3.2.6.7 Reduced Quantity Mining Concept Alternative Analysis

Impacts

As with the Proposed Action, fire protection and water would be provided onsite as the same activities would occur. No impacts on public services would result from this alternative.

Mitigation Measures

The mitigation measures are the same as those identified for the Proposed Action (measures PS1 through PS8). Any potential impacts would be mitigated to less than significant.

3.2.7 Air Quality

3.2.7.1 No Action Alternative

Impacts

There would be no site-related air quality impacts under the No Action Alternative because there would be no activities. Existing energy consumption and air pollutant emissions onsite are minimal.

Mitigation Measures

Project related mitigation measures would not be applicable for the No Action Alternative. (Ramifications of the regional consideration of No Action are addressed in Section 1.3).

3.2.7.2 Reduced North Fines Storage Area Alternative Analysis

Impacts

The Reduced NFSA Alternative would not change the daily emissions from offsite transportation of rock product compared to the Proposed Action. However, other changes in the onsite operations due to this alternative could reduce the emissions associated with mine excavation, processing, fines transport, and fines placement compared to the Proposed Action. In order to quantify the potential reduction in impacts of this alternative, the haul road distance from the processing plant to the NFSA was calculated. Over the life of the Project, the Reduced NFSA approach would reduce the total miles of fines haulage by approximately 28 percent. This estimate takes into consideration the storage of fines in the Cut 3 area as well as the shorter duration of use of the NFSA. In addition to the beneficial decrease in onsite haul truck emissions and fugitive dust associated with fines transport, this alternative would also decrease operational emissions compared to the Proposed Action due to decreased rock excavation and processing, and decreased materials handling associated with fines placement. While these decreases in operations emissions are considered beneficial, they would not be substantial enough to reduce the daily emission to below SCAQMD thresholds of significance. Mitigation measures listed for the Proposed Action are applicable to this alternative.

Under the Reduced NFSA Alternative the following changes would occur:

- Approximately 5 million tons less fines would be produced in Phase 2 of the Project.
- Six million tons of fines would be placed in the NFSA, as opposed to 12.9 million tons for the Proposed Project.
- The area of the NFSA would be reduced by 18 acres.
- Total miles of fines haulage would be reduced by 28 percent.
- Operation of the NFSA would occur over a 5 year period rather than a 10-14 year period.

The following changes in emissions would occur as a result of these changes.

Scraper hauling PM-10 emissions are calculated using an emission factor in lb/Vehicle Mile Traveled (VMT). Therefore, if the VMT is reduced by 28 percent, the corresponding emissions will be 28 percent less. Under the Reduced NFSA Alternative, residual scraper hauling emissions would be reduced by 30.3 lbs/day for Phase 1 and 54.5 lbs/day for Phase 2. Scraper loading and unloading emissions are calculated based on the reduction in fines of 5 MMton (25.1 percent) in Phase 2 (from 19.9 MMton proposed for Phase 2, to 14.9 MMton for Phase 2). Reducing the amount of material loaded/unloaded by 25.1 percent in Phase 2, reduces residual PM-10 emissions by 4.1 lbs/day for Phase 2. Total scraper residual PM-10 emissions for Phase 1 and Phase 2 under the Reduced NFSA Alternative would be reduced by 30.3 and 59.6 lb/day to 113.0 and 152.6 lb/day, respectively.

NFSA activity PM-10 emission calculations are based on an emission factor with units of pounds of PM-10/ton material placed. The 25.1 percent reduction in the amount of fines produced in Phase 2, would reduce residual PM-10 emissions from the placement of fines in the NFSA by 3.5 lb/day for Phase 2.

NFSA wind erosion is calculated in the DEIS assuming that 2 areas of the total NFSA acreage is in use at any one time. The size of the NFSA under the Reduced NFSA Alternative will be 18 acres less than the Proposed Action. Therefore, for this alternative, 21.5 acres would be in use at any one time resulting in residual PM-10 emissions of 2.3 lb/day.

Heavy equipment operations PM-10 emissions are calculated in the DEIS based on daily production rates. If 5 MMtons less fines are generated (Reduced NFSA Alternative) in Phase 2 of the Project (10 years, 290 days/yr), then approximately 1,724 tons/day less material will be handled by heavy equipment. The 1,724 tons/day is equivalent to 8.3 percent of the Proposed Action Phase 2 daily excavation rate. Phase 2 residual emissions are therefore reduced by the same amount from 153.9 lb PM-10/day to 141.1 lb PM-10/day for the Reduced NFSA Alternative.

Mitigation Measures

Mitigation measures AQ1 through AQ5 would be implemented for the Reduced NFSA alternative. When AQ3, the fines conveyor mitigation, is included in the Reduced NFSA Alternative, residual PM-10 emissions are reduced by an additional 144.3 lbs/day for Phase 2. The residual emissions for the Reduced NFSA Alternative while less than the Proposed Action, remain significant.

