



South Coast  
Air Quality Management District

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FAXED: November 20, 2009

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Mr. David L. Jones  
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**Review of the Draft Environmental Impact Report (Draft EIR) for the Proposed  
Liberty Surface Mining (Permit No. 213) Project**

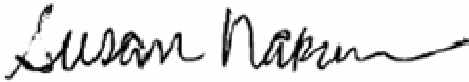
The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the lead agency and should be incorporated into either a Revised Draft or Final Environmental Impact Report (Final EIR) as appropriate.

The lead agency conducted a localized and regional air quality impacts analysis, the outcome of these analyses demonstrated high levels of emissions resulting in significant impacts from the construction and operation of the proposed project. Given the significant impacts of the proposed project the SCAQMD staff recommends that the lead agency closely consider and describe in the Revised Draft or Final EIR all feasible mitigation measures pursuant to Section 15126.4 of the CEQA Guidelines. SCAQMD staff has recommended additional mitigation measures in the following attachment for consideration by the lead agency.

Pursuant to Public Resources Code Section 21092.5, please provide the SCAQMD staff with written responses to all comments contained herein prior to the adoption of the Final EIR. The SCAQMD staff has provided detailed comments in the following attachment and is available to work with the Lead Agency to address these issues and any other

questions that may arise. Please contact Dan Garcia, Air Quality Specialist CEQA Section, at (909) 396-3304, if you have any questions regarding the enclosed comments.

Sincerely,

A handwritten signature in black ink that reads "Susan Nakamura". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Susan Nakamura  
Planning and Rules Manager  
Planning, Rule Development & Area Sources

Attachment

EE:SS:DG

RVC090721-02  
Control Number

### **Air Quality Analysis and Mitigation Measures:**

1. Given that the lead agency's regional construction air quality analysis demonstrates that the criteria pollutant emissions exceed the SCAQMD's daily significance thresholds for NOX, VOC, CO and PM2.5, the SCAQMD recommends that the lead agency consider adding the following mitigation measures to further reduce air quality impacts from the construction phase of the project, if feasible:

#### NOx

- Prohibit all diesel trucks from idling in excess of five minutes, both on-site and off-site,
- Use alternative fueled off-road equipment,
- Ensure that all streets are swept at least once a day using SCAQMD Rule 1186 certified street sweepers or roadway washing trucks if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water),
- Require construction equipment that meet or exceed Tier 2 standards and equip construction equipment with oxidation catalysts, particulate traps and demonstrate that these verified/certified technologies are available,
- Use electricity from power poles rather than temporary diesel or gasoline power generators,
- Configure construction parking to minimize traffic interference,
- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow,
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site,
- Schedule construction activities that affect traffic flow on the arterial system to off-peak hour to the extent practicable,
- Reroute construction trucks away from congested streets or sensitive receptor areas,
- Improve traffic flow by signal synchronization, and
- Ensure that all vehicles and equipment will be properly tuned and maintained according to manufacturers' specifications.

In addition to the above NOx mitigation measures, SCAQMD staff recommends modifying Mitigation Measure AQ-2a and AQ-2b for fugitive dust to include the following:

#### Fugitive Dust:

- Suspend all excavating and grading operations when wind gusts (as instantaneous gusts) exceed 25 mph, and
- Pave road and road shoulders.

In addition to the above fugitive dust mitigation measures, SCAQMD staff recommends modifying Mitigation Measure AQ-2b as follows:

- Require all trucks hauling dirt, sand, soil, or other loose materials to be covered or otherwise stabilized aggregate loads (i.e., loads to remain 6 inches from the upper edge of the container area) to avoid dust emissions from product transport trucks in compliance with California Vehicle Code No. 23114.

Also, SCAQMD staff recommends adding the following mitigation measures for VOC:

#### VOC

- Use required coatings and solvents with a VOC content lower than required under Rule 1113,
- Construct/build with materials that do not require painting,
- Use pre-painted construction materials, and
- Contractors shall use high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50% or other application techniques with equivalent or higher transfer efficiency.

