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2009 09 01

September 1, 2009

Project 84201191

Kathy Arnold, P.E.
Rosemont Copper
P.O. Box 35130
Tucson, AZ 85740-5130

Re: Rosemont Copper Project
Responses to Dry Stack TSF Comments Provided by Dale Ortman

Dear Ms. Arnold:

AMEC Earth and Environmental has reviewed the comments provided by Dale Ortman, which were received via email on August 17, 2009. The comments that were considered minor or did not require further discussion will be incorporated into errata supporting the comments to be addressed. The comments that require further clarification or discussions are included below. The comments have been numbered and are shown in italics and offers the following responses (highlighted in blue).

Comment 1: *The design report sets a 15 day limit for evaporation of accumulated storm water on the top surface of the tailings but the BADCT demonstration included as an appendix sets a 5 day limit; please confirm which is correct...*

Response: The duration for ponded water within the evaporation ponds is 15 days and will be addressed in an erratum.

Comment 2: *The tailings design is based on two tailings samples, Colina and MSRD-1 that, based on the submitted geotechnical test results, appear to have almost identical physical properties. The report states that although there are several ore-bearing rock types the high degree of similarity between the two tailings samples indicates a uniformity of tailings properties throughout the deposit. However, the report does not present any discussion of the origin of the samples, the rock types from which they were prepared, or the rationale as to why they are a reliable basis for design, please provide such rationale.*

Response: The bench scale mill tailings samples were prepared by Mountain States R&D International, Inc. during on-going pilot plant studies. The Colina and MSRD-1 mill tailings were derived from the anticipated ore to be encountered in years 4 through life of mine and years 1 through 3, respectively. The MSRD-1 sample was a composition of ore derived from the Earp, Horquilla, and Escabrosa lithologies while the Colina sample (and lithology) is the major ore to be encountered from year 4 and beyond. These lithologies represent the majority of materials anticipated to be processed during the life of the mine. The resulting, closely related physical properties after comminution indicate that regardless of ore type, the ensuing tailings have similar index properties and as a result similar geotechnical characteristics.

Comment 3: *The text of the report indicates the tailings to have a USCS classification of SM when, in fact, the presented data indicates both samples as ML; please correct the report.*

Response: This will be corrected in an erratum.

Comment 4: *The report states that tailings in excess of 18% moisture may be safely placed within the core of the facility at a distance of no more that 1100 feet from the inside crest of the rock buttress.*

AMEC Earth & Environmental, Inc.
304 Inverness Way South, Suite 490
Englewood, Colorado 80112
Tel: (303) 433-0262
Fax: (303) 433-0362
www.amec.com

However, no analysis is presented to support this statement; please provide an analysis including an upper bound limit on the allowable moisture content. Additional related questions are:

a. *Is there a contingency plan for upset conditions at the tailings filtration plant other than the allowance to place tails at greater that 18% moisture in the core of the disposal facility?*

b. *How will the conveyor and radial stacker system be aligned and operated to allow selective placement of tailings between the core and the outer portions of the tailings in the event of cyclical changes in tailings moisture content?*

Response: The Dry Stack TSF Final Design Report expands upon the design rationale as to why the distance of 1100 feet from the inside crest of the rock buttress was selected in Section 7.5, page 30, second paragraph, for tailings above acceptable water contents:

> "The above stability analysis is considered conservative because the tailings are to be placed at a nominal moisture content of 18 percent (by dry weight) or less, and are not anticipated to be saturated as shown by the seepage analysis, and are globally stable with the tailings 1,100 feet behind the crest of the facility modeled with zero shear strength. A parametric study was performed to evaluate the distance from the upstream crest of the facility where tailings should be placed if the required moisture content of 18 percent is exceeded and it was assessed that a minimum distance of 1,100 feet should be maintained to ensure stable conditions."

The stability analysis further included "No Strength Tailings" within the material properties table in Section 7.4, page 29, representing tailings exceeding the acceptable placement moisture contents. The tailings are not anticipated to be placed above the prescriptive moisture contents, but if this occurs, directives will be in place within the Operating, Maintenance, and Surveillance (OMS) Manual to address moisture conditioning the out of specification tailings until the required moisture content is met. Modeling the tailings within the core of the facility with no strength was not due to anticipated conditions, but simply to illustrate the robust nature of the buttress design and the resulting factor of safety against global failure in light of the conservative conditions.

a. The current contingency plan for control of tailings moisture content includes provisions at several points in the operation. The two high-rate tails thickeners have been sized with excess capacity to assist in achieving a consistent tails slurry delivered to the filter plant. The Settling Basin exists to provide a destination for tails slurry to be deposited should the filter plant be unable to accept full design flow. It can accommodate 3 days of slurry volume at the design rate.

