



STATE MINING AND GEOLOGY BOARD

EXECUTIVE OFFICER'S REPORT



ARNOLD
SCHWARZENEGGER
GOVERNOR

For Meeting Date: December 11, 2008

Agenda Item No. 6: Approval of an Interim Financial Assurance Cost Estimate for the Richmond (Chevron) Quarry (CA Mine ID #91-07-0006), Dutra Materials (Operator), Harry Stewart (Agent), City of Richmond.

INTRODUCTION: The State Mining and Geology Board (SMGB) is the lead agency for the City of Richmond, pursuant to the Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code (PRC) Section 2710, et seq.). SMARA requires that each surface mining operation maintain a financial assurance in an amount adequate to reclaim, in accordance with the requirements of an approved reclamation plan, the land disturbed by the mining operation at the conclusion of mining activities. SMARA lead agencies are required to annually review the financial assurance amounts for each surface mining operation, and adjust the amount, as necessary, to account for new land disturbed, inflation, or land reclaimed. In any event, the lead agency must ensure that the approved amount is adequate to reclaim the mine site in accordance with the approved reclamation plan (PRC Sections 2770 and 2773.1, and California Code of Regulations (CCR) Section 3804).

STATUTORY AND REGULATORY AUTHORITY: Financial assurance cost estimate adjustment requirements are discussed under SMARA, and fall within the SMGB's regulations and guidelines. Lead agencies are required to ensure that financial assurances for reclamation are sufficient pursuant to Division 2, Chapter 9, Article 5 of PRC Section 2770(d) which states:

"The lead agency's review of reclamation plans submitted pursuant to subdivision (b) or of financial assurances pursuant to subdivision (c) is limited to whether the plan or the financial assurances substantially meet the applicable requirements of Sections 2772, 2773, and 2773.1, and the lead agency surface mining ordinance adopted pursuant to subdivision (a) of Section 2774, but, in any event, the lead agency shall require that financial assurances for reclamation be sufficient to perform reclamation of lands remaining disturbed. Reclamation plans or financial assurances determined to substantially meet these requirements shall be approved by the lead agency for purposes of this chapter. Reclamation plans or financial assurances determined not to substantially meet these requirements shall be returned to the operator within 60 days. Reclamation plans or financial assurances determined not to substantially meet these requirements shall be returned to the operator within 60 days. The



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operator has 60 days to revise the plan or financial assurances to address identified deficiencies, at which time the revised plan or financial assurances shall be returned to the lead agency for review and approval.”

In addition, PRC Section 2773.1(a) states:

“...Lead agencies shall require financial assurances of each surface mining operation to ensure reclamation is performed in accordance with the surface mining operation's approved reclamation plan, as follows:

(3) The amount of financial assurances required of a surface mining operation for any one year shall be adjusted annually to account for new lands disturbed by surface mining operations, inflation, and reclamation of lands accomplished in accordance with the approved reclamation plan.”

Furthermore, the SMGB's regulations pursuant to Article 11 of the CCR Section 3804, Calculation of Financial Assurance Amount, states:

“(a) The Financial Assurance Amount shall be calculated as prescribed in Public Resources Code Section 2773.1 and based on:

- (1) an analysis of the physical activities and materials necessary to implement the approved reclamation plan;*
- (2) the lead agency's unit costs, or costs for third party contracting, for each of these activities, if applicable;*
- (3) the number of units of each of these activities, if applicable;*
- (4) a contingency amount not to exceed 10% of the reclamation costs.*

(b) The calculated amount should not include the cost of completing mining of the site.

(c) In order for the lead agency or the Department of Conservation to determine what annual adjustments, if any, are appropriate to the Financial Assurance Amount, the operator shall annually submit to the lead agency a revision of the written calculation required under Section 3804(a).”