For additional measures to reduce off-road construction equipment emissions, refer to the mitigation measure tables located at the following website:

[www.aqmd.gov/ceqa/handbook/mitigation/MM\\_intro.html](http://www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html).

2. Given that the lead agency's regional operational air quality analysis demonstrates that the criteria pollutant emissions exceed the SCAQMD's daily significance thresholds for NOX, VOC, SOX, PM10 and PM2.5, the SCAQMD staff recommends that the lead agency consider revising mitigation measures AQ-3c to further reduce air quality impacts from the operational phase of the project, if feasible. SCAQMD staff recommends that mitigation measure AQ-3c is revised as follows:

#### Mitigation Measure AQ-3c:

Applicant commits to purchasing all new off- road equipment which is alternative fueled and/or compliant with the ARB and US EPA Off-Road Compression-Ignition Engine Standard for the year in which it is purchased at start of quarry operations to be.

#### **Health Risk Assessment:**

3. A screening analysis was done to limit the number of pollutants that were modeled. The screen analysis methodology is presented on page 6-25 of the Air Quality Impact Analysis for the Proposed Liberty Quarry. The text states that the screening analysis is based on the CAPCOA Air Toxic Hotspots Program Facility Prioritization Guidelines, July 1990. Using this methodology, individual toxic air contaminants

(TACs) are assigned a health risk score and are deemed not to pose a potential health risk if the score is below a normalized value of 1.0.

SCAQMD staff has two concerns with the methodology used. The first concern is that SCAQMD has its own prioritization methodology for AB2588 (see [http://www.aqmd.gov/prdas/ab2588/pdf/AB2588\\_Prioritization\\_Procedure.pdf](http://www.aqmd.gov/prdas/ab2588/pdf/AB2588_Prioritization_Procedure.pdf)). The SCAQMD methodology includes a multi-pathway adjustment factor that would increase the health risk score for arsenic to above 1.0.

Secondly, prioritization scores were designed to evaluate whether or not the total TAC emissions from a facility would warrant further health risk analysis under AB2588 not as a method to screen out individual TACs from an analysis of a given facility. The total carcinogenic prioritization score using the CAPCOA methodology proposed by the lead agency for proposed project is 7.76. Using the SCAQMD methodology the total carcinogenic prioritization score would be 8.1.

Hexavalent chromium and diesel exhaust particulate were further examined using HARP because their carcinogenic prioritization scores were above 1.0. When the carcinogenic prioritization scores of hexavalent chromium and diesel exhaust particulate are compared to the other TACs screened, hexavalent chromium and diesel exhaust particulate comprise 76.8 percent of the total carcinogenic prioritization score. Therefore, 23.2 percent of the total carcinogenic prioritization score is comprised of other 67 TACs evaluated.

When the carcinogenic prioritization scores are compared by percentage arsenic, nickel, benzene, formaldehyde and naphthalene all have scores that are less than 1.0, so they were not analyzed in with HARP in the Draft EIR. However, they contribute more than a percent to the overall prioritization. These TACs comprise 21.4 percent of the total carcinogenic prioritization score. The remaining 60 TACs comprise 1.8 percent of the total carcinogenic prioritization score.

Toxic Air Contaminate	Carcinogenic Prioritization Score	Percentage of Carcinogenic Prioritization Score
Arsenic	0.33	4.06
Nickel	0.46	5.65
Benzene	0.32	3.96
Formaldehyde	0.53	6.57
Naphthalene	0.93	1.15
Total		21.4

The prioritization scores are developed from the emission rate and unit risk factor, so it appears that removing TACs solely based on the prioritization methodology used in the Draft EIR potentially may lead to a non-trivial under estimation of carcinogenic health risk from the proposed project.

The Final EIR should evaluate health risk from all TACs (<http://www.aqmd.gov/prdas/Risk%20Assessment/RiskAssessment.html>). Since arsenic, nickel, benzene, formaldehyde and naphthalene comprise 21 percent of the total carcinogenic prioritization score, further evaluation of these TACs appears to be prudent before they are excluded from the detailed HARP analysis. Carcinogenic health risk values estimated by HARP should be evaluated against the compounds that are excluded from the detailed HARP analysis. That is, the closer the carcinogenic health risk is to the significance threshold of 10 in a million, the more likely excluding TACs might affect the significance conclusion.