   Several redundant filters will be installed at the filter plant. If problems occur with individual filters, or during times of scheduled maintenance, redundant filters can be placed in service. Redundant filters also offer operational flexibility to address unique conditions for varying lithologies processed throughout the life of the mine. The ability to place additional filters in service allows for increasing cycle times (to maximize moisture removal) and affords better operational control to maintain the moisture content of the filtered tails within the acceptable range.

b. It is anticipated that a secondary conveyor system consisting of a bypass diverter or stacking conveyor will be provided to allow temporary disposal of tailings upgradient of the Rock Buttress for placement with dozers while the primary conveyor is inactive due to movement, maintenance, or upset conditions.

Comment 5: *The seepage prediction is based on a placed tailings moisture content of 18% however the plan allows for placement of tails at moistures contents exceeding 18% in the core of the facility. Please provide an upper bound seepage analysis using the maximum allowable moisture content from Question #4 for tailings placed in the core of the facility.*

Response: If needed, tailings redirected to the core of the facility due to high moisture contents will reworked until specification requirements are met and will be addressed in the OMS Manual. Furthermore, as stated in the Dry Stack TSF Final Design Report, Section 6.3, pages 22 to 23:

> "The results from the hydraulic conductivity tests are presented in terms of depth of burial on Figure 6.3. The results indicate that the tailings are anticipated to have a hydraulic conductivity of approximately 4×10^{-3} cm/sec near the top of the dry stack tailings. At the bottom of the Dry Stack TSF, the tailings hydraulic conductivity reduces to 6×10^{-7} cm/sec. In fact, as shown on Figure 6.3, the hydraulic conductivity of the tailings reduces significantly between approximately 20 and 50 feet below the dry stack tailings surface. This is an important observation, as it indicates that seepage rate from the Dry Stack TSF will be controlled by the lower half (or more) of the tailings."

After approximately 25 feet of tailings are deposited, the hydraulic conductivity of the material at the base of the deposition is controlling the seepage rate; despite variations in moisture content. Therefore, the predicted long term seepage rate is unaffected by a change in moisture within the tailings mass.

Comment 6: *The report does not contain a Quality Assurance Plan (QAP) to ensure long-term conformance of the tailings facility construction with the design; please provide a QAP.*

Response: The design specifications located in Appendix C of the Dry Stack TSF Final Design Report addresses earthwork specifications, quality control, and compactive equipment for ongoing construction throughout the life of the facility including Rock Buttress, Flow-through Drain, and Structural Fill materials. Facility surveillance, reviews, surveys, safety inspections, and filtered tailings quality control will be addressed in the OMS Manual. The previous documents shall be used in conjunction to ensure long-term conformance to the tailings facility construction to the Final Design of the Dry Stack TSF.

Comment 7: *The report indicates the design criteria for Diversion Channel No. 2, but omits the same for Diversion Channel No. 1; please provide the design criteria for Diversion Channel No. 1.*

Response: This will be corrected in an erratum and will be included in the Dry Stack Facility Stormwater Management Design Report.

Comment 8: *The seepage analysis states that no ponding of storm water was included in the analytical boundary conditions. However, the design includes a top surface drainage grade of only 0.25% and construction using a radial stacker placing 25-foot lifts, and it is doubtful that both the construction method will allow grading control to maintain the 0.25% slope or the 0.25% slope will effectively drain the tailings top surface except during extreme flooding. Please provide additional rationale for the exclusion of ponding of storm water in the seepage analysis.*

Response: As presented in the Tetra Tech memorandum dated March 24, 2009 (Tetra Tech, 2009), the results from the geochemical analysis on the tailings and seepage leachate indicate that the materials to be placed within the facility meet the ADEQ criteria as inert. Therefore, no impact to water quality is anticipated during the operational, closure, and post-closure periods of the facility.

In addition, under normal precipitation conditions it was demonstrated in the seepage analysis in Section 6.5 that the upper 8 feet of the dry stack tailings act as a storage-release unit, whereby recharge due to precipitation does not pond water but infiltrates the tailings mass where it stored and eventually released due to evaporative losses.

