Leaks and 9 spills as documented by Hydrogeo (2010b) may have added to the plume, but they cannot be the sole source. Coeur should be required to redouble its efforts to contain it.

Division Response: Determination of the source of a contaminant plume can be complex and subject to different interpretations. However, the relatively clean groundwater in monitoring wells MW-40B, MW-41B, TB-3, and TB-5, which are between MW-30 and the Stage I leach pad, strongly suggests that the source of the degradation at MW-30 is not Stage I, but something closer to MW-30 such as known releases from the process ponds. The MW-30 Phase I CAP Report (HydroGeo, 2010a and 2010b) ties the potential degradation source first to pregnant and barren solution followed by identifying potential sources of these solutions located upgradient of the wells in question. Then it investigates if the potential sources are active or historic. Dilution and attenuation of the solutions are also considered in the analysis. It is true that it is very difficult to pin point the specific source of particular contaminants downgradient of the Stage I heap leach pad, as there have been a multitude of

accidental releases including seepage from the Stage I heap leach pad. However, there is no evidence that there is a current source in this area, though the Permittee is conducting a study to verify the integrity of the liners at the interface of the Stage I and Stage II heap leach pads.

Comment 12: (Tech Memo, page 9, third paragraph) Hydrogeo (2010b) in a corrective action plan claims that MW-33 is approximately 1050 feet north of MW-30, when in reality it lies at the north base of the Stage 1 heap, as may be seen on Hydrogeo (2010b) Figure 3.

Division Response: This is a typographical error - 1050 feet north should have been stated as 1050 feet south, which is upgradient of MW-30.

Comment 13: (Tech Memo, page 9, third paragraph) The wells below the Stage 4 heap do not show the same massive contamination as those below the Stage 1 heap, but MW26 shows distinct increases in TDS and Cl.

Division Response: Monitoring well MW-26 (aka WI-26) has displayed degraded groundwater in the past. Monitoring well MW-44 was installed in 2007 to test for degradation in between MW-26 and the Stage IV leach pad. MW-44 has displayed no evidence of degraded groundwater. Furthermore, MW-26 has been dry for all except one quarter in the last three years. The TDS and Cl concentrations at MW-26 are believed to be the result of historic calcium hypochlorite use in the area to detoxify CN releases. See Division response to Comment 7.

Comment 14: (Tech Memo, page 9, fifth paragraph) The Fact Sheet notes the pit lake began forming in April 2007, "immediately after mining began on the 5975 bench". NDEP implies that the pit lake began to form as a result of mining this bench; is this correct? Earlier predictions were that a pit lake would not form until 85 to 100 years after mining ceased. Although the pit lake volume is apparently not large (the Fact Sheet leaves out this important fact) with depth of just 18 feet, the very fact that the pit lake formed so quickly indicates that Coeur and its consultants did not understand the conceptual model of flow in the area. Inflow rates, primarily recharge, to project area may have been grossly underestimated.

Division Response: The pit lake formed 85-100 years before the original pit lake studies predicted, and coincided with the beginning of mining on the 5975 bench. Inflow rates were underestimated. Based on these observations, the Permittee has been required to revise the model to include data gathered from the pit lake, and from additional in-pit monitoring wells, to account for the unexpected formation of the pit lake and to adjust projections of pit lake water quality accordingly. This was completed as part of the study submitted with the Stage III major modification.

Comment 15: (Tech Memo, page 9, sixth paragraph) Waste rock mined in the Rochester pit will be placed within that pit. The Fact Sheet (p. 2) states that "non acid-generating rock, amended with lime…" will be placed within the pit. The sentence is confusing. As written it

implies that NAG rock will be amended when it would seem to mean that PAG rock would be amended to make the rock NAG; NDEP should amend the fact sheet to be clearer.

Division Response: The majority of waste rock to be used in the backfill has been shown by ABA analysis to be non acid-generating. However, in many cases, the waste rock has a low acid-neutralizing capacity and will, therefore, be amended as required to achieve an acid-neutralizing potential to acid-generating potential (ANP/AGP) ratio of 3:1, as required by the Bureau of Land Management, with additional amendment where required to account for exposed sulfides in the wall rock. All PAG material will be placed at least 50 feet above the pre-mining water table elevation.