3.2.7.3 Batch Plant Location Alternative Analysis

Impacts

The alternative batch plant site would require that aggregate product be transported by truck from the mining operations to the batch plant located in Lang Station. However, transport of concrete from the batch plant to the job sites would be reduced by a similar distance. Under this alternative, the difference in mileage per day would be a decrease of 66 miles in Phase 1 and Phase 2 as compared to the Proposed Action. The decrease in mileage of 66 miles would result in a reduction of less than 1 percent for haul truck emissions. Therefore, air quality, a significant impact with the Proposed Action, would be only slightly decreased under this alternative but would remain significant.

Mitigation Measures

Mitigation measures AQ1 through AQ5 would be implemented with this alternative. Residual impacts would be slightly less than the Proposed Action, but still significant relative to SCAQMD thresholds.

3.2.7.4 Addition of Water/Reclaimed Water Alternative Analysis

Impacts

Air quality impacts associated with the addition of water/reclaimed water alternative analysis will be the same or increase over the Proposed Action. With the addition of water via pipeline, construction emissions would increase as a result of the installation of the pipeline. Operational emissions would remain the same.

If water was hauled by truck, an additional 456 truck deliveries per day would be required for Phase 2. This would result in increased emissions associated with the increase in water truck trips. Total truck trips would increase 78 percent for Phase 2 when compared to the 582 truck trips required to deliver products from the Project.

Mitigation Measures

Mitigation measures AQ-1 through AQ-5 would be implemented with this alternative. Residual impacts would be higher than the Proposed Action, and would remain significant.

3.2.7.5 Product Transportation Alternative Analysis

Impacts

Air quality impacts associated with reduced truck trips would decrease for this alternative. The train transport system is assumed to require 150 rail cars to transport the product on a daily basis. A reduction in emissions would result in most pollutants except for an increase in SOx. Project air emissions from train trips would result from this alternative; however, impacts would

be less than with truck transport. Additional emissions from 252 truck trips would result in the Los Angeles region during product delivery. Therefore, while actual emissions may be less for most pollutants with the rail transport alternative, air quality impacts would still be significant.

In this alternative, rail transport would be used to ship product from the Project site to a distribution facility in the Los Angeles Region. For Phase 1 it is assumed that the 252 truckloads per day would be conveyed by railroad. Based on the capacity of a rail car, it is estimated that these 252 truckloads would be accommodated by 150 rail cars on a daily basis (75 rail cars loaded per day, 75 rail cars returning per day). Approximately four engines are typically required to haul 80 rail cars and with the grade through the pass, this capacity is reduced. For the purposes of this analysis it is assumed that two trips each with four engines would be required on a daily basis for Phase 1 operations.

The haul distance is governed by both the market demand as well as the availability of suitable sidings and unloading facilities. Potential sidings available for off-loading to the south are located at distances of 20 to 40 miles from the Project site. For the purposes of this analysis, an average distance of 30 miles is assumed. Trip duration is estimated at about 45 minutes in either direction or about 1.5 hours round trip. The two trains per day would then produce about 3.0 hours of travel.

The road engines used for the delivery of these cars are mainly turbo-charged 2-stroke diesels operating with 3,000 to 4,000 horsepower, but are typically about 3,600 horsepower. Fuel consumption for each engine ranges from about 6 gallons per hour at idle to as much as 100 gallons per hour for a full load. AP-42, Section II-2 provides air pollutant emission factors for a composite of all railroad engines based upon fuel usage. It is anticipated that most of the time these engines will be operating at "run 6" (three quarter throttle). Emissions were therefore calculated for four engines each consuming 75 gallons per hour for 3.0 hours per day or about 900 gallons per day. Phase 1 emissions for these engines, and this alternative, are included in Table 3.2.7-1.

Table 3.2.7-1
DAILY EMISSIONS FOR PHASE 1 RAIL HAUL ALTERNATIVE (LB/DAY)

Emission Source	CO	NOx	ROG	SOx	PM-10
Railroad Emissions	144.0	297.0	25.2	51.3	22.5
Total Haul Trucks	241.1	427.3	44.3	na	34.0
Combined Emissions	385.1	724.3	69.5	51.3	56.5
Net Change	+73.9	+172.9	+12.3	+51.3	+12.7

[1] Train emission factors based on the use of 1,350 gallons of fuel. Emission factors are as per AP-42, 1985, Tables II-2.1 and II-2.2.

In addition to the emissions produced by the trains, product would still need to be shipped by truck from the point where it is off-loaded. A reduction in the number of truck miles may be thought to be in direct proportion to the distance that the material is hauled from the site by rail, however, this is not necessarily the case for several reasons. First, haul trucks would still need to come to some central point to pick up the product. Second, much of the product would be trucked back to the Santa Clarita Valley market area and the distance could potentially be longer from the railroad offload point than it would be from the Project site. Finally, the movement of the pickup point could shift the customer base rather than reduce haul truck miles.

Still, because of the location of the Project facility with regard to the greater Los Angeles area, it is reasonable to assume that a certain number of miles of truck transport could be curtailed as a result of rail hauling product closer to Los Angeles and for the purposes of this analysis, it is assumed that the haul distance is reduced by 10 miles in each direction. Therefore, for Phase 1 of the Project, the trip length of 252 aggregate haul truck trips headed toward the south are reduced in length from 35 to 25 miles and total daily truck travel is reduced from 22,390 to 17,350 miles per day. Site worker travel and its related emissions would remain unchanged. Processing plant PM-10 emissions may increase very slightly if additional conveyors are required to transport aggregate to the railroad loading area. Table 3.2.7-1 presents both the railroad and total truck emissions as well as the net increase in emissions associated with this alternative.

