STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION
Jim Gibbons, Governor
Allen Biaggi, Director
Leo M. Drozdoff, P.E., Administrator

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Notice of Decision

Water Pollution Control Permit
Number NEV0050037

Coeur Rochester, Inc.
Rochester Mining Project

The Nevada Division of Environmental Protection (Division) has decided to renew 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 December 23, 2009. 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, December 18, 2009, 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 .

Two comment letters were received during the public notice period. The responses to these comments 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 October 2, 2009:

Comment 1: (cover letter, paragraph 2) Our general concern with this site is in closure. We see the potential for long-term complications including significant groundwater contamination. Coeur Rochester, Inc. is looking to expand mining and construct a Stage III heap leach pad. GBRW does not support any continuation until a full site wide EIS has been done and Coeur addresses existing problems at the site.

Division Response: Comment noted. The ongoing NEPA process is a BLM issue and not associated with this Water Pollution Control Permit (WPCP) renewal. As of the date of the Notice of Decision (NOD), no proposal has been received from the Permittee for the addition of the Stage III heap leach pad and it is therefore not a part of the current renewal process. If the Permittee pursues this plan further by submitting a major modification, a separate review and public notice period will be initiated by the Division.

Comment 2: (cover letter, paragraph 3) It has been 18 years since leakage was first detected from the Stage I heap leach pad and large volumes of flows are still reporting to the South American Canyon sump (SAC). It also appears as though process solution leaking from the Stage I heap is contaminating the American Canyon Spring including mercury, nitrate and TDS. Furthermore, there is a significant upward trend in Cl^-, TDS, NO_3^-, and SO_4^{-2} in well WI-16 indicating that leakage from this heap continues to expand downward. There needs to be a plan for eliminating these flows.

Division Response: The South American Canyon sump (SAC) is an underdrain system beneath the Stage I leach pad liner system. The SAC does not exceed the Profile I reference values (except periodically with manganese), and is therefore believed to be sourced primarily from non-process water under the liner (e.g., springs, or meteoric water that percolated under the edge of the liner).

The Division concurs that additional leakage from the Stage I leach pad must be terminated. The WPCP continues the previously established moratorium on introducing any fluid to the Stage I leach pad, and requires submittal of a Final Permanent Closure Plan (FPCP) for the entire site, including the Stage I leach pad. The permit also requires that the depth of process solution in the North Dike sump on the Stage I leach pad be maintained at no greater than 2.5 feet to minimize head on the liner. The Division previously required conversion of monitoring well WI-16 to a pump-back well to collect, and prevent further migration of contamination present in that well. Analytical data from samples of wells downgradient of WI-16 (TB-1, TB-2, TB-3, TB-4, and TB-5), and from deep wells in the bedrock in the same area (MW-42 and MW-43) show no evidence of contamination.

In response to higher than anticipated draindown flow rates from the Stage I leach pad, the Division recently required the Permittee to undertake an investigation to determine if process solution is being introduced onto the Stage I leach pad from other process components, the results of which will be used to determine what remedial actions will be required. This information and any required actions will be incorporated into closure plans as appropriate.

Regarding the American Canyon Spring (ACS), 2009 monitoring data indicates that only nitrate + nitrite as N exceeds the Profile I reference values. Previously, the interpretation that this contamination was derived from process components was not supported by monitoring results from the intervening monitoring well MW-30. However, recent nitrate + nitrite as N exceedances at MW-

30 warrant further investigation and possible corrective action. The Division has required that the Permittee prepare and submit a Corrective Action Plan (CAP) to investigate and eliminate the source of nitrate + nitrite as N and mercury in MW-30, and to implement remedial action to prevent further migration of contaminants.

Comment 3: (cover letter, paragraph 4) GBRW does not support the proposal to discharge drain down or other fluids from the Rochester Mine to the Buena Vista Playa. Dumping substandard water in the desert is an irresponsible practice that should never be allowed. Instead, Coeur needs to develop better management practices on site and a long-term closure plan that will allow for passive containment of substandard solutions.

Division Response: Discharge to the Buena Vista Playa is being considered as one option for closure. Passive draindown and evaporation is another option under consideration. In accordance with regulations prohibiting degradation of waters of the State, discharge to the playa would be authorized only if it was demonstrated that the discharge would not degrade waters of the State.

Comment 4: (cover letter, paragraph 5) The Stage IV heap leach pad is also leaking, which according to the fast sheet has not degraded groundwater. However, as Myers states on page 8 of his review, *"The lack of contamination in the bedrock monitoring well does not prove contamination has not reached bedrock because the monitored fractures may not be connected to the contaminant source or groundwater movement is slow enough the contamination has not reached the monitoring well."* This leak needs to be characterized and action needs to be taken to arrest this problem as well.

Division Response: See response to Comment 22 below.