4. Air dispersion modeling with AERMOD in SCAQMD's jurisdiction should be prepared following AQMD Modeling Guidance for AERMOD which can be downloaded from [http://www.aqmd.gov/smog/metdata/AERMOD\\_ModelingGuidance.html](http://www.aqmd.gov/smog/metdata/AERMOD_ModelingGuidance.html). Since the proposed project would need to permit equipment with the SCAQMD, the proposed project proponent should contact SCAQMD staff to ensure that air dispersion modeling and health risk analysis comply with CEQA and permitting requirements. While the lead agency may allow non-standard parameters and methodology for air dispersion modeling and health risk analysis in the Final EIR, SCAQMD approved parameters and methodology will be required for air dispersion modeling and health risk analysis related to air quality permits.

As stated in the guidance, all sources should be modeled with the urban air dispersion coefficient option. Since the proposed project is in Riverside County, a population of 2,100,516 is suggested.

Sources in the Draft EIR were modeled using the rural air dispersion coefficient option. Sources in the Final EIR should be modeled using the urban air dispersion coefficient option with the Riverside County population or if the rural air dispersion coefficient option is used, the report needs to include a discussion to support the rural air dispersion coefficient option based on the US EPA procedure outlined in 40 CFR Part 51 Section 7.2.3 Appendix W.

5. Based on the HARP and AERMOD files, it appears that only discrete receptors were used to estimate health risk from the proposed project. SCAQMD air dispersion modeling and health risk required that gridded receptors be used in addition to discrete sensitive receptors ([http://www.aqmd.gov/smog/metdata/AERMOD\\_ModelingGuidance.html](http://www.aqmd.gov/smog/metdata/AERMOD_ModelingGuidance.html), <http://www.aqmd.gov/prdas/Risk%20Assessment/RiskAssessment.html>, [http://www.aqmd.gov/prdas/AB2588/AB2588\\_B3.html](http://www.aqmd.gov/prdas/AB2588/AB2588_B3.html) and [http://www.aqmd.gov/ceqa/handbook/mobile\\_toxic/mobile\\_toxic.html](http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html)). Gridded receptors should be included in the Final EIR.
6. Figure 3-1 presents receptor locations. Some of the receptors are only described by street address. It is unclear from the description whether these receptors should be characterized as residential/sensitive or worker receptors. The Final EIR should

include additional information identifying receptors as either residential/sensitive or worker receptors.

7. Page 6-37 states that health risk for SMER personnel were estimated by using a one month exposure for a period of four years. SMER personnel are not traditional worker receptors and it is not clear how the lead agency estimated health risk impacts for worker receptors. However, the standard worker defaults should be used (i.e., daily breathing rate of 149 L/kg/day, exposure frequency of 245 days per year, exposure duration of 40 years and averaging time of 25,550 days) and the SCAQMD HARP methodology ([http://www.aqmd.gov/prdas/ab2588/pdf/AB2588\\_Guidelines.pdf](http://www.aqmd.gov/prdas/ab2588/pdf/AB2588_Guidelines.pdf)) should be followed. The worker receptor health risk should also be developed using a GLC based on operation (Table 11 Adjustment Factors for Off-site Worker Ground-level Concentrations) from the SCAQMD HARP Guidance Document. Worker receptors that would be exposed according to the standard worker defaults (i.e., 40 hours per week, 245 days per year) should be clearly identified and health risk impacts to these receptors should be assessed in the Final EIR according to SCAQMD methodology for worker health risk.
8. The unitized emission rate in AERMOD was adjusted for 20 hours of exposure (GLQ\_04\_Cr Silica\_Ann\_Ph3\_UNIT Run, GLQ\_04\_Diesel PM10\_Ph3\_UNIT Run, GLQ\_04\_Hex\_Chrom\_Ph3\_UNIT Run) with unitized scalars for hours five through 24 of the hour per day variable emission rates. Similar adjustments were made to worker receptors. Any pre or post processing of modeling files should be clearly detailed and documented in the Final EIR.
9. The health risk reported in the HARP output files (carcinogenic and chronic non-carcinogenic) do not match the health risk reported in Tables 6-17 through 6-27. For example, the HARP output (DIESEL\_PM10\_PH3\_Rep\_Can\_70yr\_ALIOEH\_AllRec\_AllSrc\_AllCh\_ByRec\_Site\_UTM.txt) lists the carcinogenic health risk from diesel in Phase 3 as 4.05 in one million, while the Table 6-27 lists it as 1.9 in one million. Since the health risk does not match and several HARP options were chosen it is not clear if the lead agency followed the SCAQMD HARP methodology ([http://www.aqmd.gov/prdas/ab2588/pdf/AB2588\\_Guidelines.pdf](http://www.aqmd.gov/prdas/ab2588/pdf/AB2588_Guidelines.pdf)). Table 10 of the Guidance Document presents a summary of options required by SCAQMD. For example, residential carcinogenic health risk analysis requires the OEHHA Derived Adjusted method with a 70 year exposure duration, the residential non-carcinogenic health risk analysis requires the OEHHA Derived Adjusted, etc.). The Air Quality Impact Analysis should document which files were used in the Final EIR.
10. Air Quality Impact Analysis for the Proposed Liberty Quarry presents health risk from hexavalent chromium, diesel exhaust and crystalline silica estimated using HARP, Cal3QHC and OBODM. Carcinogenic health risk is presented for the maximum exposed individual worker and residence for each pollutant. Receptor 21 in the City of Temecula appears to be the only receptor where a total health risk from

