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Technical Memorandum Partial Pit Backfill Alternative Stormwater Assessment

To:	Kathy Arnold	From:	David R. Krizek, P.E.
Company:	Rosemont Copper Company	Date:	March 05, 2010
CC:	Mike Zeller (Tetra Tech)	Doc #:	063/10-320871-5.3

This Technical Memorandum presents a Stormwater Assessment for the Partial Backfill Alternative being considered in the US Forest Service Environmental Impact Statement (EIS) for the proposed Rosemont Copper Project (Project). This analysis quantifies the potential impact of the Partial Pit Backfill Alternative on downstream stormwater flows.

In order to determine the potential stormwater impact associated with the Partial Pit Backfill Alternative, predictions were made for the 100-year regulatory flood-peak [in cubic feet per second (cfs)] and the average-annual runoff (in acre-feet) at a common point associated with the affected drainages. The affected drainages on the east side of the Santa Rita Mountains converge at United States Geological Survey (USGS) Gauge Station No. 09484580 before storm flows pass beneath State Route 83 (SR 83) in a double-barrel box culvert. Per information associated with the station, the contributing watershed area is calculated to be 14 square miles in size.

The starting configuration assumed for the Partial Pit Backfill Alternative is a variation of the Barrel and McCleary Alternative. Waste rock is assumed removed from the Waste Rock Storage Area and placed in the Open Pit. It is assumed that waste rock would be removed from the Waste Rock Storage Area, starting along the western side of the area and progressing eastward. A portion of the top surface may also be lowered. The buttress areas on the eastern and southern sides of the Waste Rock Storage Area are anticipated to remain in place. Only a small portion of the waste rock in the Waste Rock Storage Area is assumed required for pit backfilling.

Since the general features on the west side of the landform are not expected to be disturbed during pit backfilling activities, stormwater flows associated with the baseline, the 100-year regulatory flood-peak and the average-annual runoff are assumed to be equivalent to those generated for the Barrel and McCleary Alternative as described in the Technical Memorandum titled *Barrel and McCleary Alternative Stormwater Assessment* (Tetra Tech, 2010).

References

Krizek, David R., P.E. Tetra Tech (2010). *Barrel and McCleary Stormwater Assessment*. Technical Memorandum to Kathy Arnold, Rosemont Copper Company. Technical Memorandum dated March 05, 2010.

Memorandum

To: Beverly Everson
Cc: Tom Furgason
From: Kathy Arnold
Doc #: 010/10 – 15.3.2
Subject: **Transmittal of Stormwater Assessment Memoranda**
Date: March 15, 2010

Rosemont Copper is pleased to present a series of Technical Memoranda on Stormwater Assessments prepared by Tetra Tech and dated March 15, 2010. These analysis include the following alternatives:

1. Mine Plan of Operations
2. Barrel and McCleary Alternative
3. Barrel Only Alternative
4. Scholefield and McCleary Alternative and
5. Sycamore and Barrel Alternative

There is also a discussion of the Visual Analysis as it relates to Partial Backfill.

These Technical Memoranda are dated March 5, 2010 and I am providing two hardcopies and one electronic file to the Forest Service and one hardcopy and one electronic file to SWCA.