Comment 5: (cover letter, paragraph 6) The pit has developed a pond well before anticipated with substandard water observed in 2008. GBRW is very concerned about the long-term evolution of the pit and water that is likely to infiltrate *through* this pit/pit pond. We are convinced that the backfilling scenarios briefly discussed in the fact sheet will arrest the poor water quality issues. It is not clear that the backfill will be sufficiently acid neutralizing and as Myers' suggests on page 11 of his review, *"Backfilling the pit may literally bury the problem until leached oxidation products appear at downgradient springs or wells. Because the water levels will rise and fall, there is potential for substantial wetting and drying of the backfill. The backfill mixtures have insufficient NAG rock to be confident that acid will not form and leach to downgradient aquifers."* Myers goes on to suggest an alternative to those proposed, which GBRW agrees should be studied. Most importantly, the long-term management of the pit must be more calculated than we infer from the available data and reports.

Division Response: See response to Comment 26 below.

Comment 6: (cover letter, paragraph 7) The time horizon as part of the schedule of compliance for submitting a site-wide Final Permanent Closure Plan seems too far out, December 31, 2011. Coeur has neglected this for far too long to allow another two years to get it done. GBRW does not support this timeline, but rather no later than the end of 2010 to submit a site-wide Final Permanent Closure Plan.

Division Response: The two-year timeline for FPCP development is necessary to allow sufficient data to be gathered from test evapotranspiration cells, evaporation ponds, playa monitoring wells, etc.,

over more than one season to increase confidence in the applicability of the results to long-term closure predictive models.

Comment 7: (Tech Memo, page 1, last paragraph) The stage 1 pad was constructed on the divide between American Canyon and south American Canyon, as may be seen on the detailed monitoring well maps in the application. The Fact Sheet points out that leakage from this pad was first detected in 1991. Unfortunately, the source remains 18 years later in 2009, as may be seen for example in the flows reporting to catch basins CBE and CBW. For example, from 2004 to the end of 2007, CBE showed more than 100 gpd every week.

Division Response: CBE, CBW, and SAC are constructed as underdrains beneath the Stage I liner and all flows from these catch basins are captured and used as process makeup water. As such, they are subject to flow from natural sources (e.g., springs under the liner, or meteoric water that seeps under the liner) as well as any process leakage through the liner. Water quality in CBE, CBW, and SAC indicates that most of the flow is from natural sources. However, residual contamination from Stage I leakage still occurs in both CBE and CBW, although concentrations are significantly lower now than during the 1990s. Permittee has taken numerous remedial actions to address the Stage I leakage, as required by the Division. These include ongoing closure of the leach pad, placement of a soil cover, modification of the North Dike sump to drain freely, a moratorium on application of fluid to the pad, implementation of a CAP including a pump-back well to collect groundwater contamination, and numerous investigations to identify the source of the leakage, and to evaluate the potential for migration of the contamination. These efforts are on-going.

Comment 8: (Tech Memo, page 2, first full paragraph) The South American Canyon sump (SAC) is the point to which the recovery system for heap phase 1B report. The lowest flow reporting to SAC between 2004 and 2008 is about 7000 gpd; during 2006 flows approached 50,000 gpd. The year 2006 was a wet year. Where does this flow report? NDEP should require Coeur to present a plan for eliminating these flows, although it may be included in the "proposed final draindown design criteria report" required as a SOC item.

Division Response: SAC flow reports to the SAC sump, from which it is pumped into the process circuit. Quarterly analyses of SAC solution indicate that it is derived primarily from natural sources rather than leach pad leakage and that the flow rates are consistent with those measured from typical springs in the same area. Eliminating this flow is therefore unnecessary.

Comment 9: (Tech Memo, page 2, paragraph 2) The American Canyon Spring (ACS) lies north of the leaky Stage 1 Heap. The 2008 annual report shows clearly there is process solution in the spring. There is detectable WAD CN and mercury, high nitrate and TDS. The 2004 annual report shows an upward trend in TDS, nitrate, sulfate, and chloride from 2000 to 2004.

Division Response: See response to Comment 2 above.

Comment 10: (Tech Memo, page 2, paragraph 3) This heap does not have formal leak detection system but has underdrain recovery systems, or catch basins, that for phase 1A report to CBE and CBW (Figure 1) and for phase 1B to SAC. North of CBE and CBW are additional catch basins, EP, B, NB, CBC, and CBN, not described in the Fact Sheet, which apparently receive leakage from the process ponds area (Figure 1). Telesto (2007) describes CBC as a drain system that removed a chemical load from the alluvial groundwater.

Division Response: All of these sumps are described on pages 7 and 8 of the Fact Sheet. CBC is a French drain underlying the East and West Pregnant Ponds. It is used partly as a remedial pumping sump for the Stage I leakage.

Comment 11: (Tech Memo, page 3, paragraph 1) CBE and CBW appear to have had a role reversal with regard to receiving seepage. Prior to 2008, CBE received from 200 to 600 gpd of seepage; since 2007 CBW has received sporadically quite a lot more. *NDEP should explain why the flow rates have switched between the catch basins*. CBC had been receiving up to 15,000 gpd prior to 2007 but this value has decreased to less than a few 100 gpd since 2008.