An increase in Phase 2 in the volume of aggregate would entail that 475 truckloads be hauled by rail. Approximately four trains per day each with four engines and sixty-five cars each would be required. Daily fuel consumption for these engines would increase to about 1,800 gallons. Assuming a 20 mile round-trip reduction for 475 trucks, total daily truck travel would be reduced from 38,840 to 29,340 miles. Phase 2 emissions for this alternative are presented in Table 3.2.7-2. Again, site worker trips would remain unchanged while processing facility PM-10 could increase slightly.

Table 3.2.7-2
DAILY EMISSIONS FOR PHASE 2 RAIL HAUL ALTERNATIVE (LB/DAY)

Emission Source	CO	NOx	ROG	SOx	PM-10
Railroad Emissions	288.0	594.0	50.4	102.6	45.0
Total Haul Trucks	385.8	491.2	44.6	na	24.6
Combined Emissions	673.8	1085.2	95.0	102.6	69.6
Net Change	+163.1	+435.0	+36.0	+102.6	+37.1

[1] Train emission factors based on the use of 2,250 gallons of fuel. Emission factors are as per AP-42, 1985, Tables II-2.1 and II-2.2.

Note that this alternative would result in an increase in all pollutant species. This increase in emissions would be on a regional basis with much of it coming back to the Santa Clarita Valley.

Mitigation Measures

Mitigation measures AQ1 through AQ5 would be implemented with this alternative. Residual impacts would be greater than the Proposed Action, and would remain significant.

3.2.7.6 Alternative North Fines Storage Area Analysis

Impacts

The increased haulage distances involved would result in an increase in air emissions from the scraper trucks used to move the fines to the alternative NFSA. An approximately 80-percent increased distance to the alternative NFSA would result in a proportionate increase in engine emissions and particulate matter from the road.

A summary of the increase in pollutants from this alternative over those of the Proposed Action is presented in Table 3.2.7-3.

Table 3.2.7-3
POLLUTANTS ADDED BY USE OF ALTERNATIVE NFSA

Pollutant	CO	NOx	ROG	SOx	PM-10*
Phase 1 Additional (lb/day)	8.7	30.4	2.3	2.2	61.8
Phase 2 Additional (lb/day)	13.8	51.1	3.5	3.6	166.5
* Includes fugitive dust and engine emissions					

Mitigation Measures

Mitigation measures AQ1, AQ2, AQ3, AQ4, and AQ5 would be implemented with this alternative. With the implementation of the fines conveyor mitigation measure, the increased distance of 80-percent would result in residual PM-10 emissions increases of 2.2 lbs/day for Phase 1 and 4.1 lbs/day for Phase 2. As with the Proposed Action, residual impacts remain significant.

3.2.7.7 Reduced Quantity Mining Concept Alternative Analysis

Impacts

Because a reduced quantity of material would be mined over the 20-year mining period, less total exhaust and mobile emissions would be generated. Peak daily emissions for Phase 1 would

not be reduced. However, the reduced quantity alternative would result in fewer emissions relative to Phase 2 of the Project. Phase 2 air quality emissions would be equivalent to Phase 1 air emissions. This would result in a 50 percent reduction in emissions for Phase 2.

Mitigation Measures

Mitigation measures AQ1, AQ2, AQ3, AQ4, and AQ5 would be implemented with this alternative. With mitigation measures applied, emissions would still exceed SCAQMD daily emission thresholds for both phases of the Reduced Mining Concept Alternative and the residual impacts would still be significant.

3.2.8 Biota

3.2.8.1 No Action Alternative

Impacts

The No Action Alternative would retain the existing natural vegetation and wildlife habitat onsite as well as the existing disturbed area. Approximately 187 acres of coastal sage scrub/ semidesert chaparral and mixed chaparral would not be removed. No pumping of the underflow of the Santa Clara River would take place, thus, there would be no impact on the riparian and aquatic communities of the Santa Clara River.

Erosion and sedimentation from the existing, unrevegetated quarry and stockpiles have the potential to result in significant adverse impacts to the riparian corridor and habitat for the unarmored threespine stickleback. This impact could be mitigated by requiring the previous operator to implement a reclamation plan or provide other means to eliminate uncontrolled runoff from the site (such as measure B5 above); however, this alternative does not provide the capability to implement such a measure.

Mitigation Measures

No mitigation measures are required for the No Action Alternative.

3.2.8.2 Reduced North Fines Storage Area Alternative Analysis

Impacts

Onsite Effects

General Vegetation. The mining area footprint and NFSA footprint would be reduced in size under this alternative as compared to the Proposed Action. Overall, the area disturbed by activity on the site would be decreased by approximately 40 acres (a 15-percent reduction in area affected). The estimated habitat impacts of this alternative compared to the Proposed Action are