In regards to cut slopes, and final highwalls and quarry faces, performance standards provided in the SMGB's regulations, CCR 3704(f) state:

“Cut slopes, including final highwalls and quarry faces, shall have a minimum slope stability factor of safety that is suitable for the



*proposed end use and conform with the surrounding topography
and/or approved end use.”*

BACKGROUND: The Richmond (Chevron) Quarry is located in the City of Richmond, and encompasses approximately 126 acres and includes a processing and recycling plant, significant volumes of imported stockpiles of landscape debris and construction debris, and imported asphalt material and soil, which is used for reuse and recycling. In response to the need to evaluate the overall stability of an existing cutslope, geotechnical studies were completed by both Dutra Materials (Operator) and the Chevron Energy and Technology Company (land owner). These studies were reviewed by the Department of Conservation’s Office of Mine Reclamation (OMR) and SMGB staff, and comments and recommendations were provided for the Geohazards Committee’s (Committee) consideration at its May 8, 2008 meeting.

Following conduct of the 2005 SMARA mine inspection, several violations and corrective measures were noted. The operator is currently under an Order to Comply to provide: 1) a proposed workplan to mitigate an unstable cutslope; 2) a proposed revegetation plan; 3) a re-evaluation of the financial assurance cost estimate to reflect mitigative and stabilization efforts, and current labor and equipment rates; and 4) an amended reclamation plan. At its meeting held on February 8, 2007, the SMGB deferred a previously issued administrative penalty of \$90,000, but did require that the operator adhere to a schedule for completion of required tasks to provide an adequate amended reclamation plan and financial assurance cost estimate. At its June 14, 2007, meeting, the SMGB heard from Dutra’s and Chevron’s consultants regarding the geotechnical work that has been performed to date, preliminary analysis, and possible mechanisms for slope failure. The SMGB moved to forward further geotechnical discussions of slope failure mechanisms, and proposed mitigation alternatives, to the Geohazards Committee, prior to the SMGB considering action on an amended reclamation plan and financial assurance amount. The current approved financial assurance amount is \$674,108, which was provided in July 2006. Following the SMGB’s regular business meeting, held on November 6, 2006, a proposed schedule was provided by the operator dated January 4, 2007, and revised in correspondence dated January 31, 2007. Since January 2007, progress reports have been provided on a monthly basis, and revisions to the proposed schedule have been made as needed.

A summary of mitigation alternatives was provided in ENGEO’s report titled: “*Discussion of Conceptual Slope Mitigation Options*,” dated April 24, 2008. This report provided more information on the conceptual slope mitigation options presented in their October 18, 2007 report, and provided preliminary estimates of construction quantities, costs, and impacts for each alternative, which collectively were meant to represent a range of typical mitigation measures for stabilization of rock slopes. The discussion of each alternative relied on an approach of comparing “conceptual advantages,” “conceptual impacts,” and estimated costs to make conclusions about the feasibility of a particular measure. Table 5 of their report



summarized the results of this exercise with the following options and estimated costs discussed:

Alternative 1 – Imported Fill Buttress	\$32,357,500
Alternative 2 – Ridge Cut\Fill Buttress Balanced on Site	\$3,675,000
Alternative 3 – Cut\Fill Buttress Balanced on Site with Retained Slope	\$8,150,000
Alternative 4 – Structural Slope Stabilization	\$17,200,000
Alternative 5 – Slope Setback, Monitoring, and Maintenance	\$100,000

Alternative 5 was the least costly by an order of magnitude, and ENGEO and Dutra reportedly favored this alternative, presumably because it would have the least impact on the environment and infrastructure of the mine site and surrounding area. In fact, ENGEO's report indicated that Alternative 5 will have no impacts. However, the report did not carefully and adequately consider all advantages and impacts of each mitigation alternative.

The assessment of the preferred alternative as presented by ENGEO was considered a preliminary assessment of possible alternatives for consideration but is inadequate for conduct of a comprehensive analysis of mitigation alternatives. Essentially, the approach proposed was to conduct ongoing monitoring while leaving an unstable slope that would continue to fail and potentially degrade into an eyesore and hazard to the public and the environment. The approach also only focused on the next movement and did not consider the long-term effects on the slope and the safety of nearby petroleum storage tanks. The assessed feasibility of each alternative did not recognize the importance of the requirements of SMARA, which states that final mined slopes should be stable and properly revegetated. Stable slopes and successful revegetation are noted as conceptual advantages for Alternatives 1 through 4, but these advantages were downplayed in the study by narrowly interpreting that the end use would be industrial for the entire site. The industrial end use and appropriate SMGB-defined factor of safety were used to inflate the stated impacts and estimated costs for Alternatives 1 through 4 rather than providing other, possibly more practical solutions, to the problem.