In addition, a seepage analysis was completed as part of this response, in which water was ponded for a period 15 days on a column of soil represented by a constant head boundary condition. The 15 day time period represents the maximum amount of time for ponding water on the surface of the tailings. During this period, evaporation was not included and it was assumed that the top 15 feet of tailings were unconsolidated. After the wetting front due to the ponding of water was calculated, the column of soil was

then subjected to the average precipitation, evaporation, and temperature based on historic data obtained from the Santa Rita Experimental Range weather station for one year. As shown on Figure 1, the wetting front after 15 days is approximately 6.5 feet beneath the tailings surface. After 365 days, the water front only advances an additional 7.5 feet. It is important to note that after 1 year, the majority of water from the initial ponding has been consumed by evaporation, and only represents a minor component of Flux. Therefore, ponding water on the tailings surface for 15 days is not expected to have an appreciable affect on the overall seepage from the facility.

Comment 9: *Will the surface water control design report due for submission in July 2009 include engineering details for the storm water control facility for the dry stack tailings? Additional questions are:*

a. *The Central Drain (chimney drain) has been removed from the design, however the rock buttress on the north side of the Phase I tailings, that will be buried by the Phase II tailings, may allow storm water from the surface of the tailings to be routed to the Flow-Through Drain and comingle with discharging storm water; what is the plan to prevent this occurrence?*

b. *The seepage analysis does not include an analysis of potential infiltration through the rock buttress contacting the underlying tailings and subsequently exiting the toe of tailings facility to commingle with discharging storm water; what is to prevent this occurrence?*

Response: The Dry Stack Facility Stormwater Management Design Report will include engineering details for the stormwater control design.

Meteoric water infiltrating the tailings mass and subsequently co-mingling with water routed in the Flow-Through Drain or Rock Buttress will have negligible impact to waters exiting the facility. As summarized in the Final Design Report in Section 3.7, page 15:

> "As summarized from the Tailings Geochemistry memorandum, testing indicates the tailings generally (1) contain less than 0.01 percent sulfide-sulfur, (2) can be classified as inert with respect to acid generation, (3) possess high capacity for acid neutralization, and (4) produce very low metal concentrations in resulting leachate.
>
> Furthermore, the acid-base accounting testing indicates the properties of the tailings meet Arizona Department of Environmental Quality (ADEQ) criteria as inert, with total-sulfur concentrations less than 0.3 percent and a net neutralization potential greater than 0 or a neutralization potential ratio greater than 3 (ADEQ, 1999). Kinetic or humidity cell testing is a laboratory test which replicates weathering in an accelerated timeframe. Each week the material subjected to weathering is rinsed and the resulting solution analyzed for chemical constituents in order to verify possible acid generating materials. Test results indicate the tailings are inert and are not anticipated to become acid generating.
>
> The synthetic precipitation leaching and meteoric water mobility procedures are primarily concerned with the potential for release of chemical constituents, including metals, in both coarse and fine grained materials. The results of each procedure indicate the majority of metal concentrations were either below detection concentrations or low compared to aquifer water quality standards."

The above information was based upon the results of the geochemical testing performed by Tetra Tech, included in the memorandum entitled, "Tailings Geochemistry" dated March 16, 2009, which can be referenced in Appendix D.3 from the Dry Stack TSF Final Design Report.

If you have any questions or comments regarding these responses or would like to discuss the design in further detail, please contact us.