Division Response: The flows from CBE and CBW originate from spring underflow. The increased flows to CBW in 2006 are attributed to repairs to the pipeline feeding CBW in August 2006. The pipe going from Stage I to CBW was found to be crushed and leaking through the overlying soil in August 2006 and was repaired. The flows have not switched between CBE and CBW. CBC is a part of a French drain system at the toe of Stage I. CBC captures shallow groundwater flows over a broad area below the pregnant ponds (which are not currently used for process solution). The decrease in flow rates to CBC since 2007 (15,000 to 100 gpd or 10.4 to 0.1 gpm) appears to be primarily due to repairs to the liner system of the pregnant ponds. Water from these catch basins is routed to the process plant for makeup water.

Comment 12: (Tech Memo, page 3, paragraph 2) Also, the water quality varies among catch basins. Nitrate is the biggest difference; for example, CBE and CBW are trending downward and are mostly below 6 mg/l and CBC is mostly above 15 mg/l and trending upward. Arsenic is up at CBE, in contrast with nitrate and downward in other basins. NDEP should require Coeur as a schedule of compliance (SOC) item to identify the source of water to each of the catch basins; this is necessary for an adequate heap closure plan.

Division Response: Investigations into the source of solution reporting to the various catch basins have been performed and have concluded that the primary sources of water reporting to each come from meteoric infiltration and spring flows, as evidenced by the seasonal fluctuation in the flow rates. Leakage from the various process components in the vicinity of each is a small percentage of the total flow. Detailed reports of these investigations are available in the Division files.

Comment 13: (Tech Memo, page 3, paragraph 3) WI-16 and -17 are just beneath CBE and CBW, 66 and 29 feet deep with 10-ft screens in shallow bedrock and shallow alluvium, respectively. Concentrations in the shallow well are higher and sporadic without trend while in the deeper well they are high and consistently increasing. All constituents in WI-16, plotted in the 2008 annual report, are found in WI-17. The significant upward trend in WI-16 indicates the alluvium drains into the bedrock and that leakage from the Stage 1 heap continues to expand downward.

Division Response: The screened interval of WI-16 is actually located at the sediment/bedrock transition zone, not entirely in the bedrock. Deeper wells screened entirely in the bedrock (e.g. MW-33) are consistently dry or exhibit very low recharge rates. These data, along with the results of pump tests, indicate low permeability in the bedrock zone. In addition, those sample which have been successfully collected from the bedrock wells in this vicinity indicate no exceedance of Profile I reference values. This evidence suggests that the water draining through the sediment is conveyed

laterally along the surface of the bedrock where it is captured by WI-16 rather than penetrating downward into the bedrock.

Comment 14: (Tech Memo, page 4, first full paragraph) The Fact Sheet suggests high Cl in monitoring well WI-17 should have another source of contamination since the leach solution "is not chloride rich" (page 4). Chloride in process solution at B11, P1-North Dike, P11, and P11-BIV varies around 150, 100, 150, and 150 mg/l, respectively, in the 2008 annual report. WI-17 has very high concentrations, with TDS and sulfate ranging from 6000 to 8000 and 600 to 800 mg/l, respectively; values for Cl were not included in the 2008 monitoring report I obtained, due to scanner error, but are likely higher than observed in the process sources. These values exceed values in the process solution. They also exceed values at CBE, CBW, CBC, and CBN. *Coeur should determine the source of contamination at WI-17 as a SOC item*.

Division Response: The Permittee has previously stated that hypochlorite solution applied to WI-17 in 1991 (and for some time afterward) to reduce the cyanide concentration is the likely source of chloride in WI-17 (and WI-17R). An investigation of surface soil concentrations around the pregnant ponds (performed in 2005) suggested that hypochlorite cleanup of previous process solution releases around the ponds, were not likely to have caused the high chloride concentration in WI-17. Relatively low chloride concentrations in CBC, and in the process solution, suggest that the pregnant ponds are also not the source of the chloride in WI-17. In order to increase the rate of remediation of the chloride from this area, the Permittee has agreed to convert WI-17R into a pump-back well.

