STATE MINING AND GEOLOGY BOARD

Geohazards Committee

R. Tepel, Chair; Erin Garner; J. C. Isham

EXECUTIVE OFFICER'S REPORT

ARNOLD SCHWARZENEGGER
GOVERNOR

For Meeting Date: February 5, 2009

Agenda Item No. 3: Consideration of an Interim Financial Assurance Amount 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 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. The site is characterized by a flat quarry floor, a hide wall constructed from fill material, and quarry cut slopes with vertical dimensions of up to approximately 350 feet.

Surface mining operations include a processing and recycling plant, significant volumes of imported stockpiles of landscape and construction debris, and imported asphalt material and soil, which is reprocessed on site and recycled. 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.

Previous Administrative Enforcement Actions: 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. A Notice of Violation was issued on December 12, 2005. An Order to Comply was issued on March 14, 2006. An Administrative Penalty for the amount of $10,000 was issued on September 14, 2006. An additional Administrative Penalty of $90,000 was issued on November 9, 2006, for failure to adequately correct violations pursuant to SMARA. A proposed schedule was provided by the operator dated January 4, 2007, and revised in correspondence dated January 31, 2007. At its February 8, 2007, regular business meeting, the SMGB deferred payment of the Administrative Penalty of $90,000 pending formal receipt of professional reports to be provided in accordance with the timeline and schedule previously provided by representatives of Dutra Materials. Since January 2007, progress reports have been provided on a monthly basis, and revisions to the proposed schedule have been made, as appropriate.

SMGB February 8, 2007, Regular Business Meeting: As noted above, 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.

SMGB June 14, 2007, Regular Business Meeting: 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 (Committee), prior to the SMGB considering action on an amended reclamation plan and financial assurance amount.

Previous Geohazards Committee Activities: The Geohazards Committee reviewed geotechnical documents and held meetings to discuss geotechnical issues associated with the subject site on September 7, 2007, and January 9, March 9, May 8 and July 10, 2008. The Committee requested a summary of mitigation alternatives, which was subsequently 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	$1,357,500
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.

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. It was recommended by the Executive Officer that this matter be deferred and rescheduled for the Committee's upcoming September 2008 meeting. After an additional time extension was granted in order to complete further slope stability analysis and to conduct peer reviews, a revised report prepared by ENGEO titled "*Analysis of Slope Mitigation Alternatives*", dated November 24, 2008, was received by the SMGB on November 26, 2008. This report has been reviewed by OMR and SMGB staff.

On November 26, 2008, the SMGB also received a "*Cost Estimate for an Interim Financial Assurance Mechanism for Slope Mitigation*", dated November 25, 2008. This interim financial assurance cost estimate proposed an amount of $550,000 for reclamation of the cut slope. Such estimate reflected costs for 30 years of monitoring and maintenance of the unstable cut slope and of a catchment and berm structure proposed to be constructed adjacent to the toe of the cut slope. The proposed amount did not include costs for reclamation of the unstable cut slope in accordance with SMARA and the SMGB's regulations. A summary of estimated costs per proposed reclamation alternative of the unstable cut slope as presented in the November 24, 2008 "*Analysis of Slope Mitigation Alternatives*" is as follows:

Alternative 1 – Imported Fill Buttress	$20,441,250
Alternative 2 – Ridge Cut\Fill Buttress Balanced on Site	$2,481,125
Alternative 3 – Cut\Fill Buttress Balanced on Site with Retained Slope	$7,590,000
Alternative 4 – Structural Slope Stabilization	$19,780,000
Alternative 5 – End Use Restrictions/Setback/Monitoring/Maintenance	$550,000

In addition, in correspondence dated January 15, 2009, the operator has submitted a revised financial assurance cost estimate for reclamation of portions of the site other than the cut slope (e.g. the quarry floor and hide wall areas) in accordance with the currently approved

reclamation plan. Such revised amount is calculated to be approximately $1,277,825. SMGB staff has reviewed this revised cost estimate and considers it adequate, although additional required review by OMR is pending.

In summary, assuming the lowest estimated cost for reclamation of the unstable cut slope in accordance with SMARA and the SMGB's regulations, and considering the recently revised cost estimate for reclamation of the remainder of the mine site, a total interim financial assurance amount is on the order of $3,758,950.

CURRENT FINANCIAL ASSURANCE AMOUNT: The financial assurance for this site is currently established in the form of a Surety Bond for the amount of $674,108. Based on the results of site inspections performed by OMR and SMGB staff, this amount is deemed grossly inadequate for reclamation of the subject site, and notably, the unstable cut slope. In accordance with SMARA and the SMGB's regulations, an interim financial assurance cost estimate was requested.

COMPARITIVE ANALYSIS: By way of comparison, the Pt. Richmond (Canal) Quarry, located approximately 2.5 miles southwest of the subject quarry and situated in a very similar 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, is currently in the amount of $3.1 million.

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

1. Approve as adequate the proposed interim financial assurance amount, without additions;

[or]

2. Modify the interim financial assurance amount, and then accept it as adequate;

[or]

3. Reject the interim financial assurance amount as inadequate and order it to be redone.

EXECUTIVE OFFICER'S RECOMMENDATION: It is the recommendation of the Executive Officer that the proposed interim financial assurance amount provided by the operator be rejected. The proposed interim amount is grossly inadequate to mitigate the unstable cut slope. The interim amount provided reflects solely monitoring and maintenance of the existing slope conditions, despite several discussions with the operator's representatives that such interim amount was required to reflect slope mitigation, and not solely monitoring.

SUGGESTED MOTION LANGUAGE:

To reject the proposed Interim Financial Assurance Amount:

> *Mr. Chairman, in light of the information before the State Mining and Geology Geohazards Committee today, I move that the Committee recommend rejection the proposed interim financial assurance amount 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*

To request an Interim Financial Assurance Amount:

> *Mr. Chairman, in light of the information before the State Mining and Geology Board Geohazards Committee today, I move that the Committee recommend to the whole Board a request that an interim financial assurance in the amount of* $3,758,950 *for the Richmond Chevron Quarry, CA Mine ID #91-07-0006, located in the City of Richmond, as adequate, based on current site conditions, to reclaim the site in accordance with the approved reclamation plan, and to 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:

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Stephen M. Testa
Executive Officer