It has also been noted that by way of comparison, the Pt. Richmond (Canal) Quarry, located approximately 2.5 miles southwest of the subject quarry and situated in a nearly identical geologic setting, recently dealt with mitigation of complex slope failures, albeit at a relatively smaller scale (total slope repair height of approximately 200 feet versus approximately 250 feet for the subject site). The solution in the Pt. Richmond (Canal) Quarry case, which was incorporated into an amended reclamation plan approved by the SMGB on November 8, 2007, involved a combination of engineered fill slope buttress construction, and rock bolt installation. Acceptable static and pseudo-static factors of safety were calculated based on the approved slope mitigation for a range of possible end uses at this site, including

industrial, office building, and tank farm. The approved financial assurance mechanism for reclamation of the Point Richmond (Canal) Quarry, which includes the approved slope repair and other reclamation activities, stands at approximately \$3.1 million.

At the Geohazards Committee's July 10, 2008, meeting, the operator indicated that their consultant had not completed their re-evaluation of the cut slope. Thus, it was recommended by the Executive Officer that this matter be deferred and rescheduled for the Committee's upcoming September 2008 meeting, and that such re-evaluation report be provided to the SMGB no later than August 16, 2008. Such report prepared by ENGEO and titled "*Analysis of Slope Mitigation Alternatives*", dated November 24, 2008, was received by the SMGB on November 26, 2008. This report is currently under review by SMGB and OMR staff.

The financial assurance for this site is currently established in the form of a Surety Bond for the amount of \$674,108. Since this financial assurance amount was deemed grossly inadequate for mitigation of the unstable cut slope, an interim financial assurance cost estimate was requested. Such estimate was to reflect the need for mitigation in accordance with SMARA.

On November 26, 2008, the SMGB received a "*Cost Estimate for an Interim Financial Assurance Mechanism for Slope Mitigation*", dated November 25, 2008. The interim financial assurance cost estimate provided was for the amount of \$550,000. Such cost estimate was to reflect a minimum cost for mitigation of the cut slope.

CONSIDERATION BEFORE THE SMGB: The SMGB may consider the following actions:

1. Approve as adequate the adjusted financial assurance cost estimate, without additions;

[or]

2. Modify the adjusted financial assurance cost estimate, and then accept it as adequate;

[or]

3. Reject the adjusted financial assurance cost estimate as inadequate and order it to be redone.

EXECUTIVE OFFICER'S RECOMMENDATION: It is the recommendation of the Executive Officer that the interim financial assurance cost estimate provided by the operator be

rejected. The interim FACE is grossly inadequate to mitigate the unstable cut slope. The interim FACE provided reflects solely monitoring, despite several discussions with the operator's representatives that such estimate was required to reflect mitigation, and not solely monitoring.

SUGGESTED MOTION LANGUAGE:

To reject the Adjusted Financial Assurance Cost Estimate:

Mr. Chairman, in light of the information before the State Mining and Geology Board today, I move that the Board reject the interim financial assurance cost estimate of \$550,000 for the Richmond Chevron Quarry, CA Mine ID #91-07-0006, located in the City of Richmond, as such amount is considered inadequate to reclaim the site in accordance with the approved reclamation plan, and does not meet the minimum requirements of SMARA and the SMGB's regulations.

To request an interim financial assurance cost estimate:

Mr. Chairman, in light of the information before the State Mining and Geology Board today, I move that the Board request that an interim financial assurance in the amount of \$3,675,000 for the Richmond Chevron Quarry, CA Mine ID #91-07-0006, located in the City of Richmond, as such amount is considered adequate, based on current site conditions, to reclaim the site in accordance with the approved reclamation plan, and would meet the minimum requirements of SMARA and the SMGB's regulations. Such amount should be provided to the SMGB no later than 30 days from this date.

Respectfully submitted:

Stephen M. Testa
Executive Officer