Comment 15: (Tech Memo, page 4, paragraph 2) WI-29 is also an alluvial well about the same distance downgradient from the heap as - 17. Concentrations are also sporadic without a trend. Water levels in WI-29 are substantially higher than in WI-17 (Telesto, 2007) but they fluctuate seasonally up to 20 feet. In WI-17 there is a thirteen year trend with little fluctuation but decreases of about 13 feet. Contrary to Telesto's (2007) conclusion of no hydraulic connection, the differences may reflect the wells' respective locations in the drainage and the depth to bedrock water level. These wells are in the high recharge zone near the top of the ridge (WMC, 2002). Seasonal recharge causes the water level to fluctuate. Recharge to the shallow alluvial aquifer near WI-29 will either move horizontally, toward WI-17, or vertically into the bedrock. The lack of significant fluctuations at WI-17 suggests the horizontal flow is relatively constant. Flow at WI-17 is northeast (Figure 2) along the American Canyon channel and the shear zone, therefore it is reasonable to conclude the horizontal flow at WI-29 feeds into the alluvial aquifer flowing NE at WI-17. Vertical flow at WI-29 is into the bedrock. Because the bedrock water level is lower in the vicinity of WI-29 than further east near WI-17, the fractures probably have a higher conductivity which allows the recharge to more quickly seep into the bedrock than it does further east. This leads to the rapidly fluctuating water levels and does not indicate a lack of connection between the wells.

Division Response: The shallow alluvial well MW-41B, which is located in between WI-29 and WI-17R, does not show exceedances of Profile I reference values, suggesting that horizontal flow from WI-29 toward WI-17R is not a dominant pathway. Rather, the Profile I reference value exceedances at WI-29 and WI-17R appear to represent separate lobes of the plume extending northward from the Stage I leach pad. The groundwater at WI-17R is captured in the CBC French drain pumping system. The Division recently required the Permittee to investigate the exceedances at WI-29 further. The approved plan includes installation of replacement well WI-29R which was completed in November 2009. If the Profile I reference value exceedances are confirmed, WI-29R will be converted to a pump-back well.

Comment 16: (Tech Memo, page 6, paragraph 1) The decrease in WI-19 is a good thing. *NDEP should require a new bedrock monitoring well near WI-19 be constructed to groundwater because of the increased concentration in WI-16*. It is important to know whether pumping WI-16 is remediating bedrock groundwater or drawing contamination into it. This data would improve the characterization of the site which is necessary for closure planning and could be part of the final closure plan required as an SOC.

Division Response: Shallow Profile I reference value exceedances in the alluvial sediments in the vicinity of WI-19 are very low in concentration and are believed to be captured by the CBC French drain pumping system. Recent investigations (e.g., Telesto, 2007) suggest that WI-16 is screened within the lowermost alluvial sediments just above the sediment/bedrock contact, rather than within the bedrock as previously thought. Bedrock monitoring wells a short distance west and east of WI-19 (MW-31 and MW-43, respectively) are dry. Other monitoring wells screened at the base of the alluvial sediments west and northwest of WI-16 (MW-41A and MW-40A, respectively) are also dry. Therefore, the Profile I exceedances at the sediment/bedrock contact at WI-16 do not appear to extend further north, west, or east from WI-16.

Comment 17: (Tech Memo, page 6, paragraph 2) MW-37 is in sediment at the base of the heap (Figure 4). It shows mercury and arsenic concentrations and hits of WAD CN consistent with heap leakage. However, the TDS, sulfate, and Cl remain low without a trend. Wells MW-33 and -35 are completed in bedrock at the base of the heap and north of the process ponds, respectively (Figure 4). Water quality at MW-33 does not appear to be affected by leaks from the heap, but at MW-35 there are some upward trends. There has been WAD CN at that well, so there are connections with the heap. Unfortunately other bedrock wells in the area are dry, a fact that probably reflects the fractured nature of the bedrock. Disconnected fractures may be dry or yield so little water as to be effectively dry. Well WI-24 is further downgradient and appears to not yet be affected, having steady concentrations and nondetect trace metal concentrations. This supports Telesto's (2007) finding of residual chemicals being related to Stage 1 heap operations.

Division Response: The groundwater at MW-37 displays characteristics of process solution from Stage I leakage at the alluvial sediment/bedrock contact just south (upgradient) of WI-16. In accordance with the approved CAP, this contamination should be captured by pump-back well WI-16. MW-35 currently displays no process characteristics at concentrations above Profile I reference values, although it does exhibit thallium exceedances and pH slightly below 6.5 standard units, which apparently represent natural background concentrations.

Comment 18: (Tech Memo, page 7, paragraph 1) The various observed concentrations definitely reflect a leak from the stage 1 heap pad. The rates of transport may vary among constituents and cause the geochemical signatures to vary. In other words, some constituents may attenuate. *TDS and sulfate are more apparent further from the heap such that important leaks may result from the process ponds rather than just heap*.

Division Response: The East and West Preg Ponds have not been used for storage of process solution since 1991 except for periodic low-volume use of the West Preg Pond for excess North Dike solution in the last several years, with both ponds being limited to 20-day residence time of any process solution. The South Barren Pond has also been limited to 20-day residence of solution during upset events since 1992 when it was last relined. The North Barren Pond has been used for solution

storage but leak detection data for this pond do not show any signs of leakage. It is therefore unlikely that any of the ponds are currently contributing significantly to the plume.