all three pollutants is presented. Receptor 21, based on the scale in Figure 3-1, is approximately 10,500 feet north of the proposed project boundary.

Based on the HARP output for diesel only, it appears that residential receptors 4 (5.86 in a million) and 20 (12.1 in a million) have higher health risk than residential receptor 21 (4.1 in a million). Based on the HARP output for diesel only (DIESEL\_PM10\_PH3\_Rep\_Can\_70yr\_AI) it appears that carcinogenic health risk from diesel alone at Receptor 20 is above ten in a million.

A table is needed in the Final EIR that presents the incremental increase in carcinogenic health risk from each pollutant from each model at each receptor from the proposed project (see example below). A column that presents the total the health risk (e.g., from each pollutant from each model) should be included. The same needs to be done for non-carcinogenic health risk.

Receptor	Receptor Type	AERMOD			CAL3QHC	OBODM	Total Carcinogenic Health Risk
		Diesel	Hex Chrome	Silica	Diesel	Silica	
1	Residential						Sum of columns to left
2	Worker						Sum of columns to left
etc.	etc.						etc.

Without such total carcinogenic and non-carcinogenic health risk at each receptor, it is unclear that the peak carcinogenic and non-carcinogenic health risk has been determined correctly.

11. The Air Quality Impact Analysis appears to state that the highest carcinogenic health risk would occur on the side of the I-15 highway that is opposite the proposed project. From the modeling files and Air Quality Impact Analysis, it appears that only diesel sources within the quarry boundary were used to estimate the carcinogenic health risk. Figure 3-1 shows that Receptor 21 is approximately 10,500 feet north of the proposed project boundary. Receptors 20, 22 and 23 are even further away. However, the I-15 highway is approximately 2,000 feet from Receptor 21. Because I-15 highway bisects the proposed project and residential receptors, it appears that carcinogenic health risk is underestimated because the incremental increase of diesel truck trips from the proposed project along the I-15 was not included. The Final EIR should include diesel truck sources from the proposed project along the I-15.

### **Localized Significant Thresholds**

12. Since the proposed project would need to permit equipment with the SCAQMD, the proposed project proponent should contact SCAQMD staff to ensure that air dispersion modeling comply with SCAQMD CEQA and permitting requirements. While the lead agency may allow non-standard parameters and methodology for air dispersion modeling in the Final EIR, SCAQMD approved parameters and



methodology will be required for air dispersion modeling and health risk analysis related to air quality permits.