Comment 16: (Tech Memo, page 9, last paragraph and continuing) The modeler estimated recharge incorrectly. They "obtained" groundwater recharge estimates using the Maxey-Eakin method which was not designed for use in small area such as this. The method was developed as an estimate of recharge for entire basins, such as Steptoe which they reference, not for small subbasins of larger basins…A better way to estimate recharge would have been to estimate the discharge from the area by considering ET estimates and by estimating groundwater flow from the model area. Admittedly, this is not a simple task with the complicated geology at the site, but it would probably be more accurate than the simple guess used based on the Maxey-Eakin method.

Division Response: A water budget was carefully developed for the model based on 23 years of operational data. This includes discharge data directly from the site, including groundwater pumping and pit lake evapotranspiration. The discharge to the pit lake is low, as observed by the very slow change in volume and stage in the pit lake. The pit lake is filling at a rate less than 10 gpm, indicating that groundwater fluxes are generally very low in the area. This fits with the overall geology at the site, which indicates generally low permeability rock and low recharge rates. Since the overall recharge and fluxes within the model area are low, using ET estimates for the entire basin would be inaccurate, because the site water budget is very, very small compared with the overall basin ET (about 0.06 % of the entire basin water budget). In addition, differences in recharge were tested in model sensitivity analyses. If the recharge and conductivity values were erroneous, then the model would not be able to replicate the transient pumping response including the change in groundwater storage. For all of these reasons the recharge estimation method employed in the model is reasonable.

Comment 17: (Tech Memo, page 10, sixth paragraph) The simulated pre-mining groundwater budget shown in Table 2.6 is virtually meaningless because none of the estimated fluxes are constrained. The total outflow must equal the inflow, which was estimated as 350 af/y, as discussed in the previous paragraphs, but the discharge components have no measurements with which to compare. Prior to modeling Schlumberger should have estimated phreatophyte ET and flow through the four different boundaries; these would have been targets for them to match in the calibration. The recharge would have been set to equal the total discharge.

Division Response: This statement is incorrect, because the same model was used in transient mode to simulate 23 years of water-level changes including pumping stresses and 3 years of pit lake recovery. The model was required to match water levels while simulating actual discharges to pumping wells, storage changes in the BRF, as well as the evaporation from the open pit lake. For this reason the model water budgets are reasonably constrained by the available data and are useful for the impacts analysis.

Comment 18: (Tech Memo, page 11, first full paragraph) The model does not simulate pit lake recovery accurately at all, regardless of what Schlumberger (2010, p. 24) claimed. Figure 2.22 shows the model recovered the pit lake very quickly, almost 21 feet in a few months, while the observed data show it took two years to rise 17 feet. Schlumberger claimed this could be due to the use of annual recharge in dry years so that the observed data reflected less than average recharge. This is possible, but it also demonstrates just how faulty the predictions could be. Pit lake geochemistry based such uncertain filling characteristics will also be very inaccurate.

Division Response: The no action scenario model was designed to simulate long-term pit lake water elevations due to the integrated effects of recharge, groundwater flow, and evaporation. The magnitude of pit lake recovery in the model is approximately the same as the recovery observed in the system over the same time period. For this reason the model will reasonably predict future average levels in the backfill.

Comment 19: (Tech Memo, page 11, second paragraph) Modeling the different backfill scenarios with the goal of establishing "seasonal wetlands" and retaining terminal sink or weak sink conditions (Schlumberger, 2010) requires detailed modeling of recharge and ET discharge in the pit lake. The description of the transient modeling (Schlumberger, 2010) indicates they have failed to consider the required details and the verification analysis discussed in the previous paragraphs shows that failing to consider the seasonal trends makes it not possible to model seasonal wetlands. They describe five multiple year modeling time steps for which it is not possible to consider the seasonal differences. It is not possible to describe modeling seasonal wetlands if the time step exceeds seasons. It is inappropriate to describe these as seasonal and to the extent the design depends on them being seasonal, the design is not correct.