Comment 19: (Tech Memo, page 7, paragraph 3) As part of the corrective action, Telesto (2007) performed a fate and transport analysis for Coeur regarding the stage 1 heap. With two exceptions, the analysis here is consistent with Telesto's findings. The first was discussed above regarding the hydraulic connection between WI-29 and -17. The second is that there should be a better explanation of high salt concentrations than "conveyor belt road and activities…outside the Stage 1 area" (Telesto, 2007, page 11). To make this conclusion, *Coeur should analyze whether the source could actually produce this much salt*; if so, the BMPs of the area should be improved.

Division Response: As a result of the Division inspection of March 2009, the Permittee made improvements to stormwater controls around the pregnant ponds to minimize direct runoff across the road into the pond area.

Comment 20: (Tech Memo, page 8, paragraph 1) Telesto is correct that the source of high nitrate is a quandary. Their suggestion that it is likely a residual of the Greenworld science experiment for detoxing the heap performed during 1999 and 2000 would be correct if there was a spike rather than an apparent continuous source. The groundwater fluxes that occur due to seasonal recharge would advect a temporary nitrate load away from the heap. Because of the thick unsaturated zones in the area, temporary nitrate seepage would likely attenuate. *Coeur should find another source of this nitrate, which is likely to be continuous.*

Division Response: Evidence suggests that the source of nitrate in monitoring wells near the Stage I leach pad is leakage from the Stage I pad, and is being collected and prevented from further migration in accordance with the approved CAP. However, the trend of increasing nitrate concentration in draindown solution on the Stage I pad itself (observed in analyses of solution in the Stage I North Dike sump), is under current investigation (Division letter of September 28, 2009), and may be due to introduction of nitrate-bearing process solution to the Stage I pad from other process components (e.g., the Stage II pad or Stage II piping). If found, the Division has required the elimination of any such sources.

Comment 21: (Tech Memo, page 8, paragraph 2) The CBC does NOT "provide[s] removal of most chemical mass from impacted sediment ground water" (Telesto, 2007, page 14) because there is a substantial thickness of alluvium beneath the CBC through which much groundwater, and contaminants, can continue to flow. Evidence for this is that CBC flows practically disappear during 2007-8 (Figure 5) likely due to dry conditions. Thus, a large amount of load flows downgradient through the alluvium beneath CBC in addition to the load that seeps vertically downward into the shallow bedrock (*Id.*). *Coeur should complete another study to better calculate the transport downgradient through the alluvium from CBC*.

Division Response: The decrease in CBC flow rate resulted, at least in part, from repair of a leaking crushed CBW pipe in October 2006. CBC also displays an annual decrease in flow in the third and fourth quarters due to decreased meteoric input during the dry months. Pump-back well WI-16 captures impacted water that is not captured by CBC. An on-going investigation at WI-29 may result in the requirement of an additional pump-back well in this area. There is no evidence to support the contention that Stage I leakage is escaping capture within alluvial sediments beneath CBC. Rather, drilling shows that the alluvial sedimentary section decreases in thickness to the north, and

may pinch out entirely under the barren ponds. Shallow alluvial monitoring wells north and west of the pregnant ponds and south of the barren ponds (MW-40B, WI-19, TB-1, TB-2, TB-3, TB-4, and TB-5) show that this thinner sedimentary section is locally dry or has groundwater with much lower levels of Profile I exceedances than the same section further south near Stage I (WI-17R, WI-29).

Comment 22: (Tech Memo, page 8, paragraph 3) The Fact Sheet indicates there is a leak in Cell 2 of this pad discovered in 2004. Solution was found in UDL-3 and cell 2 of that pad has not been used since the leak was discovered. Flow rates at UDL-3 have not apparently decreased (Figure 6); in fact a peak in spring 2008 is higher than any other period. Shutting down cell 2 has not solved the problem even though MW-44, completed in bedrock downgradient of the heap, does not show any contamination. *NDEP should require Coeur to perform further studies to determine the source of the leak and take actions to prevent any further leakage.* The lack of contamination in the bedrock monitoring well does not prove contamination has not reached bedrock because the monitored fractures may not be connected to the contaminant source or groundwater movement is slow enough the contamination has not reached the monitoring well.

Division Response: At least two previous efforts to pinpoint and repair the source resulted in reduced leakage, but failed to eliminate it entirely. However, it is important to note that the reported first quarter 2009 average daily flow was very low at 1.5 gallons per day (equivalent to 0.001 gpm), and the reported second quarter 2009 flow was zero. The next step should be permanent closure of cell 2 of the Stage IV leach pad. The renewed permit requires submittal of a site-wide Final Permanent Closure Plan, which will include the Stage IV leach pad.