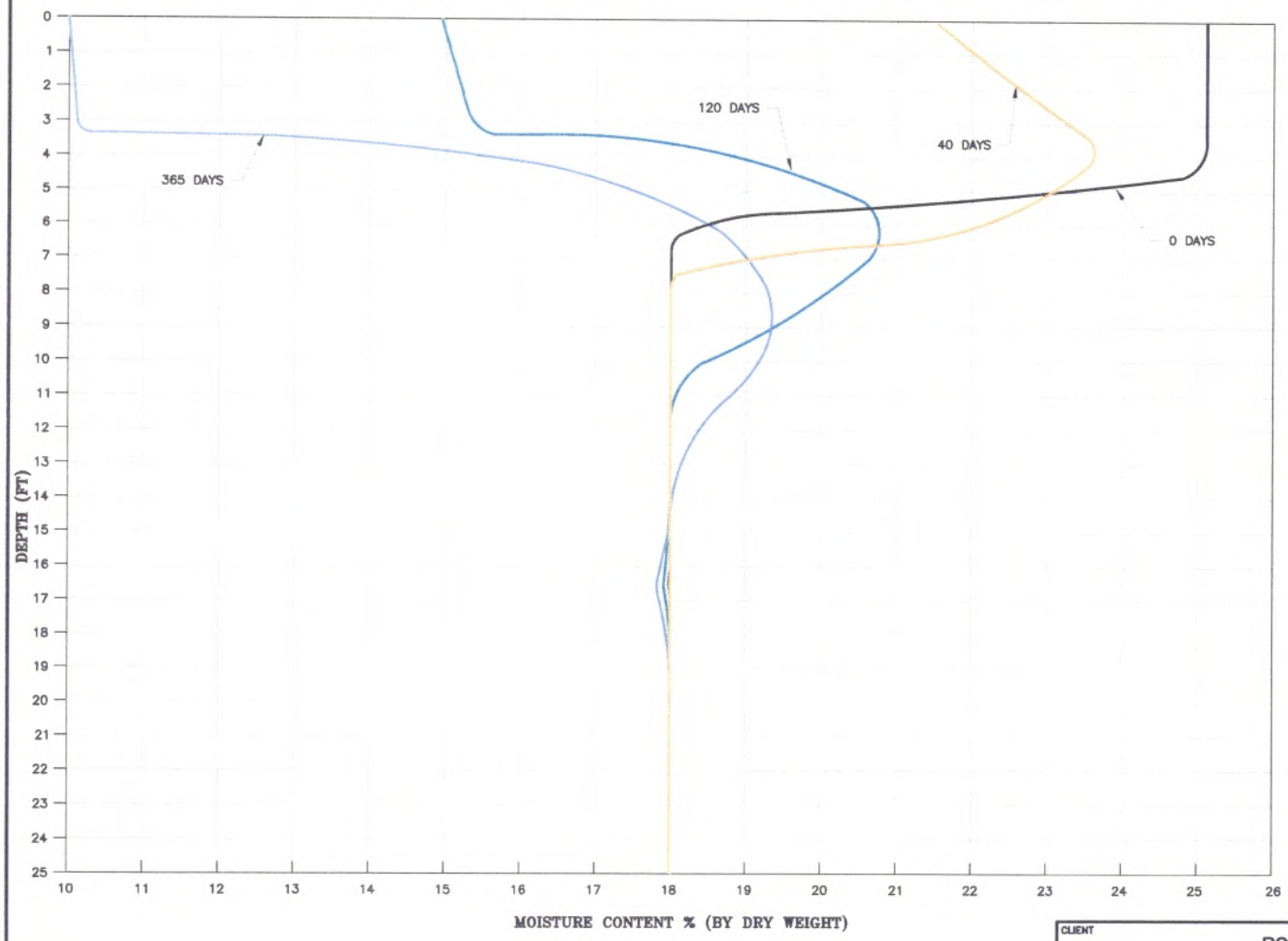
Sincerely,

AMEC Earth & Environmental, Inc.

John F. Lupo, Ph.D., P.E.
Principal Engineer

Derek T. Wittwer, P.E.
Associate Engineer

JWH:jwh



NOTES:

1. THE ABOVE DATA REPRESENTS A TYPICAL 50 FOOT COLUMN OF TAILINGS AFTER 15 DAYS OF PONDED WATER WAS ALLOWED TO INFILTRATE THE SURFACE (DAY 0). THE INITIAL MOISTURE CONTENT WAS MODELED AT 18 PERCENT (BY DRY WEIGHT) TO EMPHASIZE THE STORAGE-RELEASE ZONE AND DRAWDOWN CHARACTERISTICS.

CLIENT: ROSEMONT COPPER

PROJECT: ROSEMONT PROJECT

TITLE: 15-DAY PONDING COLUMN ANALYSIS MOISTURE CONTENT WITH DEPTH OVER TIME

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DESIGNED BY	JLW	CHECKED BY	JWH	DATE
DRAWN BY	JLW	APPROVED BY	JWH	09-01-09

FILENAME	FIGURE No.	REV
FIGURE 1	1	A

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Resourceful.

Memorandum

To: Tom Furgason

From: Kathy Arnold

Doc #: 4.6.2-047/09

Subject: **Transmittal of Information from AMEC**

Date: October 9, 2009

Along with this is AMEC's response to comments provided by Dale Ortman that were dated August 17, 2009. These comments primarily seemed to require clarification and some report correction that will be handled in the form of an erratum. Please let me know if you require additional information.