Division Response: It was not necessary to model the fluctuations in seasonal wetlands in order to accomplish the goals of the water impacts analysis . The key information to predict is this: once the groundwater level reaches the backfill surface, is there sufficient evapotranspiration to prevent the creation of a pit lake? The sensitivity predictive modeling completed by SWS, using different backfill elevations and thus ET rates, shows that seasonal fluctuations will not cause discharge for the base case scenario nor will a pit lake form. In all cases, the ET was strong enough to keep the water level from reaching the backfill surface. Since the model did not include seasonal effects, these were evaluated outside the model. The available lake level and meteorological data, combined with the pit lake water balance, indicate that seasonal variations will be on the order of a few feet, from beneath the backfill surface to slightly above it. These variations were constrained by the data and

therefore did not require explicit modeling. These minor seasonal variations would not create seasonal discharge for the base case, because the "higher backfill" elevation does not discharge until it is about 25 feet above the base case scenario. Thus, seasonal variations will be minor compared to the difference in backfill elevations compared in the modeling study.

Comment 20: (Tech Memo, page 11, fourth paragraph) At some point the authors should detail the lake filling rate, rather than just showing the water surface elevation without the volume or flow rates.

Division Response: This information is provided for all scenarios in Appendix C, for both backfill scenarios and the No Action pit lake scenario. Appendix C is referenced in the report text and provides time, stage, and a breakdown of inflows and outflows by every component of the water budget.

Comment 21: (Tech Memo, page 11, last paragraph) Table 3.1 shows pit lake evaporation but no precipitation on the pit lake surface for time period 100 years. This requires explanation – if there is no free surface for the water, there is no evaporation from the pit lake. If there is a free surface, there will be precipitation onto the lake surface. This probably refers to the water table in the backfill being very close to the surface so that evaporation from the water table can occur. If the water table is that close to the surface, there would be effectively no loss to precipitation seeping into the backfill. The infiltration rate should also change based on the amount of the backfill that is saturated.

Division Response: During recovery, when the groundwater level is beneath the backfill surface, direct precipitation will not report directly to groundwater. ET will not affect the groundwater system and precipitation will occur on the backfill surface. A portion of this precipitation will infiltrate, the balance being lost to ET. As explained in the report text Section 2.5.3, SWS (2010), a backfill infiltration term was used to simulate infiltration through the backfill surface. In the pit lake simulations and in the backfill simulations when the free surface is at or slightly beneath the backfill surface, free-surface ET and precipitation are applied.

To summarize, when a lake surface is predicted, open-water precipitation is applied in the model. When the level reaches about 1 ft below the backfill surface, ET is applied. When the free surface is more than 1 ft below the backfill surface, a backfill infiltration term is applied to account for precipitation that infiltrates through the backfill. Refer to Appendix C for simulation water balances, including flow terms as a function of free surface elevation.

Comment 22: (Tech Memo, page 12, first full paragraph) The extremely small groundwater inflow and BRF inflow volume, measured in the 102 ft^3 volume range for the first ten years and remains low for future years, does not seem reasonable nor does it comport with the observed pit lake. They do mention that continued pumping at the beginning of pit lake recovery keeps the inflow rate very low. The highest inflow rate occurs during the second 100 years, and equals just 5 gpm. Initially, when the pit, whether backfilled or not, is dry, cross-

sectional area for groundwater inflow to flow through is zero and therefore the inflow is zero. As the water level increases this cross-sectional area becomes positive and inflow would begin. Groundwater inflow would also include flow through the bottom of the pit, which would commence immediately. The incredibly low rates are not justified. This suggests the inflow load coming from the groundwater is ignored.

Division Response: Pit lake inflows during the temporary suspension of mining in recent years have occurred at a time when pumping rates have dropped 300-400% compared to the proceeding period of active mining (Figure 2.4, SWS 2020). This has caused water levels to rebound in the pit area. Even with this being the case, the inflows to the pit lake are very minor, on the order of less than 10 gpm. When active mining resumes, water supply pumping will resume as well, and as a consequence, inflows to the pit will also drop even lower than they are at the present time. This illustrates both how low the fluxes are to the pit lake, and in addition, that future mining activities will cause water levels in the BRF to drop from present day levels before they begin to recover fully after pumping ceases.

Comment 23: (Tech Memo, page 12, second paragraph) The backfill models accounted for the amendment of backfill with lime by "allowing 17 percent of the pore water [in the backfill] to react with lime". This requires clarification and could represent a gross overtreatment in the model of the liming. Does it assume 17% of the first pore volume or is it 17% of all water once it enters the pores for the entire 200 year period?

Division Response: The assumption used in the geochemical model is that 17% of the backfill pore water is initially limed, then that starting concentration was gradually diluted over time by the inflows according to the pit lake water balance.