Comment 23: (Tech Memo, page 9, first full paragraph) A small pit lake began to form in the Rochester pit in early 2007, *just 85 to 100 years before it was predicted to form by WMC (2002)*. Initially, most constituent concentrations in the pit pond were relatively low except for the presence of WAD CN. Within a year, the pH began to drop and TDS, sulfate, cadmium, and thallium began to increase substantially and far in excess of what would be expected due to the background water quality (all concentration hydrographs are attached as Appendix A). Because of the WAD CN, Coeur pumped the pit to avoid a toxic pit lake formation. It disappeared, but evolved to concentrations that exceed substantially the chemistry predicted in the pit lake model (fact sheet, page 10). Considering how wrong the groundwater hydrology in the pit lake model was, NDEP should give no credence to the model predictions of the model. The pit lake formed early because inflows and sources occurred that WMC had not modeled.

Division Response: The Division concurs that the earlier than expected formation of the pit lake was from sources which were not known to exist during the initial pit lake study. This has now been accounted for in the 2009 study and additional data (including that gathered from three new in-pit monitoring wells) will be incorporated into future revisions as well.

Comment 24: (Tech Memo, page 10, paragraph 2) An inherent problem with the modeling of the backfilled pits is the apparent assumption that submergence of the backfill prevents oxidation from occurring. For this assumption to verify, two factors must occur, and NDEP should verify that they do occur.

1. The submergence must occur quickly enough to prevent continuing oxidation. The current pit pond was not expected and WMC blames it on perched groundwater conditions. *NDEP should verify the source of water for submerging the backfill*.

2. The water level must not rise and fall which would cause moisture conditions to change which could allow intermittent oxidation. The pit lake modeling likely does not consider rising and falling pit lake and groundwater levels. *NDEP should verify whether the pit lake model is ignoring a source of contaminants*.

Division Response: With regard to item 1, the Division required the Permittee to investigate groundwater elevations and water quality on three sides of the pit lake by installation of three in-pit monitoring wells which were completed in November 2009. The data provided by these wells will be used to confirm (or disprove) the assumption that the source is a perched body, and provide accurate elevation information to be used in the planning of the backfill, should that option be approved and implemented.

With regard to item 2, while all three options presented remain under consideration, the best option is to require neutralization of the pit lake (already completed earlier in 2009), and to require amendment of the wasterock backfill to ensure net neutralizing conditions within the backfill.

Comment 25: (Tech Memo, page 10, last paragraph) The pit lake will not be terminal, as postulated by WMC (2002, 2009a), with groundwater flow into the pit from all directions equaling the evaporation from the pit lake surface. WMC simulated long-term water balance fluxes in the 17 to 24 gpm range (Table 3.2, WMC, 2002) and a drawdown in the surrounding groundwater levels of about 50 feet due to pit evaporation. This may be partially correct but also ignore an important outflow, groundwater seepage through the bottom of the pit. Wells constructed in the shear zone bedrock, MW-45, -46, -47, and -48, are 523, 504, 474, and 105 feet deep with depths to water 495, 477, 353, and 76 feet, respectively. The wells align south to north with MW-47 and -48 being at approximately the same location near the process ponds (Figure 7). The water level elevations are 5933, 5935, 5966, and 6243, respectively, which suggests a gradient from the north to south and also that shallow bedrock water levels, in the shear zone, are higher than the deeper bedrock water levels. This indicates there is a substantial vertical gradient and probably flow. Although Coeur may believe that the deeper levels reflect dewatering due to the production wells, the gradient slopes away from the production well. The levels are also below the pit bottom, so dewatering by flow to the pit does not explain the deep water levels. The vertical gradient indicates that groundwater probably seeps through the bottom of the pit into the underlying bedrock from where it would flow into the shear zone.

Division Response: Preservation of the high quality of water in the Black Ridge Fault (BRF) aquifer (the "shear zone" in Myers' comments) is a paramount consideration with the pit lake. The Division required installation of monitoring wells MW-45, MW-46, MW-47, and MW-48 shortly after appearance of the pit lake in 2007. Despite lower water elevations in the BRF (presently) than in the pit lake, no degradation of the BRF aquifer has occurred. This suggests a poor hydrologic connection between the two, but evidence from the pit lake studies suggests that some connectivity, albeit poor, is likely between the pit lake and the BRF. Among the options proposed for long term remediation of the pit lake, the neutralization of the pit lake water earlier in 2009 combined with an amended backfill of the pit lake represents the best plan for protection of the BRF aquifer.

Comment 26: (Tech Memo, page 11, paragraph 1) None of the three options proposed are good solutions to the potential for a poor quality pit lake, the pit lake model predictions notwithstanding. Allowing the pit lake to form and be treated is a very long-term commitment to monitoring that should require a trust fund to assure that funding will always be available. Backfilling the pit may

literally bury the problem until leached oxidation products appear at downgradient springs or wells. Because the water levels will rise and fall, there is potential for substantial wetting and drying of the backfill. The backfill mixtures have insufficient NAG rock to be confident that acid will not form and leach to downgradient aquifers. Once the pit is backfilled, it will be costly to fix any problems.

Division Response: Amendment of the backfill with neutralizing material (e.g., lime), as described in the Backfill Management plan (2009), addresses the concerns expressed by GBRW (pages 9 and 10 of the Technical Memorandum) in regard to the backfill option.