13. Table 3-3 and Table 3-4 of the Air Quality Impact Analysis (Appendix C) present the methodology used to estimate background concentrations. The methodology uses high 1-hour ozone SMER; ratios of the high SMER value to the average Lake Elsinore and Escondido high times the 6<sup>th</sup> high 8-hour ozone value from Lake Elsinore and Escondido; average of the 6<sup>th</sup> high at Aqua Tibia for PM10 and PM2.5, Average of the Lake Elsinore and Escondido 6<sup>th</sup> high for CO 1-hour, CO 8-hour, NO2 1-hour; average of the annual average Lake Elsinore and Escondido for annual NO2; average of the 6<sup>th</sup> high average at 12<sup>th</sup> San Diego Avenue and Riverside Rubidoux for 1-hour, 3-hour and 24-hour SO2; and average of the annual average at 12<sup>th</sup> Avenue San Diego and Riverside Rubidoux for annual SO2. These background concentrations were then used in to estimate worst case criteria pollutant impacts (Tables 6-2 through 6-4).

SCAQMD requires that the highest background concentration from the last three years be used to estimate the worst case criteria pollutant impacts (<http://www.aqmd.gov/ceqa/handbook/LST/LST.html>). While federal Ambient Air Quality Standards (AAQSs) are not always based on the highest concentration monitored, state AAQSs are based on the highest concentration. Since the state AAQS are more stringent than the federal AAQS, the background concentrations used to analyze worst case criteria pollutant impacts need to be the highest background concentration at the most relevant air quality monitoring station in the Final EIR.

14. The maximally annual adverse PM10 impacts are reported at residential Receptor 17, which is east of the proposed project. Since PM10 emissions should comprise diesel exhaust particulate, silica dust and hexavalent chromium emissions (the three TACs evaluated for health risk), it is not clear why the maximally adversely impacted annual PM10 residential receptor (Receptor 17) is not the same as the residential MEI (Receptor 21). This is peculiar because even though the criteria pollutant emission are maximum annual emissions and TAC emissions are average annual emissions, the three TACs are a subset of the PM10 emissions and would be expected to have the similar source characteristics and meteorology relative to the receptors. Addressing SCAQMD staff's concerns about the health risk assessment and worst case criteria pollutant impact analysis may resolve this issue (e.g., the total health risk for other residential receptors other than Receptor 19 is not clearly reported in the text of the Air Quality Impact Analysis). If the maximally adversely impacted annual PM10 residential receptor and residential MEI in the health risk assessment are not the same in the Final EIR, a discussion should be included that explains why they are not the same.
15. As stated in the AQMD Modeling Guidance for AERMOD ([http://www.aqmd.gov/smog/metdata/AERMOD\\_ModelingGuidance.html](http://www.aqmd.gov/smog/metdata/AERMOD_ModelingGuidance.html)), all

sources should be modeled with the urban air dispersion coefficient option. Since the proposed project is in Riverside County, a population of 2,100,516 is suggested.

Sources in the Draft EIR were modeled using the rural air dispersion coefficient option. Sources in the Final EIR should be modeled using the urban air dispersion coefficient option with the Riverside County population or if the rural air dispersion coefficient option is used, the report needs to include a discussion to support the rural air dispersion coefficient option based on the US EPA procedure outlined in 40 CFR Part 51 Section 7.2.3 Appendix W.

16. Based on the AERMOD files, it appears that only discrete receptors were used to estimate health risk from the proposed project. SCAQMD air dispersion modeling and health risk required that gridded receptors be used in addition to discrete sensitive receptors ([http://www.aqmd.gov/smog/metdata/AERMOD\\_ModelingGuidance.html](http://www.aqmd.gov/smog/metdata/AERMOD_ModelingGuidance.html))
17. A table is needed in the Final EIR that presents the incremental increase concentration from each pollutant from each model at each receptor from the proposed project (see example below). A column that presents the concentration (e.g., from each pollutant from each model) should be included.

Receptor	AERMOD		CAL3QHC	OBODM	Total 24-Hour PM10 Conc.
	Diesel	Fugitive Dust	Diesel	Fugitive Dust	
1					Sum of columns to left
2					Sum of columns to left
etc.					etc.

Without total concentration at each receptor, it is unclear that the LST analysis has been determined correctly.