Comment 27: (Tech Memo, page 11, paragraph 2) An alternative *may be to remove the sulfide rock in the pit wall and allow the pit lake to form*. Removing the sulfides may reduce the PAG potential in the wall rock. The lake may submerge the remaining sulfides and should not rise and fall as rapidly as the groundwater in the backfill due to the higher volume of water in residence in the pit. Coeur should consider grouting some of the fractures for both inflow and outflow from the pit. If the 17 to 25 gpm flux range (WMC, 2002) is correct, the fractures intersecting the pit are not huge and could be grouted. The water levels in bedrock monitoring wells indicate the gradients near the pit are not substantial, so grouting may not be difficult. Therefore, grouting may decrease the inflow and outflow, thereby stabilizing the lake level and decreasing the intermittent wetting and drying of potentially PAG pit walls.

Division Response: Attempting to remove the sulfide rock is impractical and unwise due to a high probability of making the situation worse rather than better. In most silver deposits, sulfides are much more extensive laterally and vertically than ore. If such a project were to be abandoned in the middle, the likely result would be an increased exposure of sulfide rock, and a larger and potentially more acidic pit lake. Grouting fractures in the pit to decrease water flow is also impractical. The Rochester pit is pervasively fractured, due both to blasting and to the original structural complexity that allowed the ore body to form there. Therefore, the most promising option for the pit lake is neutralization, followed by backfill with amended waste rock as described in the backfill management plan. Note also that this plan calls for the placement of alkaline material directly adjacent to the sulfide zones, and that only non-acid generating material is to be placed in the zone of groundwater fluctuation.

Comment 28: (Tech Memo, page 12, second full paragraph) The draft permit (I.D.3 and I.D.5) does not specify a limit for discharges to the catch basins. Please address the source of this water and why there is no limit. Considering the water quality in that catch basin, this is clearly linked to process water (WAD CN is detectable, high As, Hg, TDS, Cl).

Division Response: Flow limits on catch basins are inappropriate, because the catch basins are French drains that are open to the environment, and typically receive large and variable inflows of meteoric water, in addition to any process solution leakage. The effective limits for the catch basins are specified in Part I.A.3 of the WPCP and similar statutes and regulations that prohibit release of process solution to the environment.

Comment 29: (Tech Memo, page 12, paragraph 3) Permit limitations I.G.9 and I.G.10 limit the application rates that may be applied to two of the heap leach pads. How does NDEP enforce these limits? There is no requirement that the Permittee report on the application rates, therefore a requirement for reporting should be added to the permit.

Division Response: The overall application rate for each active leach pad was provided by the Permittee as design limits and are included in the Permit as limitations to insure that any increase in flow capacity be preceded by Division review of a Permit modification. The application rate per unit area is a guideline to prevent concentration of solution in confined areas which could lead to saturation and possible instability, as well as a danger to wildlife. As a clarification, the application rate per unit area has been stated as the average over the heap area to which solution is being applied.

Comment 30: (Tech Memo, page 12, paragraph 4) The average daily volume pumped from the pump-back well, WI-16, must be reported "weekly when in operation" (I.D.7). What are the requirements for using the pumpback well? They should be specified in the permit.

Division Response: The pumpback well is triggered by a float switch within the pipe, allowing the system to cycle on and off automatically as the water level rises and falls. The WPCP does not authorize manual shut-off of WI-16, except as required for periodic maintenance and repair.

Comment 31: (Tech Memo, page 12, p[paragraph 5) The SOC requires Coeur to "submit a comprehensive, site-wide Final Permanent Closure Plan". We support the concept of updating the Water Balance Model for heap draindown calculations because, as the large flow reporting to underdrains indicates, there is a lot of water in circulations. However, even considering discharging the draindown in a location on the Buena Vista Playa (I.B.2.e) is unacceptable; it is a "dump it in the desert" philosophy that NDEP should not allow. Coeur should design an ET cell that will be sufficient to discharge the excess heap water.

Division Response: Construction of E/ET cells is under evaluation as well as discharge to the playa and water treatment. Protection of waters of the State will be required for any option approved by the Division.

Coeur Rochester, Inc. (CRI), comment letter received from Casey Kiel, Technical Superintendant by electronic mail on October 5, 2009:

Comment 1: In response to your letter dated August 31st, 2009, item 3 – Stage I Remediation Report. Since NDEP has decided it is still relevant to submit this document on an annual basis, CRI proposes to change the title and substance of the report to "Stage I Annual Draindown Report". The Stage I Leach Pad has been reclaimed in its entirety as of May 2009 when the final diversion ditches were regraded to allow meteoric water to shed from the pad. It is not anticipated any additional remediation work will be required. CRI believes at this stage of the Pad's closure it is of more importance to focus on the draindown performance; especially since recent NDEP correspondence has suggested case studies from other sites have limited applicability. No groundwater quality information will be lost in this transaction as a detailed Stage I groundwater section is dedicated in each Supplemental Quarterly Report.

Division Response: As of this writing, the effectiveness of the remedial efforts taken to date has not yet been fully demonstrated and more data will be required to confirm that the models presently used to predict long term rates and chemistry of the draindown are accurate. This report is key to presenting this data and the requirement and name will remain as written.

Comment 2: CRI is appreciative of limiting the Schedule of Compliance (SOC) requirements to an overall deadline, no later than December 31st, 2011, for submittal of the site-wide Final Permanent Closure Plan. CRI would also request that the SOC date of September 1st, 2010 be removed from the Permit for the preliminary report on the results of monitoring at the Buena Vista Playa. NDEP and CRI have already agreed to this deadline in the ongoing Closure Study Plan. In addition, CRI has agreed to complete the initial test work by November 7th, 2009. Depending on results of that test work and any subsequent work a report on the discharge scenario may or may not be relevant.

Division Response: The purpose of the deadline is to ensure that there is an adequate period of time to gather sufficient data for use in the final closure plan for this activity. The deadline has been retained in the renewed permit.

Comment 3: CRI requests Part I.D.16. of the Permit be removed as pumping rates from Stage II or Stage IV are not, or have ever been, recorded at the site for the fact that no flow meter exist on either of the discharge pipelines and would not be installed due to cost and life remaining of the pads. This is information not required for day-to-day operation of the leach pads and should not be included in WPCP or considered a compliance issue.

Division Response: The requirement for monitoring of pumping rates has been removed from the renewed permit.

Comment 4: CRI requests Part I.D.16 of the Permit be removed that addresses reporting solution depth (ft) weekly. Although this item is regularly monitored, there is no reason for inclusion in Permit. Information will not be useful for Stage II and Stage IV closure calculations in the future as has been stated for its purpose by NDEP. Dike levels will be lower as result of minimized application rates as closure draws nearer for each individual pad. In the alternative CRI would propose to report a quarterly average.

Division Response: Monitoring of depth to solution at the Stage II and Stage IV dikes is useful for verifying available freeboard and does not represent an unreasonable requirement. This item has been retained in the renewed permit.

Comment 5: Part I.D.2. is identified as Stage I pad leak draindown flow. CRI is requesting to remove the word "leak" from the Permit.

Division Response: Part I.D.2 refers to the collection of solution from the pipe sleeve (i.e., "boot sleeve") which acts as secondary containment for the primary Stage I draindown pipe which exits the boot at the base of the dike. Flow in this secondary pipe has historically been at or near zero. For clarification purposes, the description has been changed to "Stage I pad draindown pipe leakage flow (boot sleeve)". The primary draindown flow from Stage I is monitored in Part I.D.13.

Comment 6: CRI requests Part I.G. 9 and I.G.10 of the Permit that references solution application rate per unit area shall not exceed 0.005 gpm/ft² be removed. This is a variable operating parameter that should not be regulated under the WPCP. Restriction of application would be a hindrance to day-to-day operation.

Division Response: See response to Comment 29 above.

Comment 7: The Fact Sheet contains a section describing the Rochester Pit Lake. In that section it states the Pit Lake formed "85-100 years earlier than predicted", which is not accurate. The model predicted that the regional water table would recover and intersect the pit bottom 85 to 100 years after pumping ceased from the Black Ridge Fault. It did not predict that no water would accumulate in the pit prior to that time. The current water in the pit reflects surface water runoff, direct precipitation and minor groundwater inflows from the upgradient contributing area of the catchment. The current water residing in the bottom of the Rochester Pit is less than 1% of the total volume of water expected in the equilibrated pit lake which is consistent the limited amount of inflow which has occurred since mining ceased.

The current conditions in the pit are not those that were modeled for closure. Specifically the minor accumulation of water in the pit does not represent the fully recovered steady-state condition that was modeled for closure. This will only occur after water levels in the Black Ridge Fault fully reflect pre-mining conditions and the lake level reaches a stable elevation. With respect to long-term water quality the amount of water currently stored in the pit will have an insignificant influence on the predicted long-term water quality should a pit lake be allowed to form in the future.

Division Response: The 2002 pit lake study (WMC) states , "…it is estimated that the time taken for groundwater to start accumulating in the base of the pit may be approximately 50 to 85 years…" (revised in the 2003 WMC study to 85 to 100 years). The original pit lake studies did not anticipate any formation of a pit lake, whether from the bedrock aquifer or from perched bodies, in the years leading up to the full recovery of the water table. The persistence of the pit lake through the dry season with increasing depth demonstrates that it is not a result of surface water runoff and direct precipitation and that the groundwater component is more than just minor. Although the perched groundwater body contributing to the present pit lake was not yet known at the time of the original study, it constitutes waters of the State and must continue to be addressed in future pit lake modeling efforts. The Fact Sheet text will remain as written.